

Appendix A: Information Sheet

**UNIVERSITY OF PLYMOUTH
FACULTY OF HEALTH AND HUMAN SCIENCES
INFORMATION SHEET**

Principal Investigator:
Professor Caroline Floccia

Co Researchers:

Alice Wardman, Danielle Northcott, Zuzanna Zaskorska, Katie Birkenhead, Abby Kemp

Title of Research:

Investigating the Relationship between Parents' Screen Time and Children's Language Development using Words in Game (WinG) Test.

According to the Displacement Hypothesis (Valkenburg & Peter, 2007) the time spent on the use of mobile devices takes away from the parent-child interaction and might affect the development of the child (Anderson & Henson, 2017). However, majority of the research into the effects of screen time on the child's development focuses on the child's use of screen time, rather than that of parents. We aim to evaluate how frequently parents use screen time and how this relates to their children's development.

Parents of children aged 36 months are asked to download a bespoke App (ChildTime) that requires them to report, every day for a week, the hours in which they were with their child. They will also be asked to share their Apple Screen time, if they are happy to do so.

Once the full week of screen time is recorded, parents are invited to come into the BabyLab for their child to complete the Words in Game (WinG) task, a test of language development developed in the Plymouth BabyLab. Parents will also be asked to complete a Communicative Development Inventory (CDI) consisting of 100 words that the parent will have to tick if the child understands and/or says them. The parents will also be asked to go over a short demographic questionnaire to find out generic information about their family, as well as a short questionnaire on the time they spend using their mobile devices and the time they spend with and away from their child.

The WinG task consists of the child being presented with sets of three picture cards. During the comprehension task, the researcher will say a word and ask the child to point to one card he/she thinks represents the word. During the production task the researcher will present the child with one picture card and ask them to name the object/action that is represented by it. A second researcher will be present at all time to code the responses the child makes.

The session will be videotaped for scoring purposes only to not miss out any responses of the child. Throughout the study the parent will be present to observe their child and watch for any signs of distress, as will the researchers. The parent will also be asked to complete a Parental Stress Index (PSI), asking about their experiences as a parent.

At any time during the study, both the parent and child can withdraw from the research, without providing any justification.

If at any point you wish to stop, just make the researcher aware and they will stop the study immediately.

The last 5 minutes will involve debriefing both the parent and the child on the purposes of the study and thanking you for participation with a small gift.

The data collected will be stored securely on the School of Psychology protected server and accessed only by the researchers working on this project. They will be processed confidentially, and results, when published, will be completely anonymous. They will be kept safe by the BabyLab for 5 years after the publication as is requested by most scientific journals, and then destroyed.

If you are dissatisfied with the way the research is conducted, please contact Prof Caroline Floccia, telephone number 01752 584822. If you feel the problem hasn't been resolved please contact the Chair of the Faculty of Health and Human Sciences, Human Ethics Committee Prof Judy Edworthy 01752 584818.

Appendix B: Consent Form

Consent Form

I am the parent/legal guardian of (in print) _____ DoB:
__/__/____

I have had the purpose and nature of the study explained to me in writing and I have had the opportunity to ask questions about the study. I understand that the study will be videotaped for the purpose of scoring only, and that it will only be available for the use of the researchers. I understand all data, including the video recording, will be kept safe by the University of Plymouth BabyLab for 5 years after the publication and then destroyed. I understand that my child is free to withdraw from the research at any stage of the study, as well as withdraw permission to use the data from the study, in which case the data will be immediately deleted. I understand that his/her anonymity is guaranteed, unless I state otherwise.

I understand that the Principal Investigators of this study will have attempted, as far as possible, to avoid any risks, and that safety and health will have been separately assessed by appropriate authorities (e.g. under COSSH regulations).

By signing below I am indicating my consent for him/her to participate in the Words IN Game activity and agree to participate in the research.

Name (in print): _____

Signature: _____

Date: _____

Appendix C: Debrief

**UNIVERSITY OF PLYMOUTH
FACULTY OF HEALTH AND HUMAN SCIENCES
DEBRIEF**

Principal Investigator:
Professor Caroline Floccia

Co Investigators:
Alice Wardman, Danielle Northcott, Zuzanna Zaskorska, Katy Birkenhead, Abby Kemp

Title of Research:
Investigating the Relationship between Parents' Screen Time and Children's Language Development using Words in Game (WinG) Test.

Thank you for participating in our study and completing the questionnaires. If you have any further questions, or if you would like to withdraw your data, you are welcome to contact the lead researcher, Caroline Floccia (caroline.floccia@plymouth.ac.uk). We would also like to remind you that all of the information and data collected in this study will remain confidential.

Smartphones are a common and convenient means of communication in the present day. In this study, we were particularly interested in whether there was any relationship between parents' use of smartphones and children's language ability. This was measured using your iPhone data, the data you provided via the app, the Communicative Development Inventory (CDI) and the Words in Game (WinG) test.

An additional interest in this study was whether there was any relationship between parent-related stress and the use of smartphones and how this influences children's language ability. The Parental Stress Index (PSI) that you kindly completed will help us determine these potential relationships.

We were also interested to learn about potential relationships between children's nursery attendance, parental screen use and children's language ability. Nursery attendance was measured using the questionnaire you completed.

The session was video recorded to allow the researchers to accurately code data collected for the Words in Game Test (WinG). This recording will only be viewed by the researchers involved in this study.

We would like to thank you again for your participation in our study. If you have any queries regarding the way in which our study was conducted, please feel welcome to contact the lead researcher, Professor Caroline Floccia (contact details above) or Professor Judy Edworthy, Chair of the Faculty of Health and Human Sciences, Human Ethics Committee – 01752 584818.

Appendix D: Screen Time Log

Screen Time Use Record

Participant Number:

Date	Total hours of Screen Time	Hourly Screen Time Use																
		5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00

Appendix E: Child Time Application



Child Time

05:00 - 06:00

06:00 - 07:00

07:00 - 08:00

08:00 - 09:00

09:00 - 10:00

10:00 - 11:00

11:00 - 12:00

12:00 - 13:00

13:00 - 14:00

14:00 - 15:00

15:00 - 16:00

16:00 - 17:00

17:00 - 18:00

18:00 - 19:00

19:00 - 20:00

20:00 - 21:00

Appendix F: Twenty-Two Item Questionnaire

UNIVERSITY OF PLYMOUTH
FACULTY OF HEALTH AND HUMAN SCIENCES
QUESTIONNAIRE FOR PARENTS

Principle Investigator:
Professor Caroline Floccia

Co Investigators:
Alice Wardman, Danielle Northcott, Zuzanna Zaskorska, Katy Birkenhead,
Abby Kemp

Title of Research:
Investigating the Relationship between Parents' Screen Time and Children's
Language Development using Words in Game (Wing) Test.

Thank you very much for filling this questionnaire, if you have any question, we are very happy to go through anything you are not sure about.

Please, read carefully and answer the following questions:

- 1) When you and your child are together, what do you use your phone for? Please, circle all that apply.
 - a) I don't use my phone around my child
 - b) Camera
 - c) To keep my child entertained with videos, games, etc
 - d) Social media (Facebook, Twitter, etc)
 - e) Online shopping, news, general browsing
 - f) General communication, texting, WhatsApp, etc
 - g) Gaming
 - h) Videos, Netflix
 - i) Music
 - j) Business matters, e.g. emails
 - k) Other, please specify

- 2) On a typical day, how long do you use your phone before your child wakes up?
Please circle the appropriate option

- a) never
 - b) less than 30 minutes
 - c) from 1 to 2 hours
 - d) more than 2 hours
- 3) On a typical day, how long do you use your phone after your child goes to bed?
- a) never
 - b) less than 30 minutes
 - c) from 30 min to 1 hour
 - d) from 1 to 2 hours
 - e) more than 2 hours
- 4) How long do you use your phone on your way to work? Please, circle the appropriate option
- a) never
 - b) less than 30 minutes
 - c) from 30 mins to 1 hour
 - d) from 1 to 2 hours
 - e) more than 2 hours
- 5) How long do you use your phone at work, on average? Please, circle the appropriate option
- a) never
 - b) less than 30 minutes
 - c) from 30 mins to 1 hour
 - d) from 1 to 2 hours
 - e) more than 2 hours
- 6) How long do you use your phone at lunch time/break at work? Please, circle the appropriate option
- a) never
 - b) less than 30 minutes
 - c) from 30 mins to 1 hour
 - d) from 1 to 2 hours
 - e) more than 2 hours
- 7) How long do you watch television/Netflix daily on average? Please, circle the appropriate option
- a) never

- b) less than 30 minutes
 - c) from 30 mins to 1 hour
 - d) from 1 to 2 hours
 - e) more than 2 hours
- 8) How long do you read **daily** on average? Please, circle the appropriate option
- a) never
 - b) less than 30 minutes
 - c) from 30 mins to 1 hour
 - d) from 1 to 2 hours
 - e) more than 2 hours
- 9) If you read, at what time of the day do you usually read? Please, circle the appropriate option
- a) Morning
 - b) Afternoon
 - c) Evening
 - d) Night
- 10) To the best of your knowledge, how many hours did you spend reading a book or playing a game with your child over the **past week**?
- a) 0 hours
 - b) 1-2 hours
 - c) 2 -3 hours
 - d) 3- 4 hours
 - e) 4-5 hours
 - f) Other, please specify
- 11) In a typical **week**, how many hours does your child spend away from you, at nursery/with grandparents/ childminder/school?
- a) 0 hour
 - b) 1-10 hours
 - c) 11-20 hours
 - d) 21-30 hours
 - e) More than 30 hours
- 12) In a typical week, how many hours does your child spend at nursery?
- a) 0 hours

- b) 1-10 hours
- c) 11-20 hours
- d) 21-30 hours
- e) More than 30 hours

13) In a typical week, how many hours does your child spend with maternal grandparents?

- a) 0 hours
- b) 1-10 hours
- c) 11-20 hours
- d) 21-30 hours
- e) More than 30 hours

14) In a typical week, how many hours does your child spend with paternal grandparents?

- a) 0 hours
- b) 1-10 hours
- c) 11-20 hours
- d) 21-30 hours
- e) More than 30 hours

15) What are the highest educational qualifications for the maternal grandparent/s?
Please circle the relevant answer/s.

- a) Below standard for a pass on the school-leaving examination
- b) O-levels/GCSE
- c) A-levels
- d) Tertiary vocational qualifications
- e) An undergraduate degree
- f) A postgraduate degree
- g) Not sure/would prefer not to say

16) What are the highest educational qualifications for the paternal grandparent/s?
Please circle the relevant answer/s.

- a) Below standard for a pass on the school-leaving examination
- b) O-levels/GCSE
- c) A-levels
- d) Tertiary vocational qualifications
- e) An undergraduate degree
- f) A postgraduate degree

g) Not sure/would prefer not to say

17) In a typical week, how much time does your child spend in play groups/organised events e.g. rhyme time?

- a) 0 hours
- b) 1-10 hours
- c) 11-20 hours
- d) 21-30 hours
- e) More than 30 hours

18) How many hours on average does your child sleep per night (including nap time)?

Please answer the following statements and questions related to parental stress and mobile phone use

19) Using my phone makes me feel stressed

- a) Strongly agree
- b) Agree
- c) Not sure
- d) Disagree
- e) Strongly disagree

20) I use my phone to relieve stress related to parenting

- a) Strongly agree
- b) Agree
- c) Not sure
- d) Disagree
- e) Strongly disagree

21) How often do you use your phone to relieve stress related to parenting?

- a) Always
- b) Often
- c) Sometimes
- d) Never
- e) Not sure

22) How often do you use your phone to relieve stress NOT related to parenting?

- a) Always
- b) Often
- c) Sometimes
- d) Never
- e) Not sure

Thank you very much for taking the time to participate in this study, it is greatly appreciated.

Finally, if you are dissatisfied with the questions on this questionnaire or the way the research is conducted, please contact the principal investigator: Caroline Floccia (caroline.floccia@plymouth.ac.uk).

Once again, thank you very much for your collaboration and participation in this study.