

ESCOLA
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Child development, language and social interactions

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Adult role on language acquisition

- * Infant development is associated with the quality of infants interaction established with adults and opportunities to play (Vygotsky, 1986), namely with their parents (Bowlby, 1969).
- * Parent-child interaction are fundamental for children's early language development (Tomasello, 2003). During interaction, adults adapt language, namely they use a higher pitch and exaggerate intonation, they restrict the range of topics and they are quite selective in the syntactic constructions they use (Snow, 1994) . These interactions are critical for children's early language development and later academic performance(Halliday, 1993; Chall, Jakobs e Baldwin, 1996).
- * According to Snow (1994), adults use 3 main types verbal support to enhance children language acquisition: *Meaning attribution*, *Expanding/generalizing* or *Reframe* young children vocalizations.

Bioecological and transactional humana development models

(Bronfenbrenner & Morris, 1989; Sameroff & Fiese, 2000)

Human development occurs over the life course through progressively more complex reciprocal interactions (proximal processes) between individuals and their environment

Process–Person–Context–Time

Other persons

- * Social interaction occurs within *Zone of Proximal Development* (ZPD)
- * Mediators: persons, objects, language

communication

Relationships and interactions

- * Synchrony
- * Reciprocity
- * Trust
- * Participation
- * Affective behavior

Learning new things

Training abilities and behaviors

Mental representations/internal working models

Affected and affecting Language and Social Development

Study aim

*** To investigate the differences and to detailed describe maternal –infant and paternal-infant interactions regarding:**

i) affective verbal and non-verbal behaviors and changes

ii) play

iii) communication

Participants

- * 27 healthy infants (15 boys, 13 first-born, 15 months, portuguese caucasian) their mothers and their fathers;
- * Mother completed about 11 years of formal education ($M=11.25$ $SD = 3.079$) and fathers about 10 ($M=10.33$ $SD =3.822$),
- * Mothers were about 30 years old ($M = 29.58$; $SD =7.501$; range 19-43) and fathers about 32 years old ($M = 32$; $SD =7.058$, range 20-45);
- * Parents cohabitated
- * Middle class backgrounds

Methods

- * **Mother-infant and father-infant dyads were videotaped in separable free play interaction of 5 minutes each (total 10 minutes of interaction for the infant – first with one parent and then with another). A set of toys was offered in a box. Parents order was randomly selected.**
- * **The videos were described micro-analytic (sec by sec) and behavioral categories were organized to describe mothers and fathers behavior. Categories included affective behavior, verbal communication, non-verbal communication and play and scored in quantity (time and frequency) and quality.**

Categories definition

- 1 – Episodes: cohesive unities of interactive play;
- 2 – Interactive verbal sequences: interactions with vocalization:
 - a) *Simple sequence*: Mother: “How does the cow do”? Child: “Muuu!” (verbal or gesture behaviour followed with an answer);
 - b) *Broken sequence*: Father: “Take the ball”. Child reaches for another toy; (verbal or gesture behaviour without an answer);
 - c) *Recast sequence*: Filho – Child “thes”. Mother “This”; (repeating what the child has said, correcting errors);
 - d) *Expansion sequence*: Father “Try another one”; (more elaborated verbal forms);
- 3 – Non-verbal sequences (the same categories).

Categories definition

4 - Verbal affective behavior : positive, negative or neutral

5 - Non-verbal affective behavior: positive, negative or neutral (smile, distancing behavior, touch, facial expression, sharing attention);

6 - Play: under, above , or in ZPD;

7 - Play: 1 – Language/communication, 2 – Symbolic, 3 – Logic, 4 – Psychomotor/movement, 5 – knowledge Acquisition;

8 - Communication significant : requests, demands, recast meaning attributions.

An example (Maria João Alves, 2013)

| | | | | |
|-------|-------------------------------|-------------------|--|---|
| 01:48 | Leonor | | P dispõe encaixes de animais já montados à sua frente; a vaca, o pintainho, o porco; F segue os movimentos de P | F reage imediatamente ao ouvir o seu nome, olhando os br; P voz dinâmica |
| 01:50 | | Pá | | |
| 01:53 | Onde está a vaca? | R ⁺ SS | | |
| 01:54 | Onde está? | R ⁺ SS | | |
| 01:55 | Não, a vaca. Dá a vaca ao pai | R ⁿ si | F leva a mão ao porco e apanha-o (1m); P faz um gesto de pedido com a mão | |
| 01:56 | Isso não, esse é o porquinho! | si | F abre o porquinho sem dificuldade; F olha o lado côncavo das peças - porco - | |
| 01:59 | A vaca, dá a vaca ao pai. | si | P retira as peças, encaixa-as guardando o porco nas suas mãos; F segue o porco com o olhar; | (gargalhadas na sala) |
| 02:00 | A vaca. | R ⁻ | | |

| | | | | |
|-------|------------------------------|----|---|-------------------|
| 02:29 | | | F tenta encaixar o porquinho; P dispõe o pintainho e a vaca à frente de F; | F boca aberta |
| 02:32 | | NE | F deixa cair o encaixe -porco- que rola para trás de si; F procura-o com o olhar | |
| 02:33 | Foi muito longe? | SS | P apanha-o e mostra-o a F | P e F lado a lado |
| 02:34 | Vamos meter todos? | | F tenta agarrá-lo; | |
| 02:35 | | NE | P retira-o, coloca-o no chão, agarra o pintainho | |
| 02:36 | Mete este lá dentro, este aí | | F observa o lado côncavo do porco batendo ao de leve no seu interior; P estende o pintainho; | P voz dinâmica |

Adult as facilitator of play

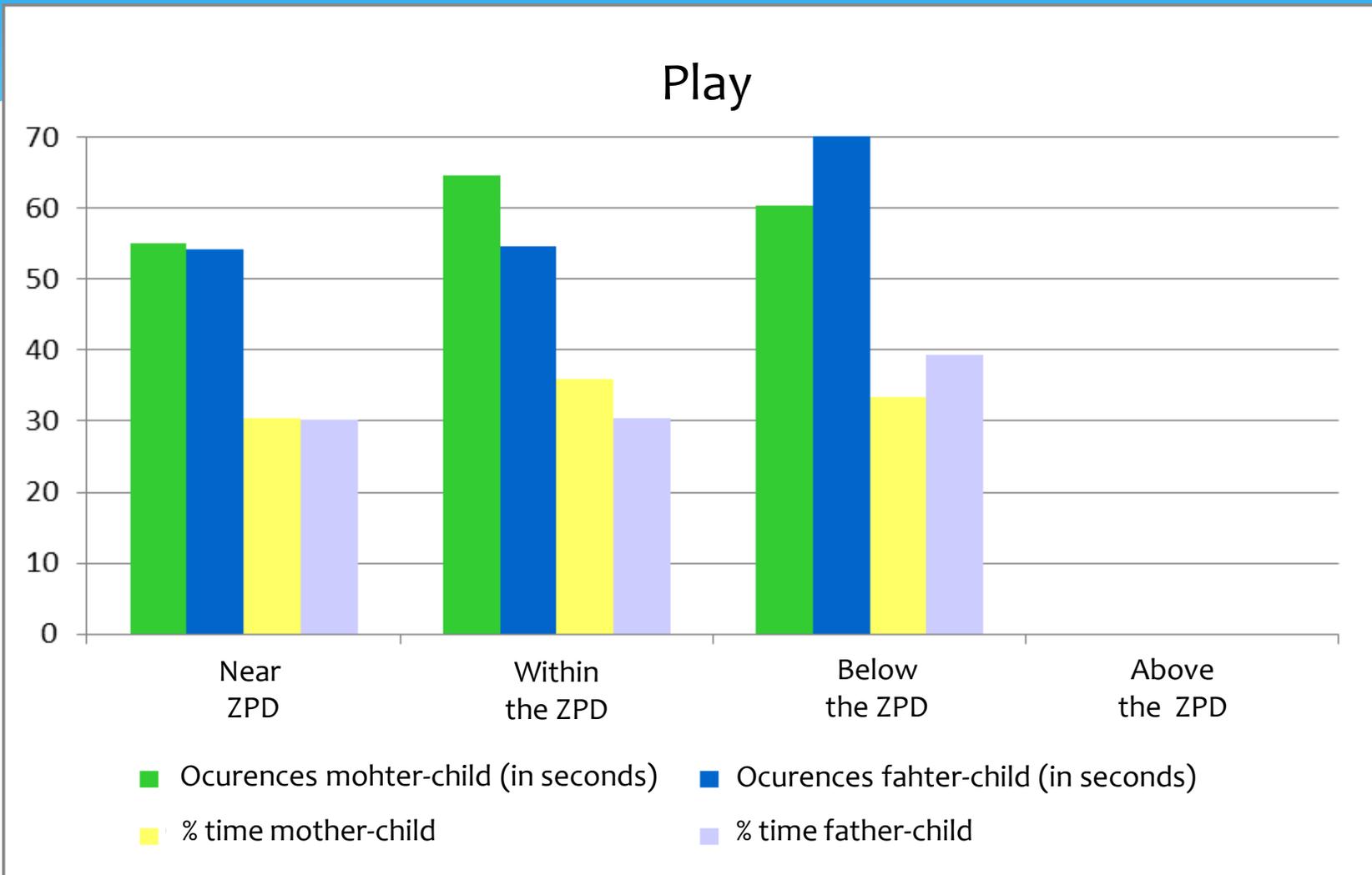
- Mothers structure more children play (to put the toys near the child, disassemble the toy to show the type of toy, arranging the materials) than fathers;
- Fathers tend to use more verbal directions and instruction about toys use (e.g., “Put inside, this one” - put this one inside, this one) and they model how to do (in front of child they demonstrate how to put pieces together – without speech).

Results

| Type of play (non mutual exclusive categories) | Mother-infant dyads) | Father-infant dyads) |
|--|----------------------|----------------------|
| | % of time | % of time |
| knowledge Acquisition | 51 | 65* |
| Psychomotor/movement | 26 | 20* |
| Logic | 17 | 10* |
| Language/communication | 2 | 3 |
| Symbolic | 5 | 1 |

* $p < .05$

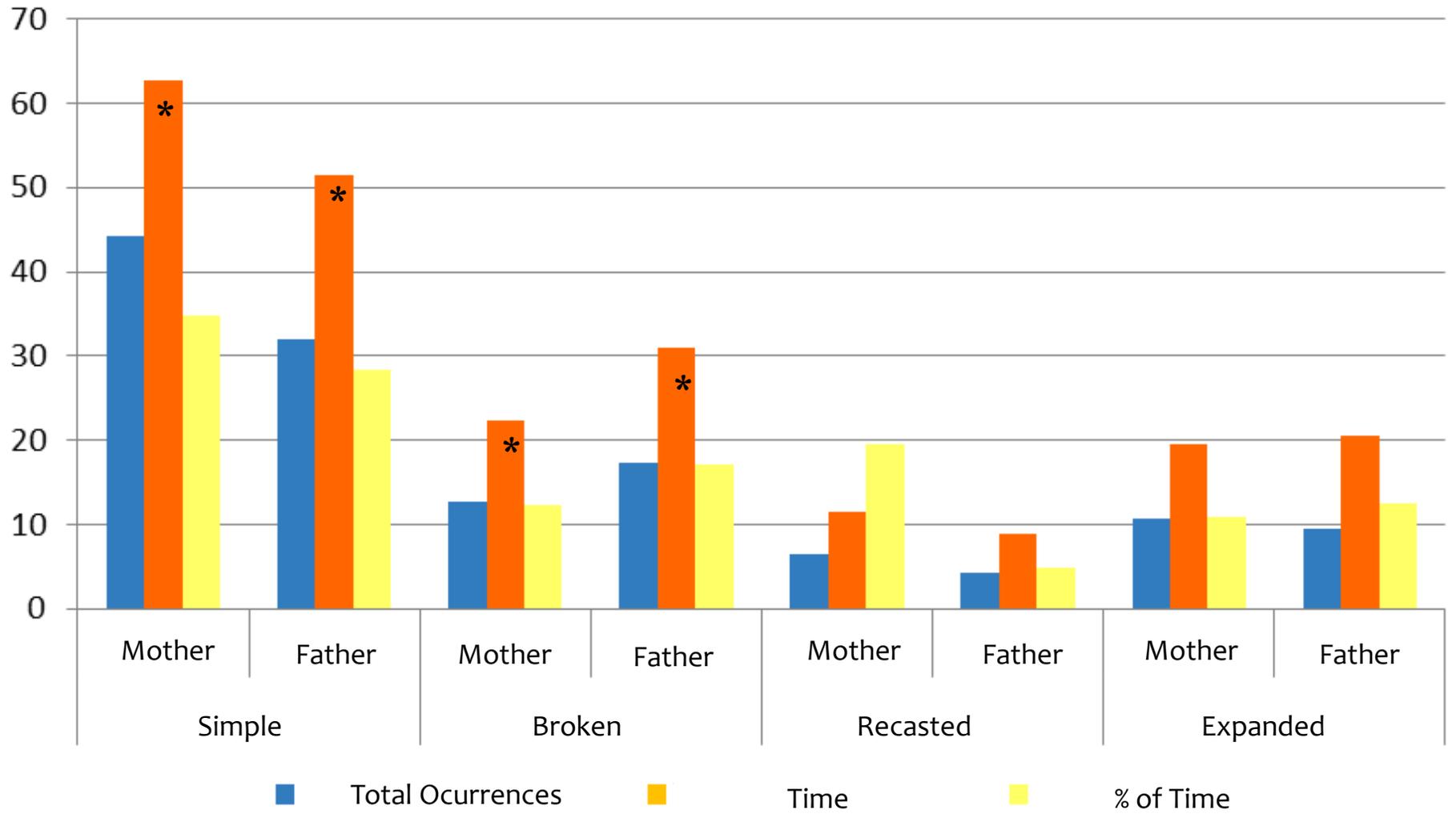
Interactions and ZPD



Mothers communication

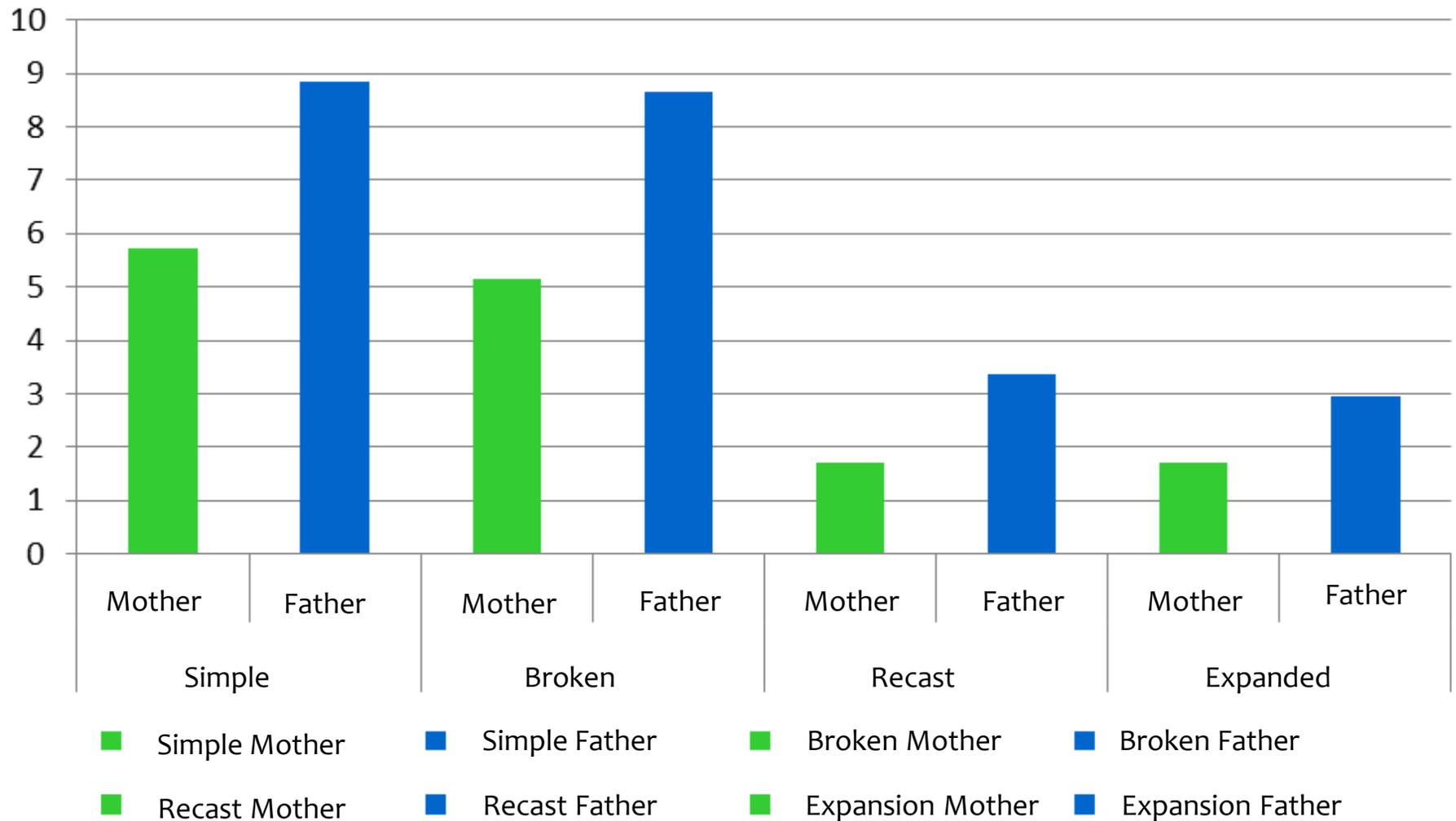
- * Mothers use verbal communication (for each 49 mothers verbalizations, Portuguese fathers do 11),
- * Mother talk more and longer
- * Mothers (e.g.,: Lowered speech tempo, higher pitch) more repetitions, recasts, speech with gestures

Verbal sequences



$p < .05$

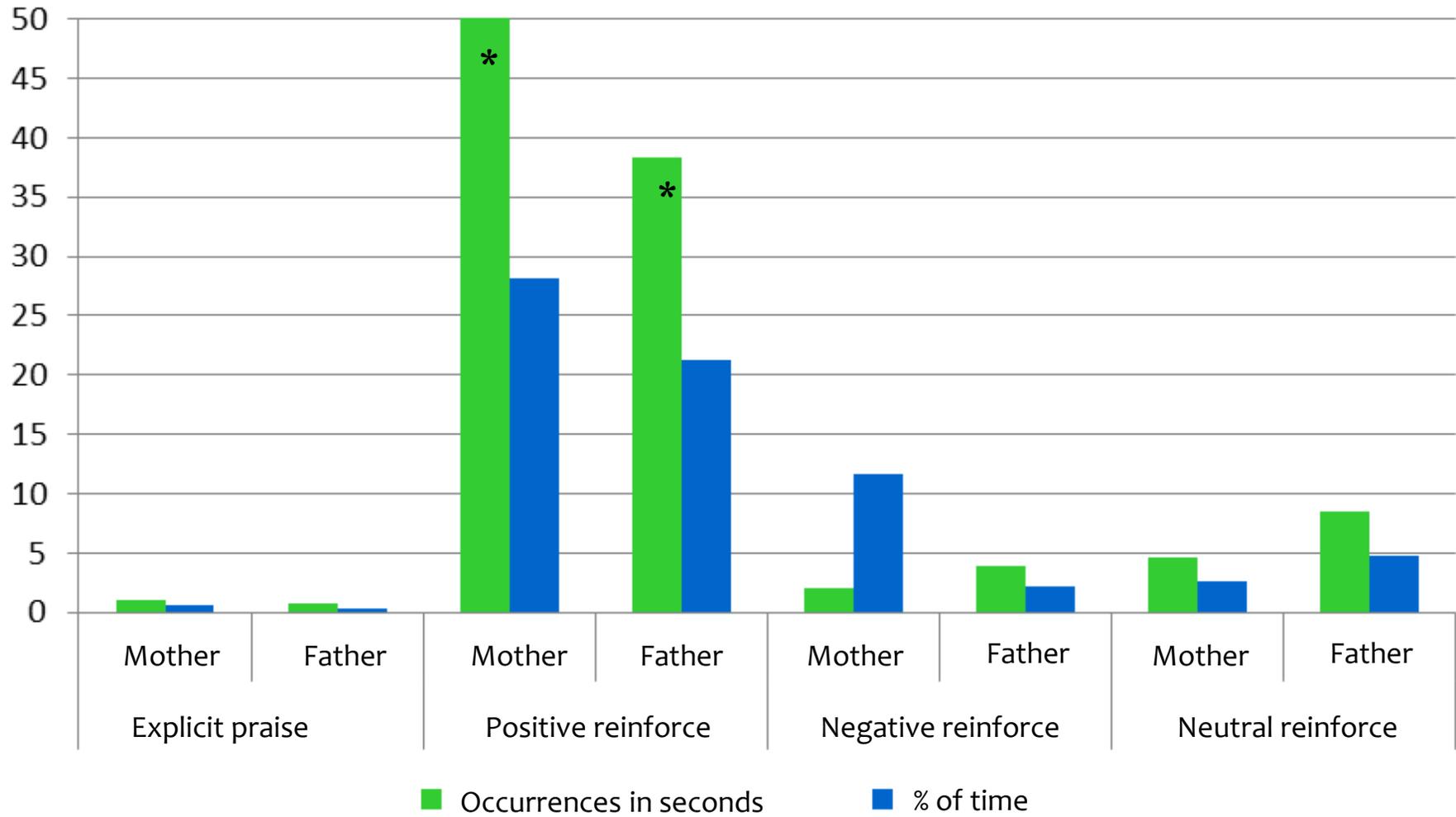
Non verbal sequences % of Time



Fathers communication

- * Fathers use more and longer non-verbal language. Fathers engage more on an attentive play, follow/respond infants interests and wait more for infants turn than mothers
- * Fathers allow children more try-error (learning on their trial)

Verbal affective behavior



Reinforcing infant behavior

Qualitative data:

- **Maternal** reinforcing can be observed in **direct** behaviors (e.g., praise, cheers clap, touch)
- **Paternal** reinforcing can be observed in **indirect** behaviors (e.g., smiles, nodding)

Demographic findings

- * No differences were found in maternal and paternal amount of request and directives given by both parents. Maternal communication turns were associated with maternal requests (Rho= .677; $p < .05$);
- * Mothers that verbalize more (Rho= .623; $p < .05$) and make more request (Rho= .658; $p < .05$) have more years of education
- * Mothers verbalize more use more verbs and make more request direct to girls than boys (tested with U Mann Whitney test; $p < .05$).

Research problematization

- * **Generate independent scales to assess fathers and mothers behaviors or male/female interactive behavior:** Faria et al. (2011) reported that maternal overall sensitivity scores in free play are better than paternal, but fathers obtained better scores in play and controlling behavior
- * ***Gathering quantitative and qualitative data:*** Mothers are more directive and infants communicate less negative behaviors with them, but fathers allow infants to do more choices and try new things

Study limitations and further directions

- * Single observation
- * Micro-analytic analyses (sec by sec) are very time consuming
- * Are these findings associated with attachment relationship and child development?

References

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