

## Formulário Relatório de Progresso - Componente Científica

### Relatório de Progresso nº 2

**Período a que o relatório diz respeito:**

**Data de início:** 01-06-2017

**Data de fim:** 30-06-2018

### 1. Identificação do Projecto

**Referência do Projecto:** PTDC/MHC-LIN/3901/2014

**Investigador Responsável:** Sónia Marise de Campos Frota

**Instituição Proponente:** Faculdade de Letras da Universidade de Lisboa (FL/ULisboa)

**Data de Início:** 04-04-2016    **Data de Fim:** 03-04-2019

**Financiamento Concedido:** € 166.360,00

### 2. Resumo dos Trabalhos Desenvolvidos e Desvios à Proposta aprovada

#### Resumo dos trabalhos

The activities developed between June 2017 and June 2018 were distributed among the first 4 tasks, with a major focus on tasks 2, 3 and 4 as planned. The current status of the project's activities was discussed in a meeting with the project consultant Prof. Leonard Abbeduto (June 2018). The goals, methods and procedures implemented, and the results obtained so far, were examined in detail. Given that the recruitment of participants with Down Syndrome is a crucial point of concern, new actions have been recently implemented and others will be pursued to promote the participation of families with infants and toddlers with Down Syndrome. The joint work with the clinical team from the Center for Child Development – 'Diferenças', the main center for Down Syndrome in Portugal, has been instrumental in this regard.

The focus of the second year of activities was on implementation of the experimental paradigms and respective data collection (tasks 2 and 3), and the longitudinal assessment of later language abilities of the infants tested (task 4). Furthermore, efforts have been directed towards working sessions and training activities involving team members, including those not based in Lisbon. We highlight the involvement of team members in STEM III – Summer Training in Experimental Methods (September 4-8, 2017, <http://labfon.letras.ulisboa.pt/summerschool/2017/en/index.html>), and in the EEG training course given by Dr. Andrew Hanson (Newcastle University, UK) in February 14-23, 2018.

The project was one of the organizing members of the 16th International Conference on Laboratory Phonology – LabPhon16, with the theme 'Variation, development and impairment: Between phonetics and phonology' (<http://labphon16.labphon.org/>). The conference was a major opportunity for discussion of language development and language impairment in typical development and developmental disabilities, including Down Syndrome.

The project website has been a platform for knowledge dissemination, both for the scientific community and the general public (<http://labfon.letras.ulisboa.pt/babylab/horizon21/>).

During the time span of this 2nd report, the following deliverables were produced, namely 2 articles published, 2 book chapters, 7 talks/posters presented at international meetings and 2 at national meetings. These deliverables are in line with the outputs proposed in the application (and in fact outnumber the planned outputs with respect to oral/poster presentations).

A summary of the activities developed by task follows.

#### Task 1: Recruitment and early assessment of participants

Infant participants with DS have been mostly recruited from the Center for Child Development – ‘Diferenças’ patients database, although spontaneous individual participation has also been promoted. Recruitment has been challenging, given the lack of resources in Diferenças and difficulties to reach the families. Besides actions of dissemination, a new procedure has been recently implemented through the presence of a researcher at Diferenças to ensure a direct contact with the families. Recruitment of Down Syndrome participants is thus ongoing.

Early assessment of DS participants through the CSBS DP checklist and the Griffiths 0-2year Scales is also ongoing, with 30 CSBS DP forms filled and 12 Griffiths assessments ran.

#### Task 2: Looking while listening experiments

The experiments are currently running and 28 infants with DS have been tested so far. With respect to TD participants, the experimental tasks involving eye gaze are already closed except 2 that are ongoing. Given the low numbers of DS participants, one of the eye-tracking tasks - the phonetic discrimination of a native and a nonnative segmental contrast – was excluded from the study. Results from the TD studies were presented at several conferences and publications, including two book chapters and a paper published in the Journal of Child Language. Preliminary findings for DS were presented at several scientific meetings.

#### Task 3: ERP experiments

As for Task 2, the experiment related to phonetic discrimination of native/nonnative contrast was excluded from the study. For the other 3 experiments, and given the absence of adult ERP studies for EP in these domains, the results from adults have been analyzed and a paper has been recently submitted. Infant testing of TD participants, as well as DS participants is ongoing.

#### Task 4: Assessment of later language abilities

According to plan, the language abilities of the infants tested in experimental tasks are being measured in intervals of 6 months, using the Portuguese Communicative Development Inventory (CDI) short form (infant and toddler) European Portuguese versions. 32 short forms were collected (3 for the second point in time of the measurement of later language abilities, 2 for the third point, and 2 for the fourth point). Pre-processing of the data of assessment of later language abilities proceeds on a regular basis upon receipt of the CDI forms. An analysis comparing DS infants with TD participants and infants at-risk for language impairments was presented at an international conference.

### 3. Publicações

Outputs of the project available at <http://labfon.letras.ulisboa.pt/babylab/horizon21/publicacoes.html>

#### A – Publications

Books (book chapters have been included in this item)

Published - S. Frota & J. Butler (2018) Early development of intonation: perception and production. In P. Prieto & N. Esteve-Gibert (eds.), *The Development of Prosody in First Language Acquisition* (pp. 145–164). Philadelphia/USA: John Benjamins. doi: 10.1075/tilar.23.08fro

Published - S. Frota & C. Name (2017) Questões de percepção em língua materna. In M. J. Freitas & A. L. Santos (eds.), *Aquisição de língua materna e não materna: Questões gerais e dados do português* (pp. 35–50). Berlin: Language Science Press.

#### Papers in international journals

Submitted - S. Lu, M. Vigário, S. Correia, R. Jerónimo & S. Frota (Submitted) Revisiting Stress “deafness” in European Portuguese – A Behavioral and ERP Study (June 2018).

Published - J. Butler & S. Frota (2018) Emerging word segmentation abilities in European Portuguese-learning infants: new evidence for the rhythmic unit and the edge factor. *Journal of Child Language*, 1-15. doi:10.1017/S0305000918000181

#### Papers in national journals

Published – S. Frota (2017) Estudar o Desenvolvimento da Linguagem nos Bebés. *Descubra as Diferenças* (electronic journal), 26: e-pub.

### **B – Talks and posters**

#### Talks in international meetings

Presented – M. Cruz, J. Butler, C. Severino & S. Frota (2018) Eyes or mouth? Exploring eye gaze patterns and their relation with early stress perception in European Portuguese. Talk presented at LabPhon16 - Variation, development and impairment: Between phonetics and phonology, Faculdade de Letras da Universidade de Lisboa, Portugal, June 19-23, 2018.

Presented – M. Cruz, M. Filipe, J. Butler, C. Severino & S. Frota (2018) Early eye gaze patterns to talking faces in European Portuguese. Talk presented at CPLQL 2018 – 10th European Congress of Speech and Language Therapy, Cascais, Portugal, May 10-12, 2018.

Presented – S. Frota (2017) Early perception of the prosody of statements and questions. Invited talk at the Workshop on Prosody and Meaning (PaM), University of Konstanz, Germany, October 4-6, 2017.

Presented – C. Severino, A. Christophe, M. Vigário & S. Frota (2017) Prosodic structure constrains word segmentation beyond the utterance edge factor. Talk presented at WILD – Workshop on Infant Language Development, Bilbao, The Basque Country, Spain, June 15-17, 2017.

Presented – M. Vigário, J. Butler, C. Severino & S. Frota (2017) The role of phonotactic frequency and phonological grammar in infant word learning: An eye-tracking study. Talk presented at WILD – Workshop on Infant Language Development, Bilbao, The Basque Country, Spain, June 15-17, 2017.

#### Talks in national meetings

Presented – M. Filipe, M. Cruz, C. Severino, J. Butler & S. Frota (2018) Eyes, mouth, or elsewhere? Young infants exploration of talking faces. Talk presented at 13º Encontro Nacional da Associação Portuguesa de Psicologia Experimental, Universidade do Minho, Braga, Portugal, April 13-14, 2018.

Presented – C. Severino, M. Vigário & S. Frota (2018) A estrutura prosódica e a percepção infantil: segmentação e desambiguação. Talk presented at the I Jornadas Ibéricas de Audiologia, Escola Superior de Tecnologia da Saúde de Coimbra, Portugal, April 27-28, 2018.

#### Posters in international meetings

Presented – J. Butler & S. Frota (2017) Early segmentation abilities in European Portuguese-learning infants: The impact of word and utterance level prosody. Poster presented at WILD – Workshop on Infant Language Development 2017, Bilbao, The Basque Country, June 15-17, 2017.

Presented – S. Frota, J. Butler, C. Severino & M. Vigário (2017) Early language development in language-impaired, at-risk and typically development children measured with the European Portuguese MacArthur-Bates CDI Short Forms. Poster presented at WILD – Workshop on Infant Language Development 2017, Bilbao, The Basque Country, June 15-17, 2017.

## **D – Organization of seminars, courses, conferences, workshops...**

### International Conference

LabPhon16 - Variation, development and impairment: Between phonetics and phonology, Faculdade de Letras, Universidade de Lisboa, Lisboa, Portugal, June 19-23, 2018.

<http://labphon16.labphon.org/index.html>

### Courses/Training sessions

Training in EEG (Curry 8 software) by Dr. Andrew Hanson (Newcastle University, UK), Lisboa, FLUL, February 14-23, 2018.

STEM III – Summer Training in Experimental Methods, Phonetics and Phonology Lab, Departamento de Linguística Geral e Românica, CLUL, Faculdade de Letras, Universidade de Lisboa, Lisboa, Portugal, September 4-8, 2017.

<http://labfon.letras.ulisboa.pt/summerschool/2017/en/index.html>

### Working sessions

Working session with Shuang Lu (Renmin University of China), member of the team.  
Working session with Len Abbeduto (UC Davis Mind Institute), consultant of the project.

## **E - Formação avançada/Advanced Training**

### Outras

In progress – Cátia Severino, Post-Doc Researcher within the project Horizon 21 - Early language development in Down Syndrome [PTDC/MHC-LIN/3901/2014]. May 2017-Maio 2019. Supervisor: Sónia Frota (FLUL); Co-supervisor: Marina Vigário (FLUL).

## **4. Indicadores de Realização Física**

Neste quadro deve indicar os valores referentes ao período a que corresponde o Relatório de Progresso.

Neste quadro deve apenas indicar concretizações efectivas. Não indique publicações submetidas para publicação, nem teses que ainda não tenham sido discutidas.

Indicadores	Quantidade realizada
<b>A - Publicações</b>	
Livros	2
Artigos em revistas internacionais	1
Artigos em revistas nacionais	1
<b>B - Comunicações</b>	
Comunicações em encontros científicos internacionais	7
Comunicações em encontros científicos nacionais	2
<b>C - Relatórios</b>	0
<b>D - Organização de seminários e conferências</b>	3
<b>E - Formação avançada</b>	
Teses de Doutoramento	0

Teses de Mestrado	0
Outras	0
<b>F - Modelos</b>	0
<b>G - Aplicações computacionais</b>	0
<b>H - Instalações piloto</b>	0
<b>I - Protótipos laboratoriais</b>	0
<b>J - Patentes</b>	0
<b>L - Outros</b>	
Database of early markers of language development	0