# Ready to go wild?

## A *Cercocebus atys lunulatus* social behavior evaluation for its reintroduction

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Final Undergraduate Project from the Degree of Psychology
UOC, June 2018

# Introduction

London zoo, 2013

REINTRODUCTION

Erickson-Davis, 2018

# Introduction

Dublin zoo, 2013

## Goals

**Are there any significant differences between the social dynamic and the way dominance hierarchy is structured in captive animals compared with the literature reports of wild ones?**

- Study of the behaviors observed in captivity by housing groups and individuals, with special interest in affiliative and agonistic social behaviors
- Compare dominance behaviors with the ones described in the literature
- Identify the most suitable animals from a social behavior point of view to be selected for rehabilitation and reintroduction

# Methods

1) **Literature review**
   a. Search sites: Google scholar, PubMed, Scopus, etc
   b. Key words: “*Cercocebus lunulatus*”, “reintroduction”, “social behavior”, “rehabilitation”, “wild behavior”
   c. Selected information: ethograms, analyzed behaviors

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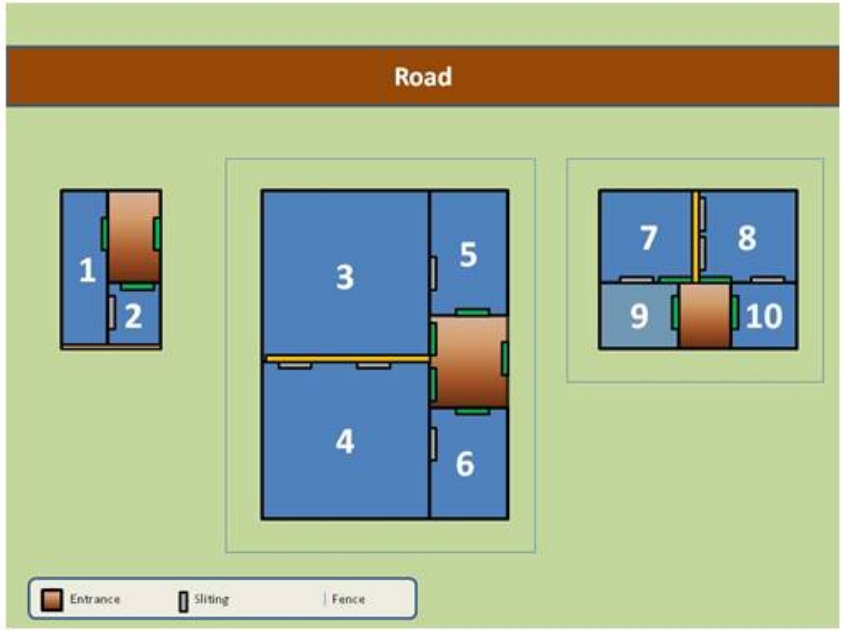
## 2) Subjects & data collection

a. 2 periods (2011 & 2012)
b. Focal animal sample with continuous registration

| Facility | Number grup | Name of animal | Age/sex category |
|---|---|---|---|
| 3 | 1 | Ape, Oyeibiyefe Accra | AM, AF, AF |
| 4 | 2 | Peter, Ekow, Sonja, Nuba, Quicke | SAM, AM, SAF, JM2, JM1 |
| 8 and 10 | 3 | Mensha, Annan | SAM, JM2 |

AM: adult male; AF: adult female; SAM: subadult male; SAF: subadult female; JF: juvenile female; JM: juvenile male; IM: infant male



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   a. 2 periods (2011 & 2012)
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   c. Individual, social, interspecific and other
      c. Social: trophic, affiliation, agonistic and appeasement
         c. Affiliation: grooming, physical contact, no contact, play & sex
         d. Agonistic: direct threat, indirect threat & attack

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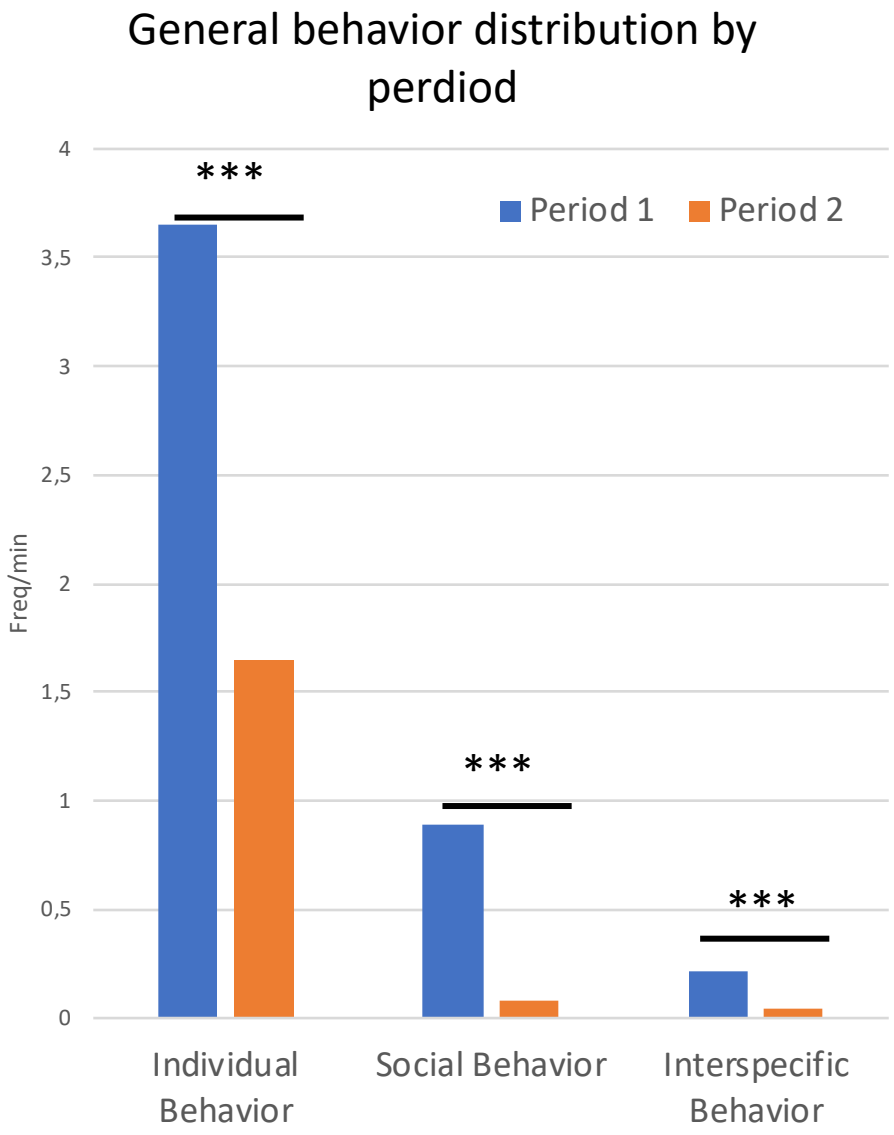
3) **Data analysis**
   a. Behavior statistical significance ($p<0.05$)
   b. Directional consistency
   c. Relative individual dominance
   d. Sociability (affiliation index)

Results

# Data analysis:

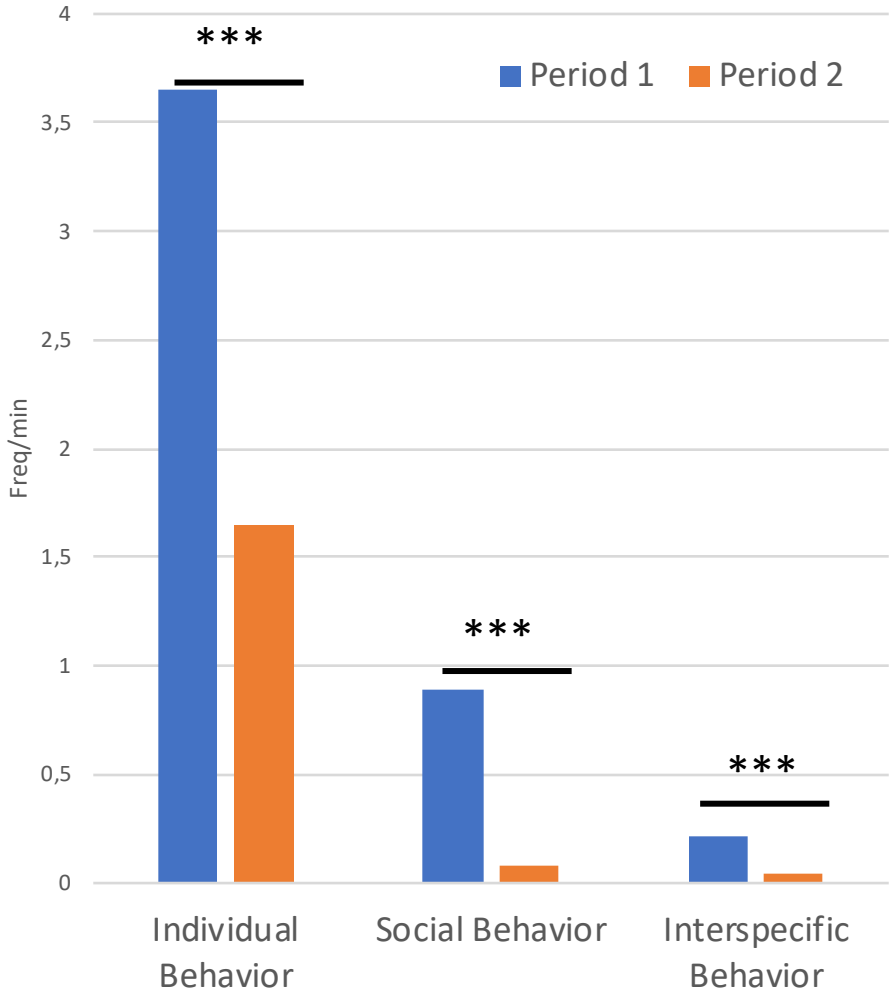



*** p<0.001

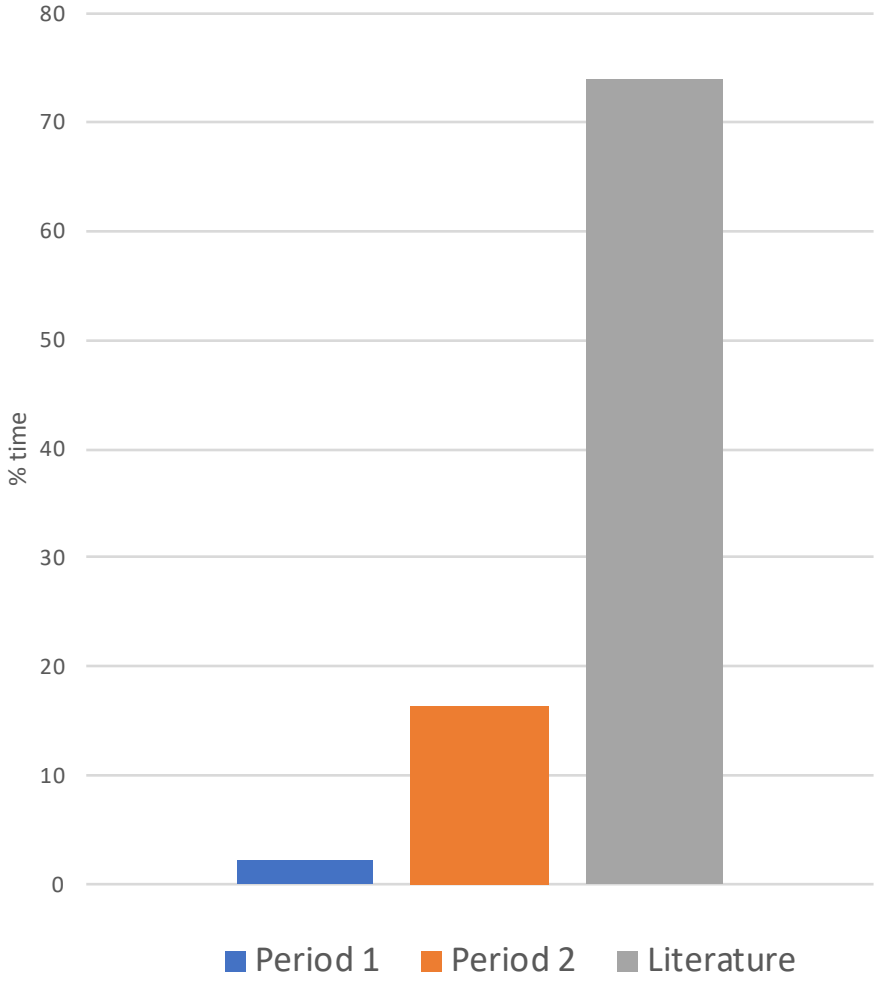
Results

# Data analysis:

General behavior distribution by perdiod




Trophic behavior (individual & social)

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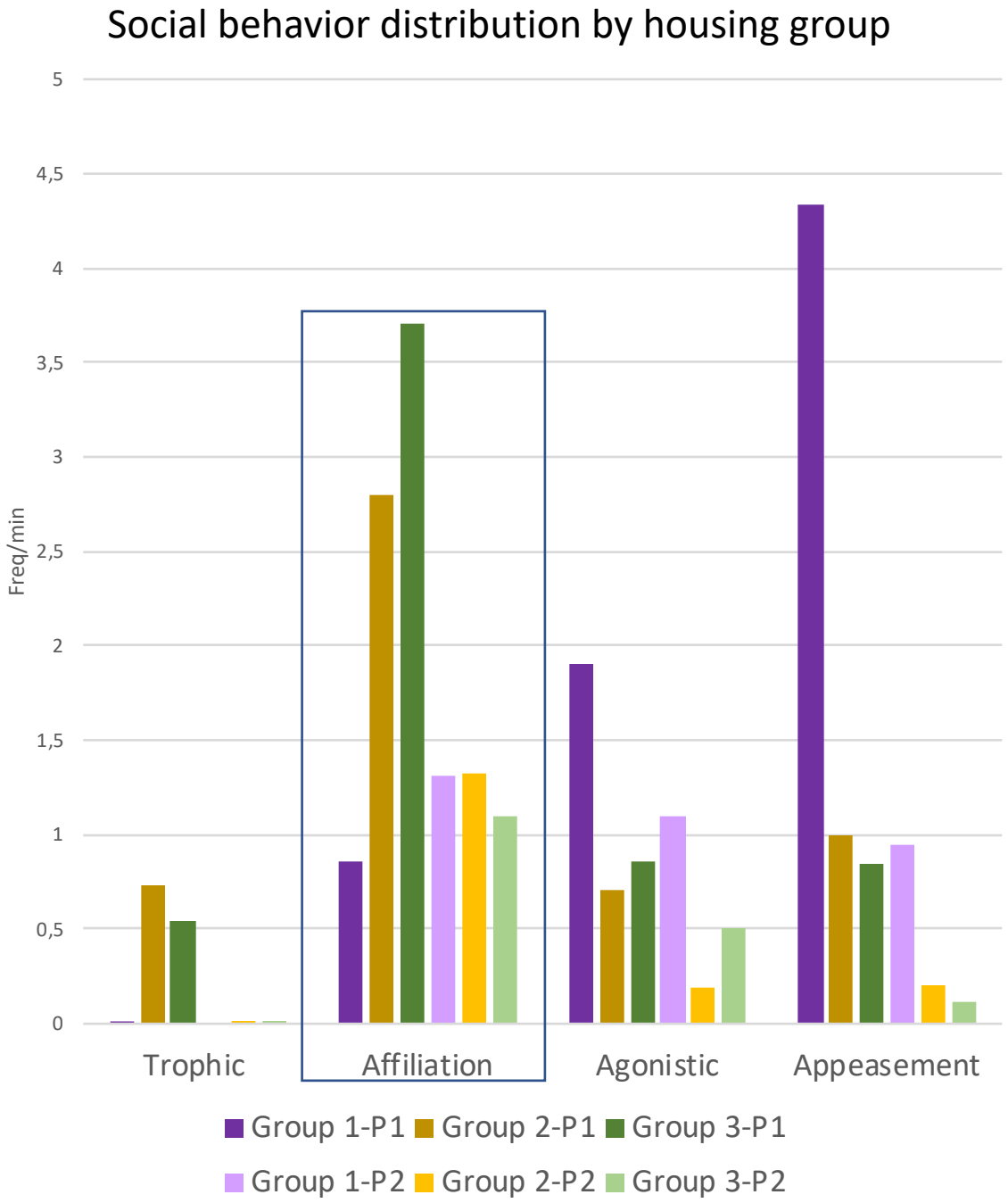
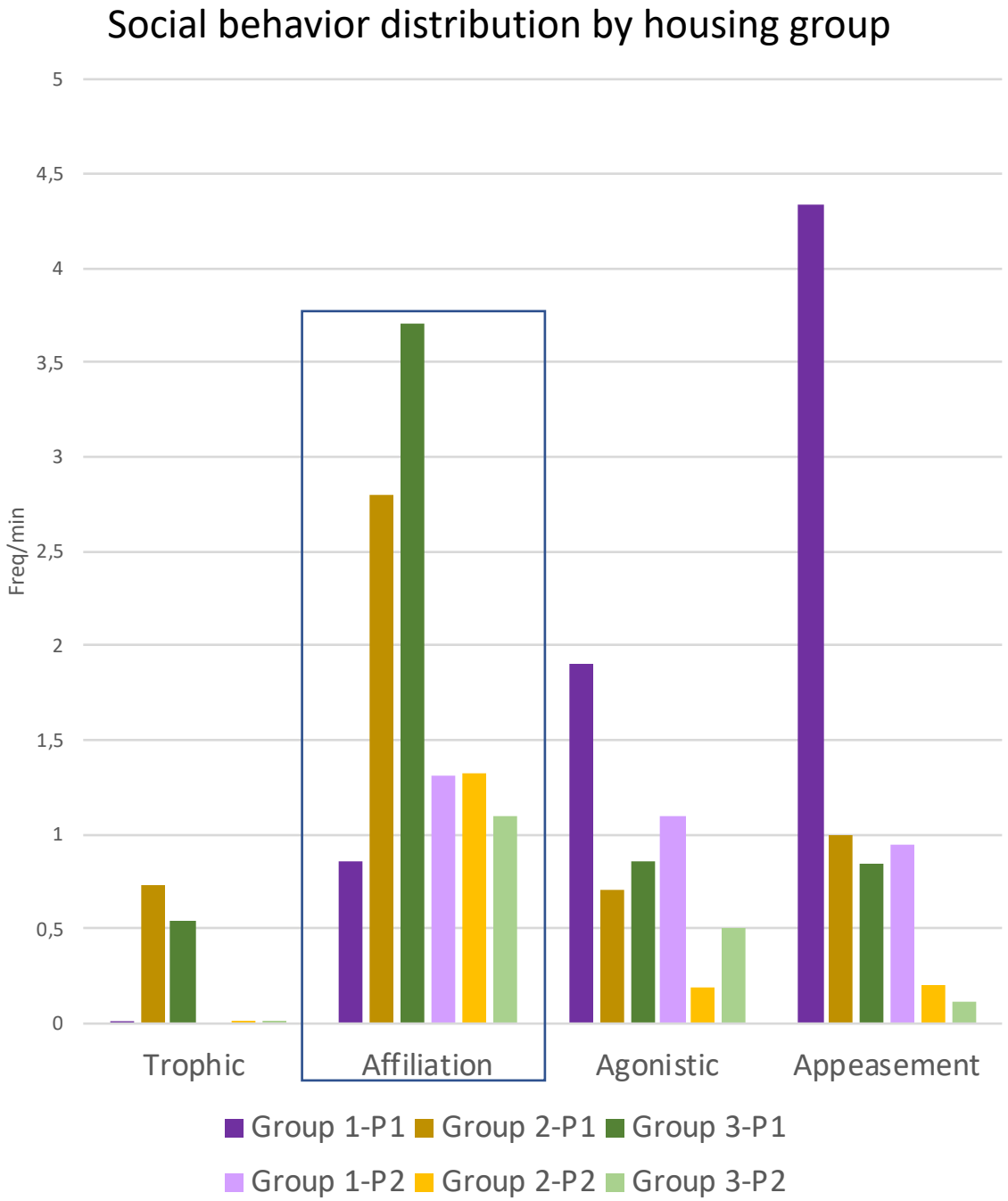
# Results


Social behavior distribution by housing group
Freq/min
5
4,5
4
3,5
3
2,5
2
1,5
1
0,5
0
Trophic
Affiliation
Agonistic
Appeasement
Group 1-P1
Group 2-P1
Group 3-P1
Group 1-P2
Group 2-P2
Group 3-P2

# Results


Social behavior distribution by housing group
Freq/min
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4,5
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3,5
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Trophic
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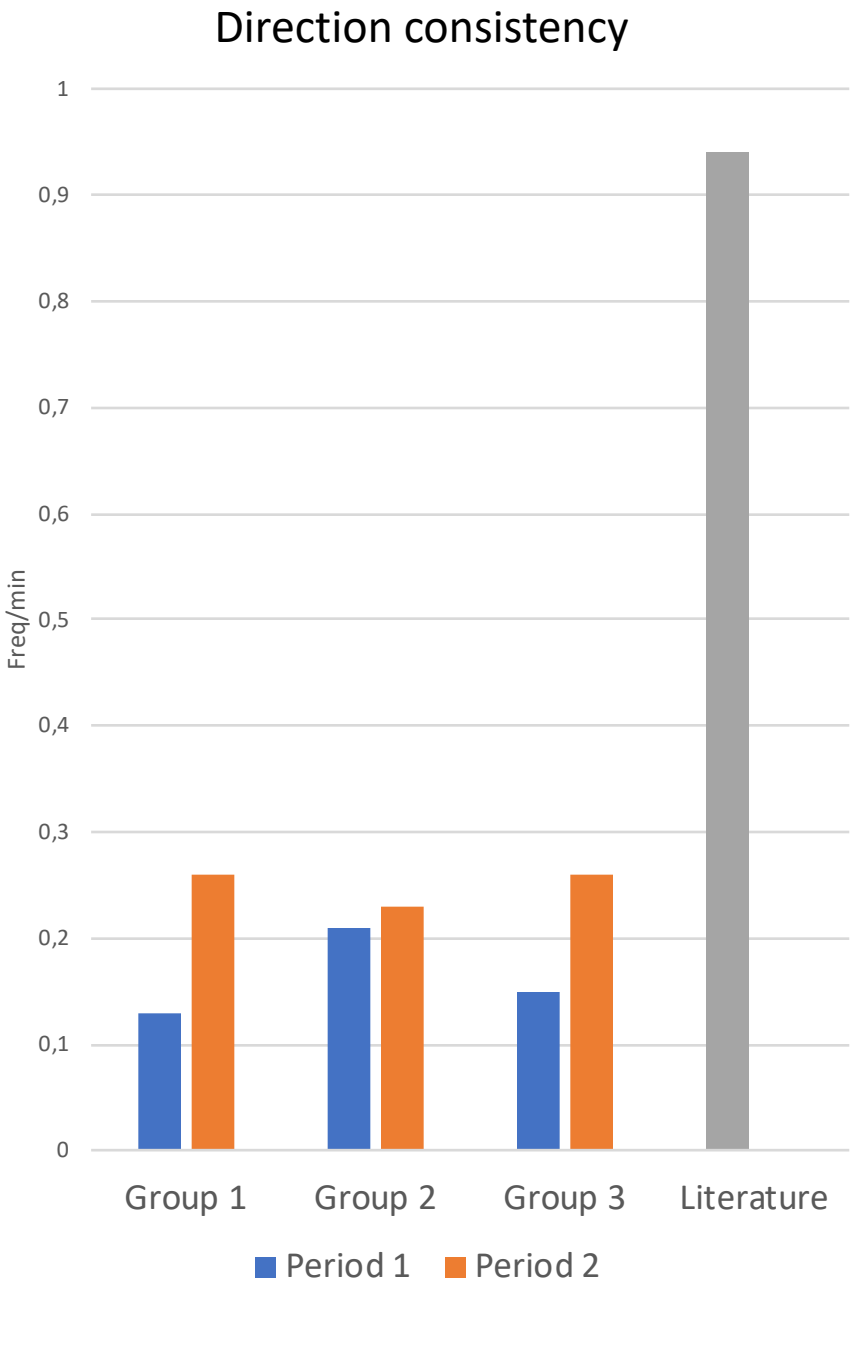
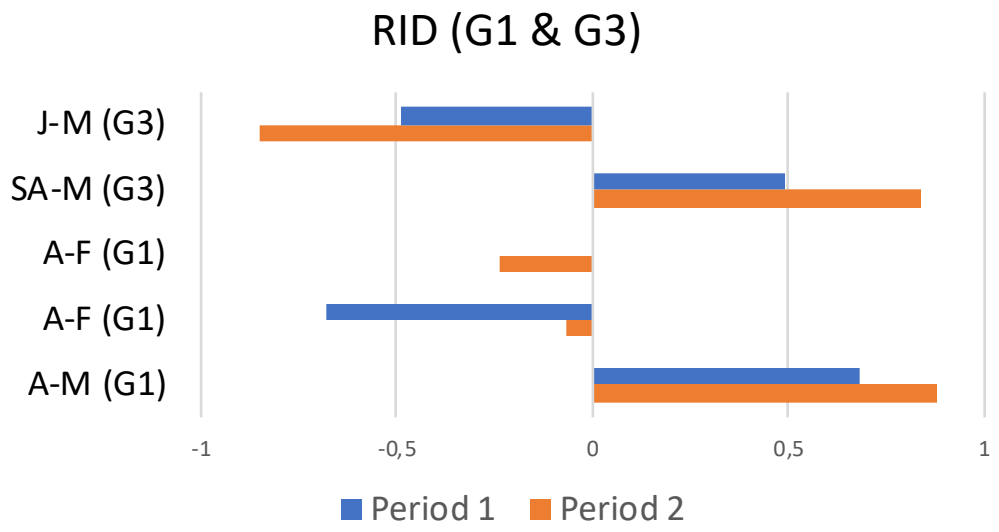
Agonistic
Appeasement
Group 1-P1
Group 2-P1
Group 3-P1
Group 1-P2
Group 2-P2
Group 3-P2

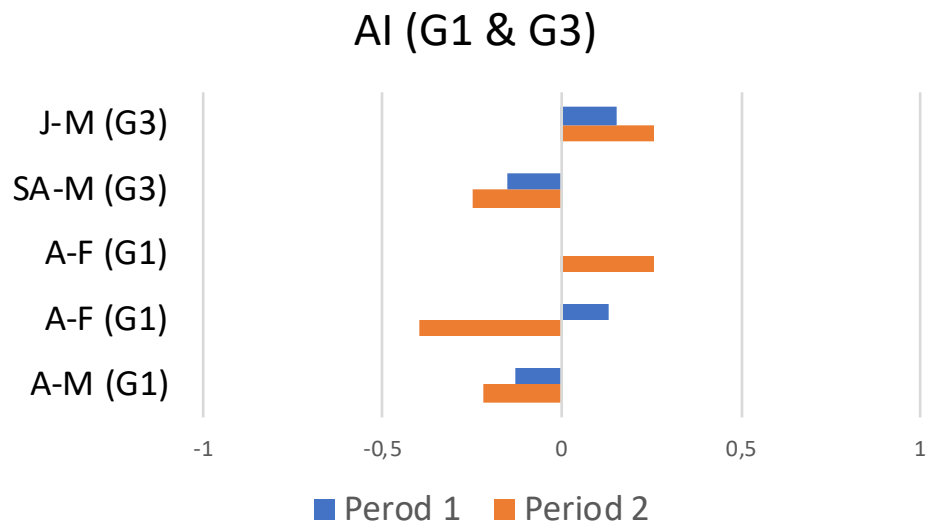

Direction consistency
Freq/min
1
0,9
0,8
0,7
0,6
0,5
0,4
0,3
0,2
0,1
0
Group 1
Group 2
Group 3
Literature
Period 1
Period 2

# Results

## Relative individual dominance (RID)




## Affiliative index (AI)



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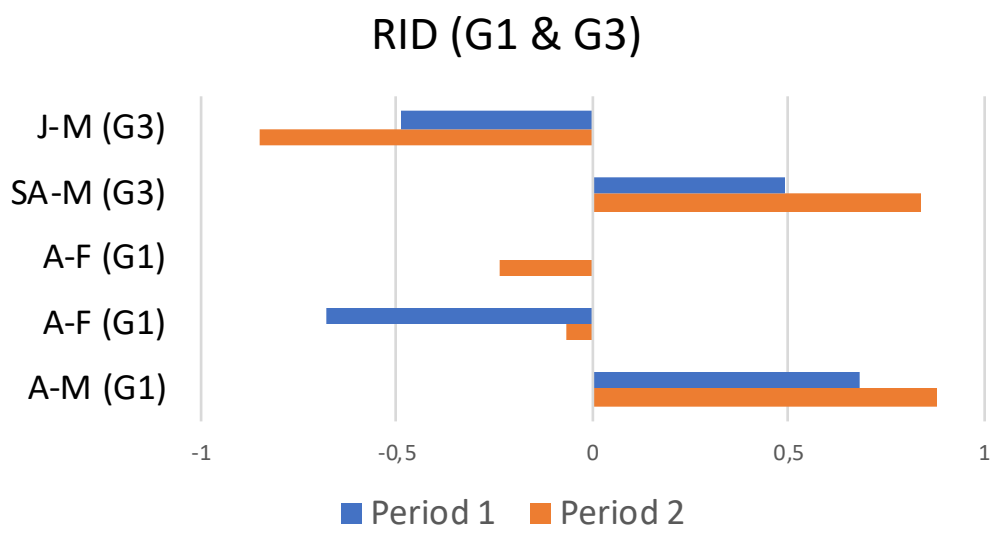
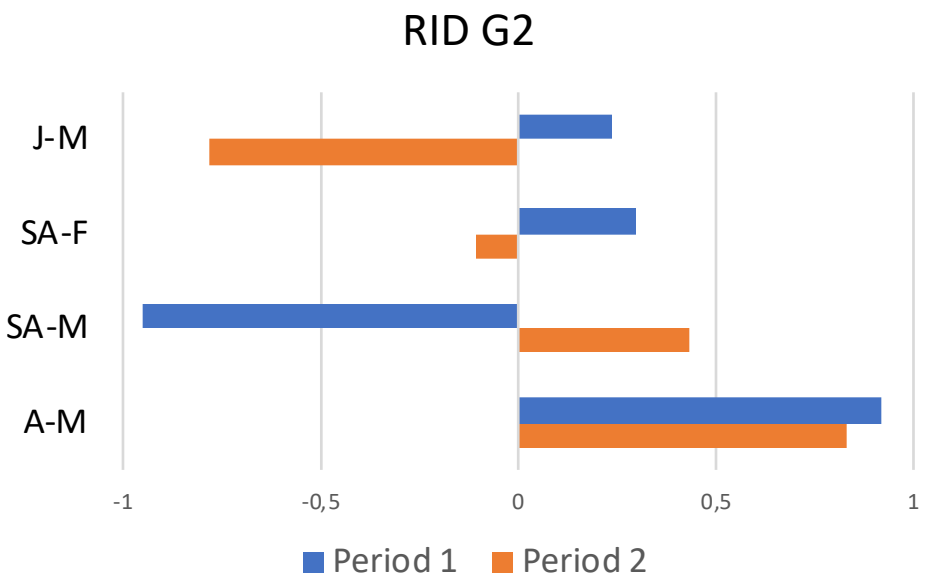
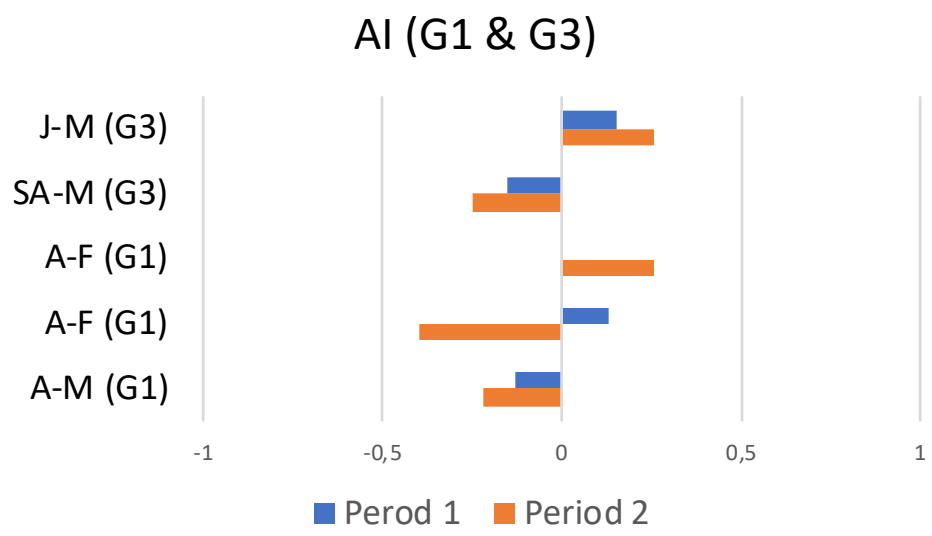
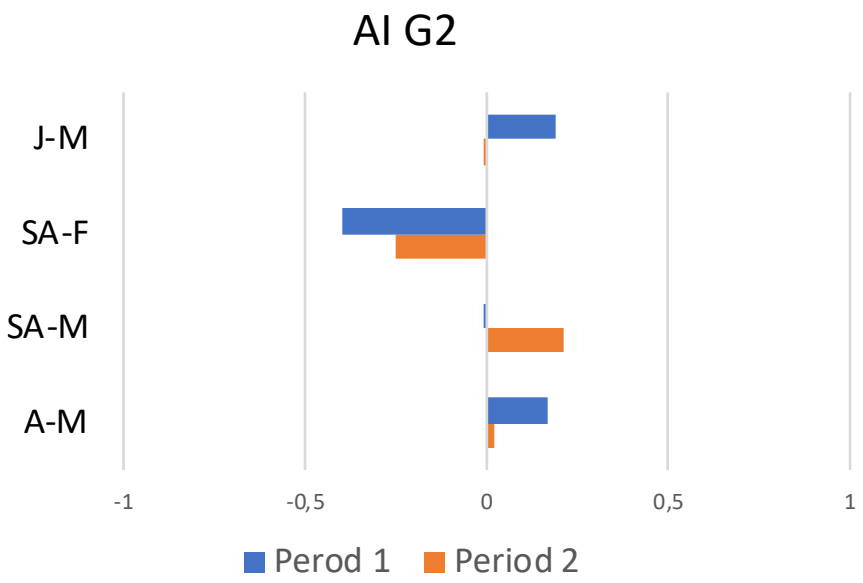



## Affiliative index (AI)



# Conclusions

- Groups were socially compatible
- Affiliative indexes showed coherence with those observed in the wild behaviors
- Trophic behaviors were clearly lower than those observed in the wild
- Group 2 showed a change in dominance dynamics between periods:
  - First individual dominance as seen in captivity
  - Second matrilineal as seen in the wild

We suggest that given the results **more rehabilitation** and **follow up** in terms of social and trophic behavior should be done **before reintroducing** the animals in other to **increase their chances of survival**.

From this work…

Difficulties…

- Lack of expertise in the topic
- Project was already started
- Little information about wild *Cercocebus atys lunulatus,* and *Cercocebus* in general
- Observations notes were not always straight forward

What I have learned…

- How to manage observational data
- How to search information related to the topic
- Expanded my knowledge in reintroduction, primates behaviour and social relationships calculations

# Thank You!