

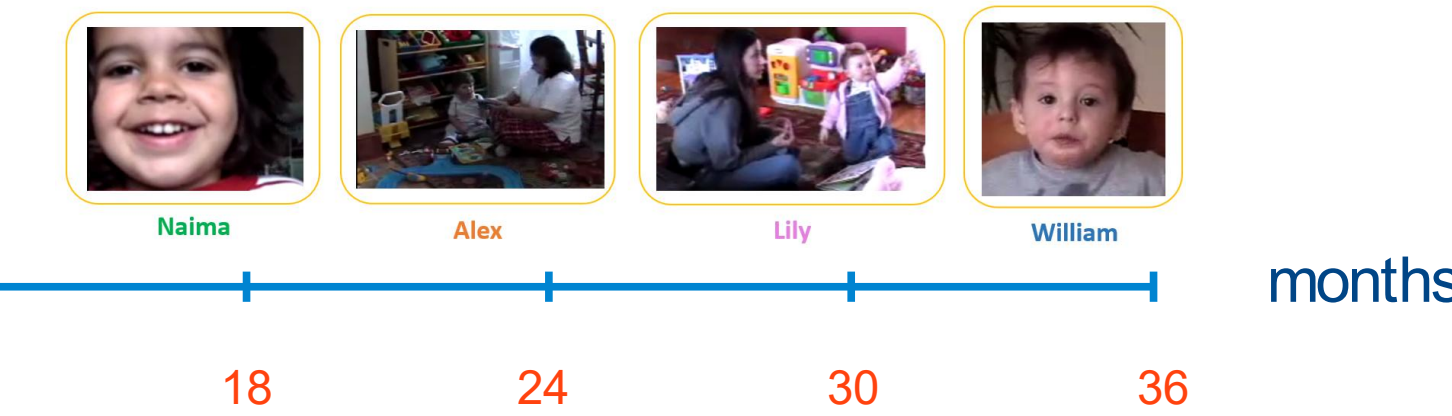
Introduction

- Laughter in adult dialogue: **pragmatically sophisticated** + mentalising (McGettigan et al. 2013; Lavan et al. 2016)
- Despite the complexities -> early emergence: around **3 months of age** (Nwokah et al. 1994).
- First means to engage in interaction and **share attention**, first on the self and successively to external targets -> signal of early awareness of others' mental states (**ToM**) (Tomasello, 1995; Camaioni, 1992) correlated with later language development (Carpenter et al 1998).
- In **Autism Spectrum Disorder** atypicalities in laughter production (Reddy et al., 2002; Hudenko et al., 2009), perception (Samson et al, 2011) and response to other's laughter (Reddy et al., 2002).

Can laughter be informative about pragmatic development?



Data

- Providence Corpus** (Demuth et al. 2006) **Mother-child natural interaction** at home American English
 - Longitudinal corpus study** 4 children (2F, 2M)
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- (30 minutes * 5 time-points) * 4 children
 - Multimodal annotation** (ELAN, Brugman et al. 2004)

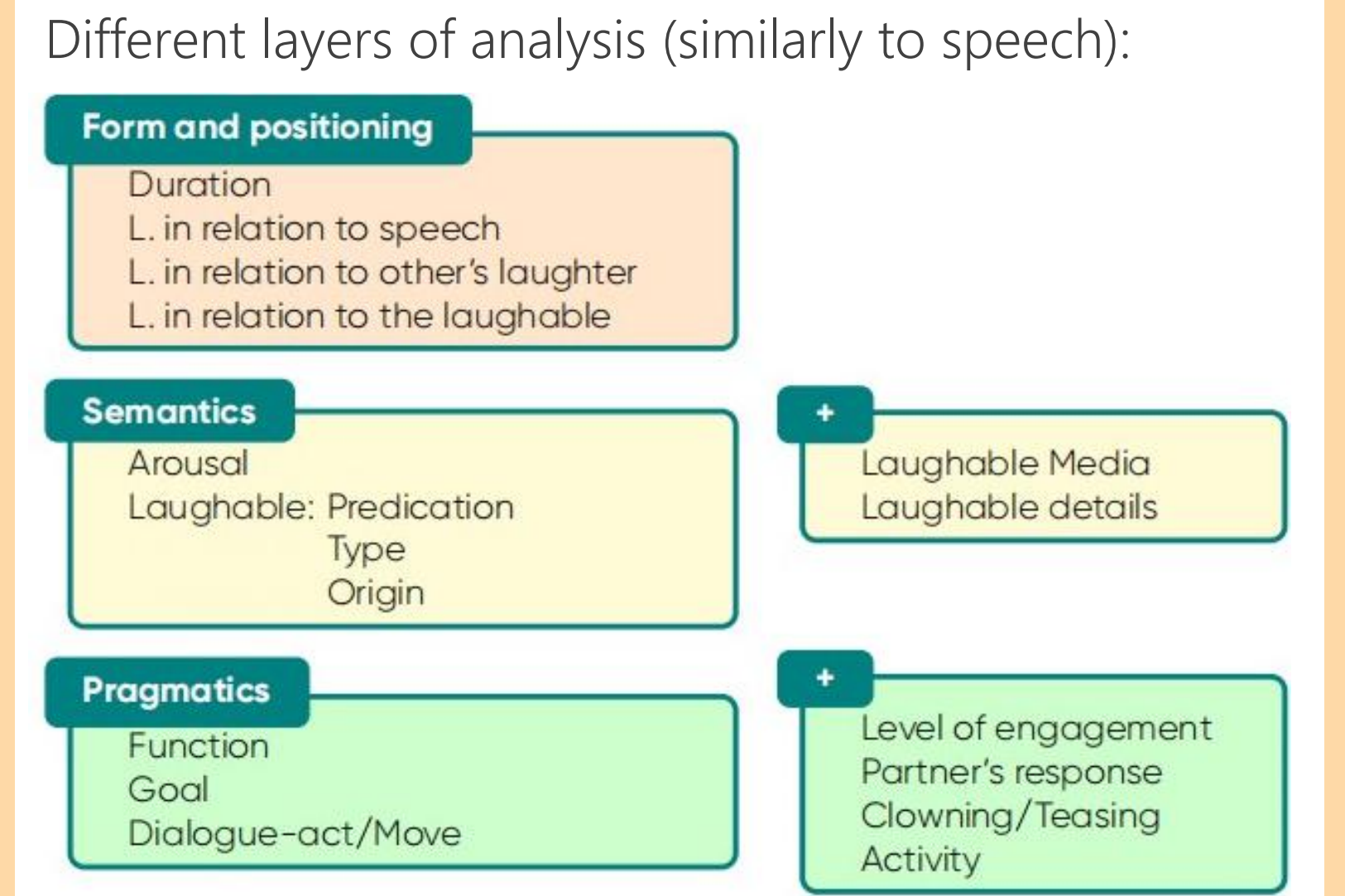
Acknowledgements

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Annotation

Mazzocconi et al. 2020's laughter analysis framework :

- Laughter = non-verbal social signal having **propositional content** [P(l)]
 $P=$ a predicate that encodes incongruity or pleasantness,
 $/=$ the **laughable**, the laughter argument

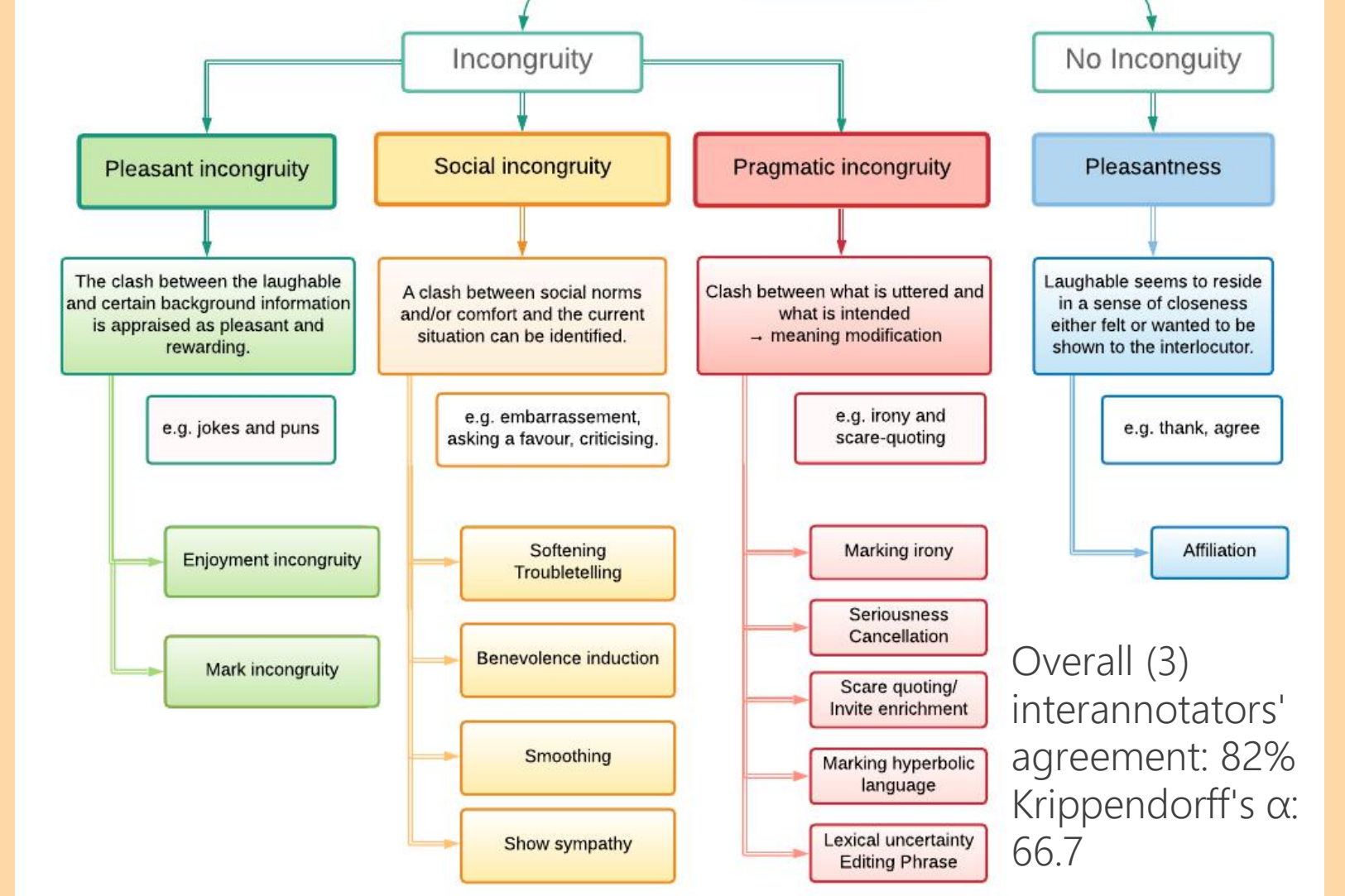


- Positioning of laughter in relation to others' laughter

Dyadic laughter: Laugh shortly following another laughter or with the same onset (i.e Antiphonal and coactive)

Isolated laughter: Laugh not preceded by any laughter

- Classification of laughables and laughter pragmatic functions



Results

Laughter frequency

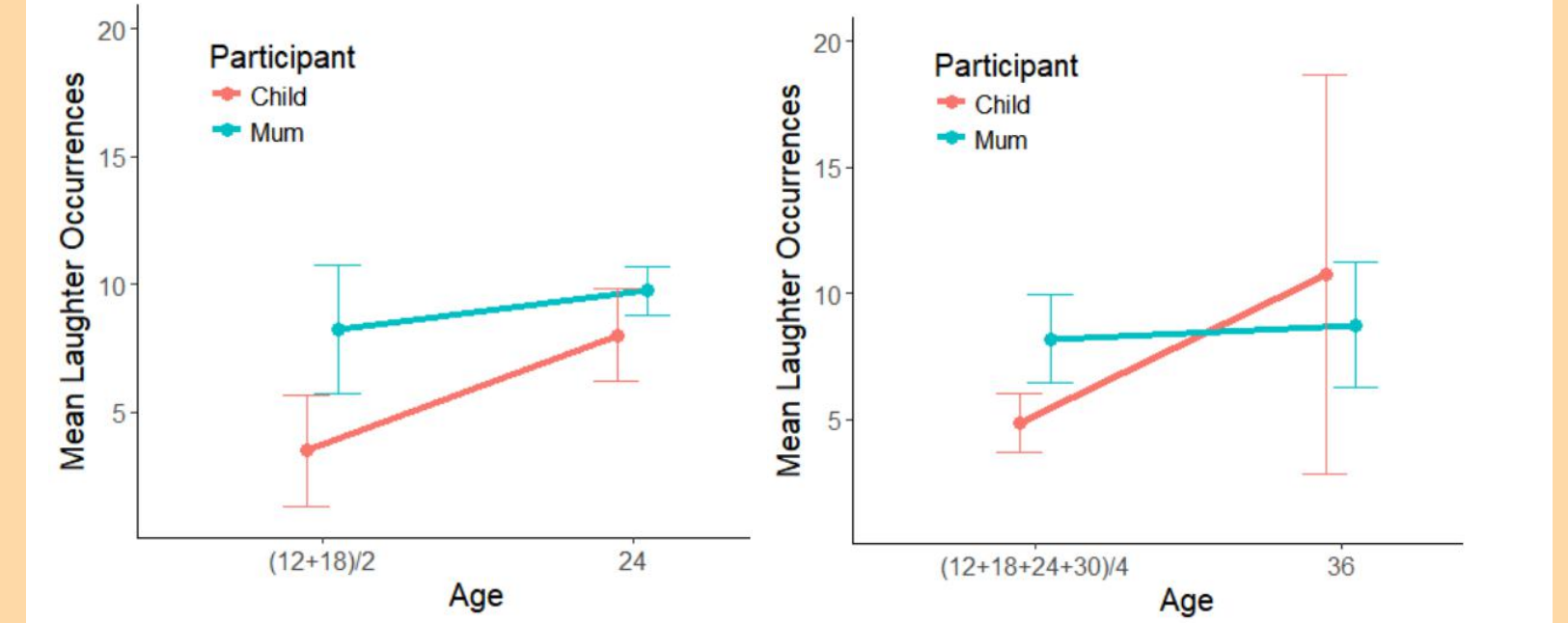


Figure 1: Number of laughter occurrences in mothers and children over time: each time-point illustrated on the right of the x-axis is compared to all the preceding time-points analysed (multinomial logistic regression with Helmert contrast).

Alignment and response to other's laughter

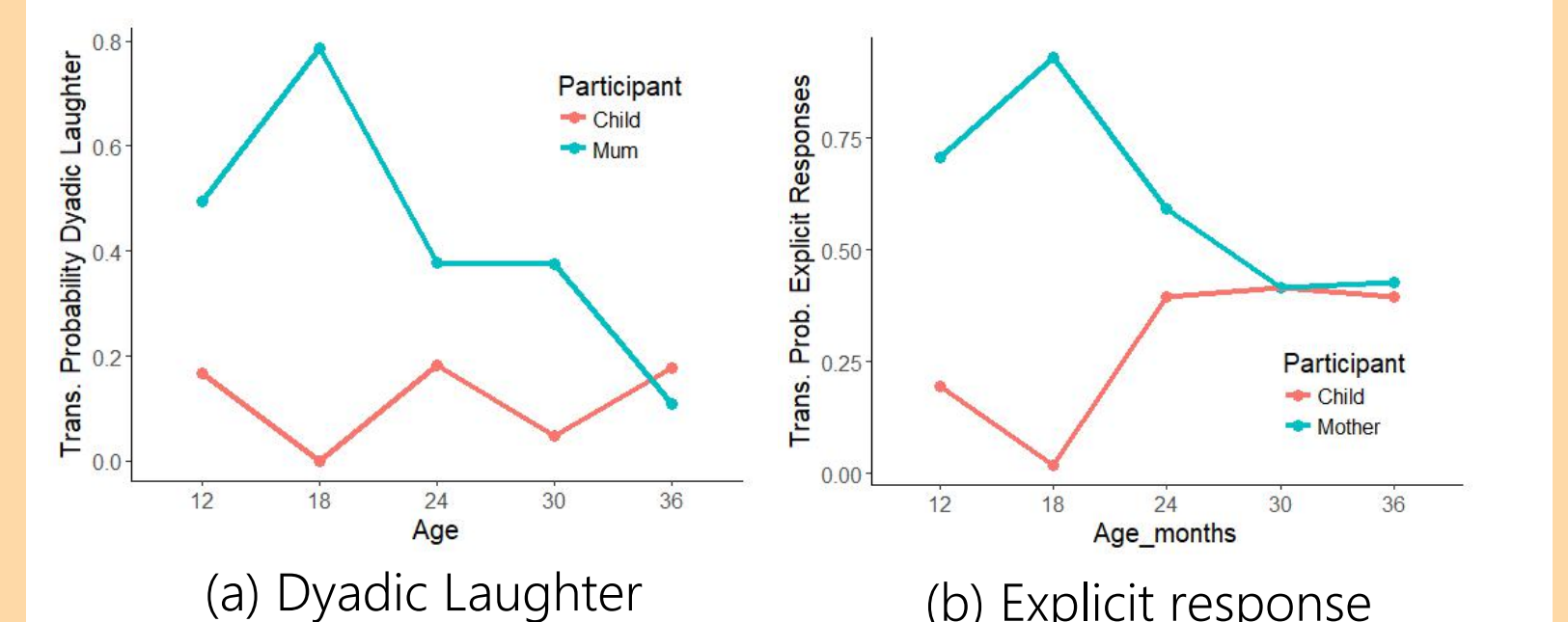


Figure 2: Responses to each other's laughter: children and mothers. - Transitional Probabilities (TP).

Laughable

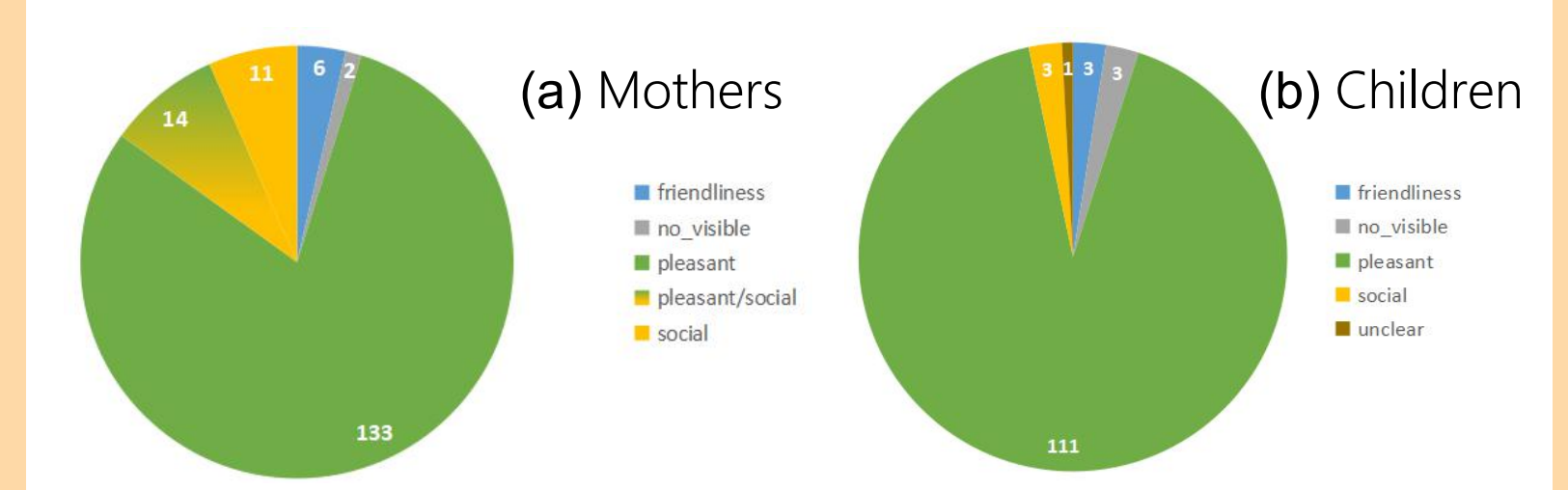
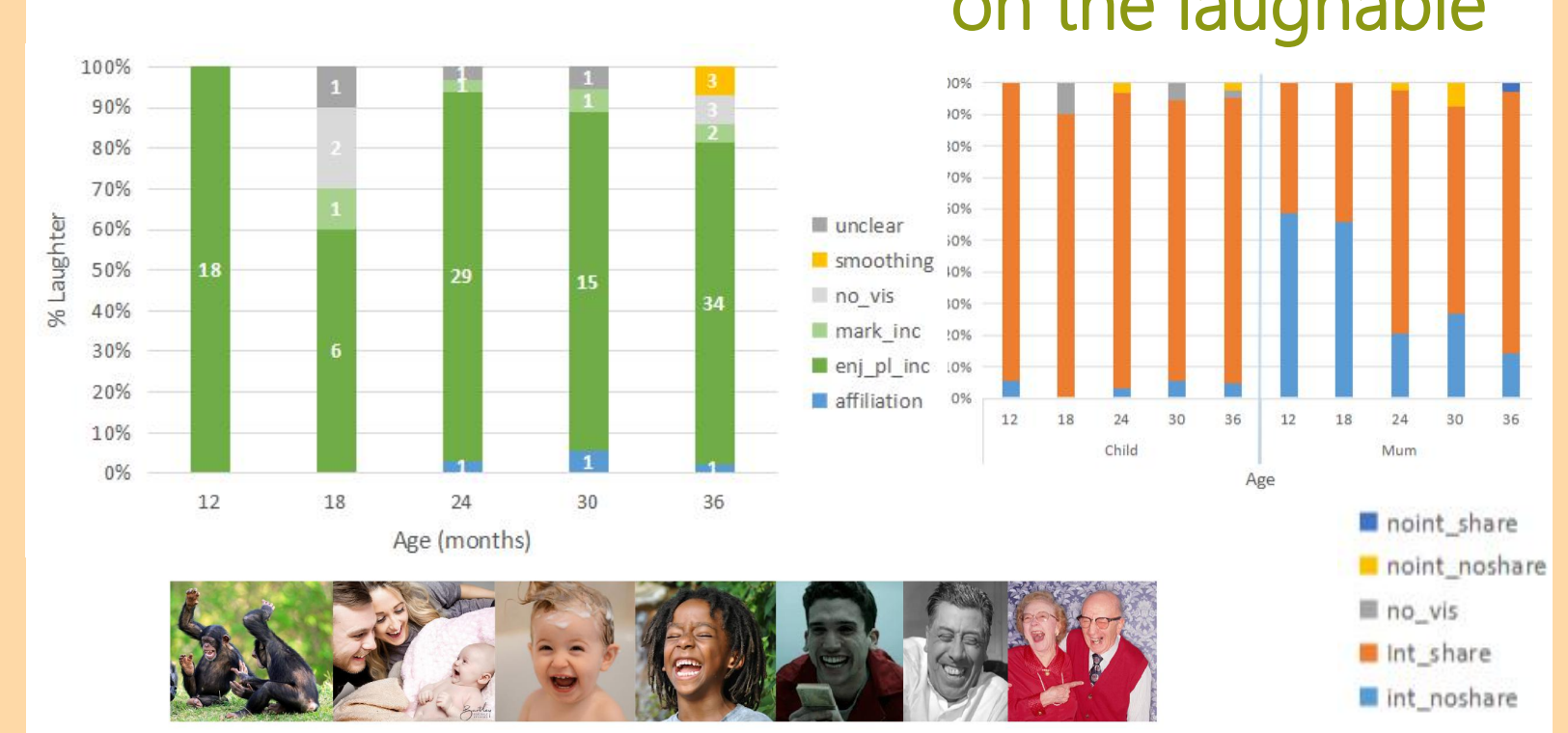


Figure 3: Type of laughables laughter relates to.

Pragmatic functions



Conclusion

- Laughter behaviour changes over time in child and mother.**
- Mothers:
 - laughter in interaction with child \neq with adults.
 - Laughter behaviour attuned to child cognitive development:**
 - Early: urge to respond to every laughter
 - Later: more balanced, children have many other means to communicate
- Children:
 - Over time more responsive to mother's laughter
 - Narrower range of functions in children
 - Gradual emergence of different kinds of pragmatic functions**
 - > in line with what could be expected on the base of phylogenetic data
- Around 36 months more balanced interaction :
 - > **increased interest in others' non-verbal expressions and mental states**
 - > increased ability to identify the argument of others' laughter
 - > increased attentional capacities
 - > emergence of self-reputation (Tomasello, 2009) and use of laughter in relation to social incongruity
 - > increase teasing

Preliminary results:

Laughter may be an early means to identify delays or difficulties in pragmatic development

References

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