



“Parental mental health and early childhood Development: why we should jointly assess both parent and infant mental health ?”

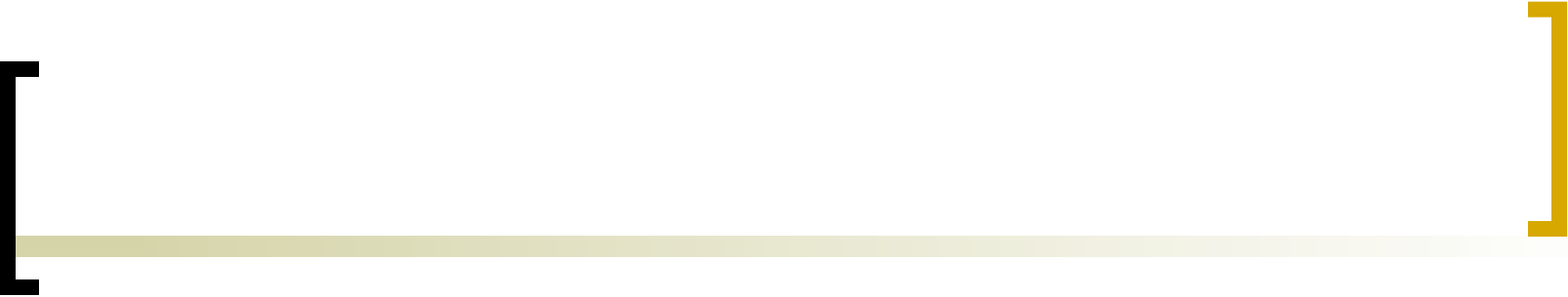
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[Yes, Why?]

- Because of the still mysterious unfolding of psychopathology, even the earliest ones
- Because we still know so little about early psychological development
- Because we must stop thinking in terms of direct links between parental psychopathology and infant and child maladaptation

A large black left bracket and a large yellow right bracket are positioned at the top of the page. A horizontal line, colored light green on the left and yellow on the right, spans the width of the page below the brackets.

The 1001 critical days, as defined by the “cross-party manifesto” from the UK (2014) underlines the importance of acting early during life, to enhance the developmental outcomes for children.

Indeed, the early years of life are a crucial period of psycho-affective development, as the events that happen to infants and babies lead to structural changes with potential life-long consequences.

Children who suffer multiple adverse events achieve less educationally and are less healthy, making it more likely that the cycle of harm is perpetuated in the following generation.

Psychological development is so a very powerful process, but also a very sensitive one, particularly to parental relational influences.

[Yes, why?]

- We have to find out precisely which dimension is doing precisely what on precisely which dimension in the child
- Using dimensional rather than categorical assessment tools for both parents and children

[Yes, why?]

- Using multiple assessment techniques, from different theoretical backgrounds (i.e. attachment, temperament, physiology, development)
- Using longitudinal controlled intervention and prevention studies, such as our CAPDEP prevention study in France
- Checking on both parents and infants in specifically distressful situations such as prematurity, or Cleft Palate or Prader-Willy syndromes



Tronick has brilliantly shown that usual parent-infant interactions are off the base 50% of the time. Tronick tells us about the main developmental influence of the repair processes within the interaction, if mistakes are to be acknowledged and avoided by parents.



As the French humorist Pierre Dac puts it: ' after the milestone, you get the limit':

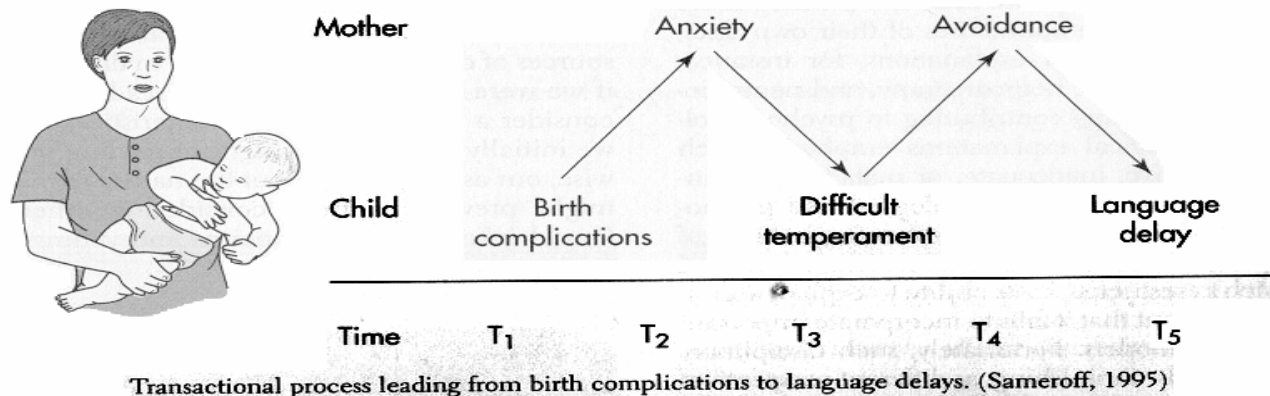
Those reparation processes do have their limits and sustained dys-synchronization may lead to sustained social withdrawal behavior in the infant , in turn leading to ulterior developmental difficulties in the child,



- *The transition to parenthood is a time of great adjustment representing a major stressful life event for all parents, unattainable for some, especially if the parent is alone*

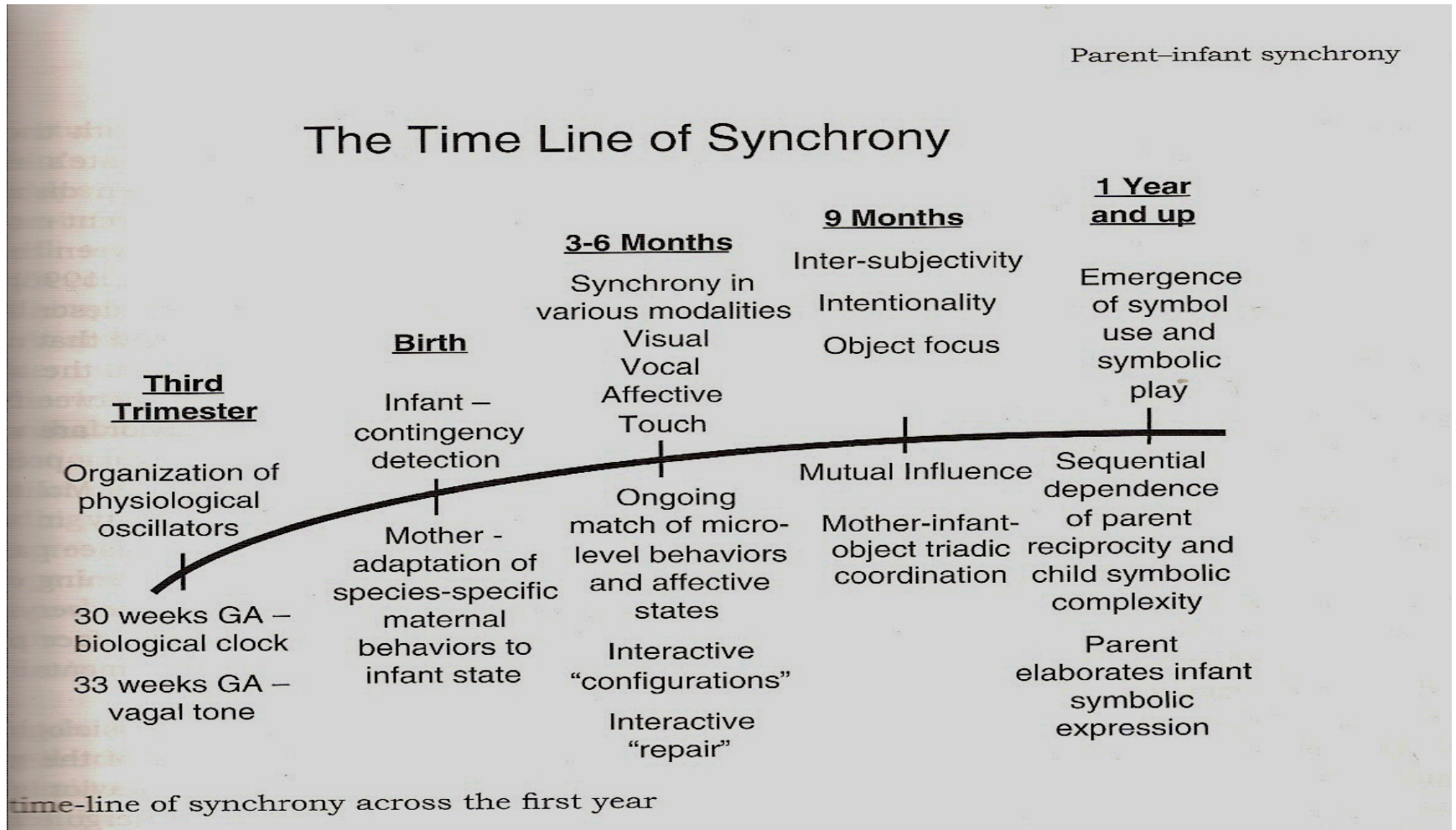
As conceptualized by Sameroff, the “transactional model of development” applied to the early perinatal period make it comprehensible how the normal infant's needs are susceptible to make parent's mental state deteriorate, and so parenting behaviours inadequate, making the infant more difficult and then potentially “symptomatic”.

2.1 Explaining Causation: It's Not That Simple



No simple causal relationships, but a sequence of reactions and adaptations

Ruth Feldman, 2007 JCPP: major role of the time line of synchrony in the early mental development of the child

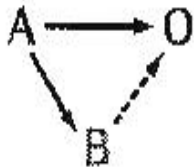
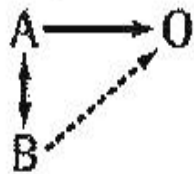


Risk and resiliency. Choosing between Proxy, Overlapping, Independent, Moderating or Mediating factors,

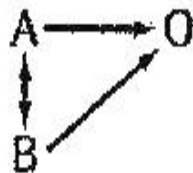
KRAEMER, STICE, KAZDIN, ET AL

FIGURE 1. Five Ways Risk Factors A and B Can Work Together to Affect Outcome O^a

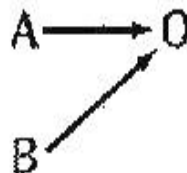
B is a proxy for A as a risk factor for O



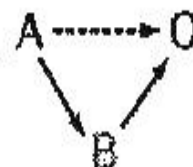
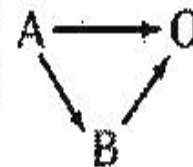
A and B are overlapping risk factors for O



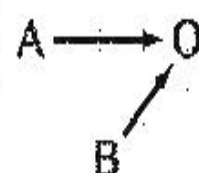
A and B are independent risk factors for O



B mediates the effect of A on O



A moderates the effect of B on O



^a Left to right positioning indicates temporal order. A solid arrow indicates a correlation. A dotted arrow indicates a correlation that weakens or disappears when the other risk factor is considered

[Some dimensional tools of interest, for assessing infant's or parent's mental state]

- Alarm Distress BaBy scale (ADBB, Guedeney & Fermanian, 2001) for assessing social withdrawal behavior in infants
- EPDS, (Cox & al 1987) for postnatal depression
- IOFS, PSI for stress related to caregiving
- Coparenting scale: Mc Hale, Favez

Some examples of the interest of using dimensional tools simultaneously with children and parents to better understand what leads to what under which circumstances

- Bulimic behaviour and psychopathology in obese adolescents AND in their parents: Isnard & al 2010
- Preterm: comparison of Jewish and Bedouin mothers with term and preterm infants: Atzaba-Poria & al 2014
- Post-natal depression in parents and social withdrawal in infants: Mantymaa & al, 2006
- Palate Cleft : Grollemund & al 2014
- Prader-Willy syndromes: Tauber & al 2010, 2015

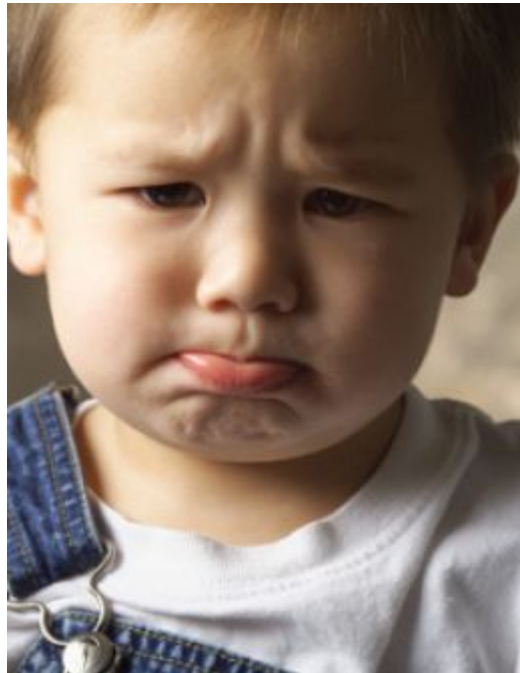
Post natal depressive mood in parents and social withdrawal in infants:

- Infants aged 4, 8, and 18 months ($n=260$) were examined with the ADBB. Parents' depressive symptoms and perceived mental health during the preceding year were elicited through questionnaires and EPD).
- Both mothers' current depressive symptoms and fathers' perceived moderate or poor mental health during the preceding year **independently** increased infant risk of withdrawal, $p < .002$.
- **Social withdrawal behaviour in the infant** was correlated with mental health in the year perceived as poor for the mother, $p < .02$, as well as for the father, $p < .02$, and **became very significant when both parents perceived their mental health as moderate or poor in the preceding year, $p < .0002$.**

Lessons from Mantimaa's Finnish study

- Assess both parent's mood
- Prenatally and post nately
- Assess co-parenting abilities
- And check the result on the child: social withdrawal behavior, cognition, emotional regulation

[Check the result of co-parenting and of parent's mental health on the child]



Bulimic behaviours in and psychopathology in obese adolescents and in their parents:

- BITE, Beck, STAIC for adolescents 12-17 years, plus MADRS and BSA by child psychiatrist
- GHQ and BITE
- Results: bulimia but not obesity is linked with the degree of emotional symptomatology in the child
- Maternal psychopathology, and not maternal bulimic symptoms is the factor most strongly associated with bulimic behavior in these obese adolescents

Different parental dimension may act differently on different symptoms in the child. The specific mixture is to be searched for each situation, without applying a scheme, such as for example 'young adolescent mother = infant's feeding problems'



Young mother and infant in a Rio de Janeiro shelter home

What do we know about the mental health of parents of preterm babies?

- Premature parents: no preparation for separation
- A traumatic experience indeed
- Increased feelings of loss of control and decreased self- confidence
- Reduced maternal sense of competence
- The resiliency of the preterm infant depends largely on parental competences and resilience to stress

Brummelte, Grunau, Synnes, Whitfield, & Petrie-Thomas, 2011; Lowe, Erickson, MacLean, Schrader, & Fuller, 2013; Woythaler, McCormick, & Smith, 2011

What do we know about the mental health of parents of preterm babies?



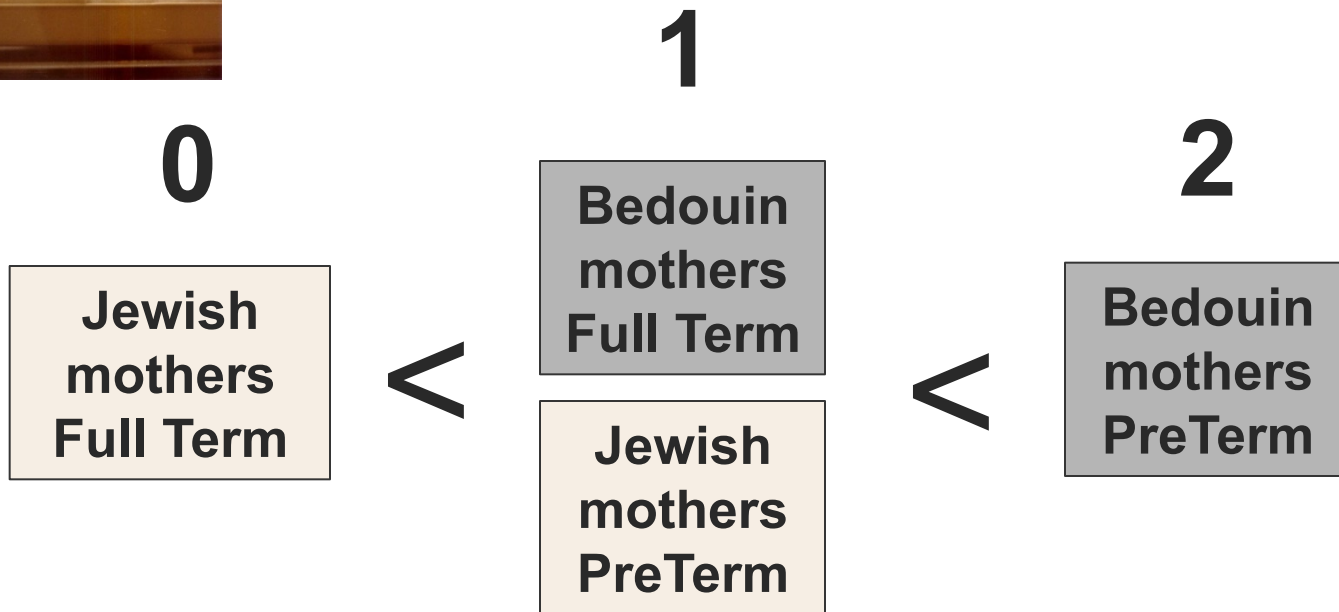
- Prematurity is a situation in which we have to understand how parental factors influence the cognitive and emotional outcomes of the baby

Maternal depression:

Group differences between culturally different groups



($F(3,228)=18.62, p<.001$).



Maternal anxiety does depend on the preterm situation but not on ethnicity

Significant differences in maternal anxiety between preterm and full term babies mothers but not between Jewish and Bedouin mothers ($F(3,228)=12.38, p<.001$).



**Bedouin
mothers
Full Term**

**Jewish
mothers
Full Term**



**Bedouin
mothers
Preterm**

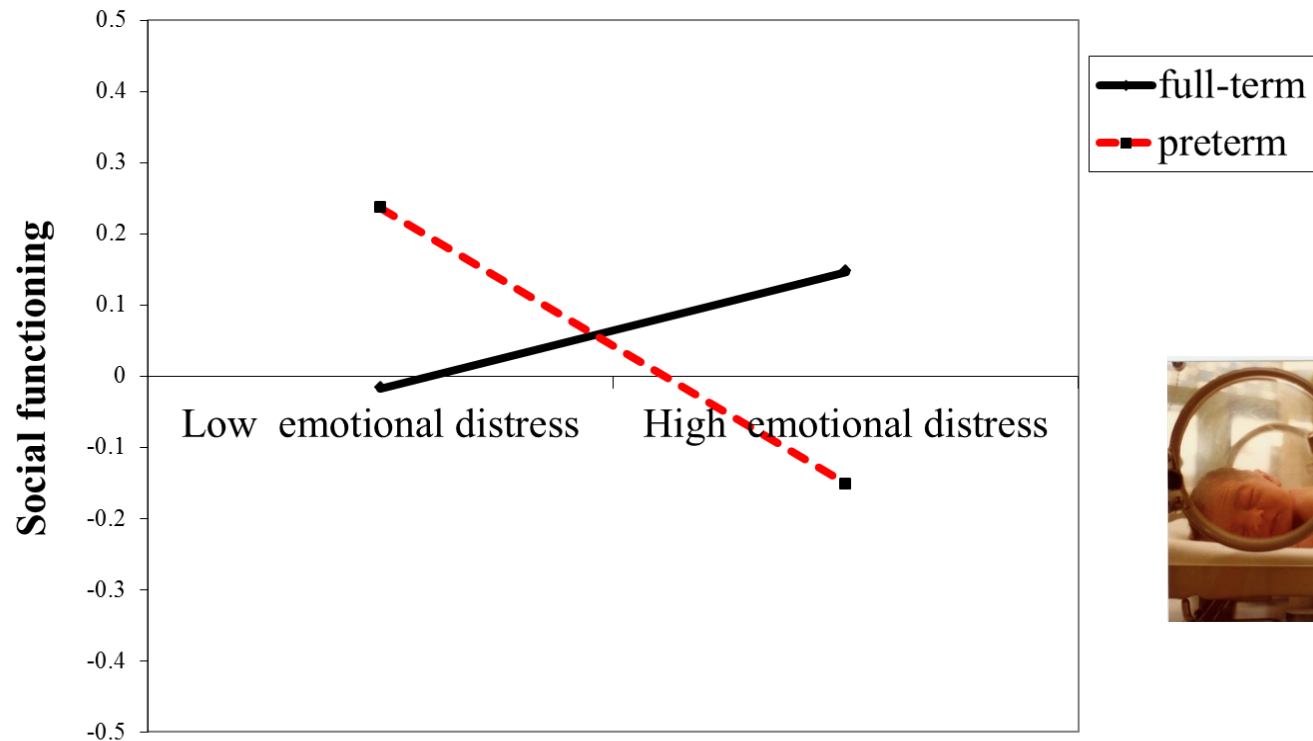
**Jewish
mothers
Preterm**

Prematurity as a moderator: N Atzaba-Poria & al 2012

Predictors	β	R^2	F
SES	.24**	.21	6.3***
Prematurity	-.18*		
Maternal emotional distress	-.04		
Maternal responsiveness	.00		
Prematurity X Maternal emotional distress	-.25*		
Prematurity X Maternal responsiveness	.19		



Probing the interaction: Prematurity X Maternal Emotional Distress: N Atzaba-Poria



* Consistent with the Differential Susceptibility perspective

Such clear cut-situations may help us sort out what does what to whom, under which circumstances

- Do all Jewish or Bedouin mothers react the same way with a preterm child? Does anxiety and/ or depression in this situation depends on genetic susceptibility, on cultural familial environment or on both, with true GXE?
- How do mother and child genetic susceptibilities interact in the case of preterm birth?



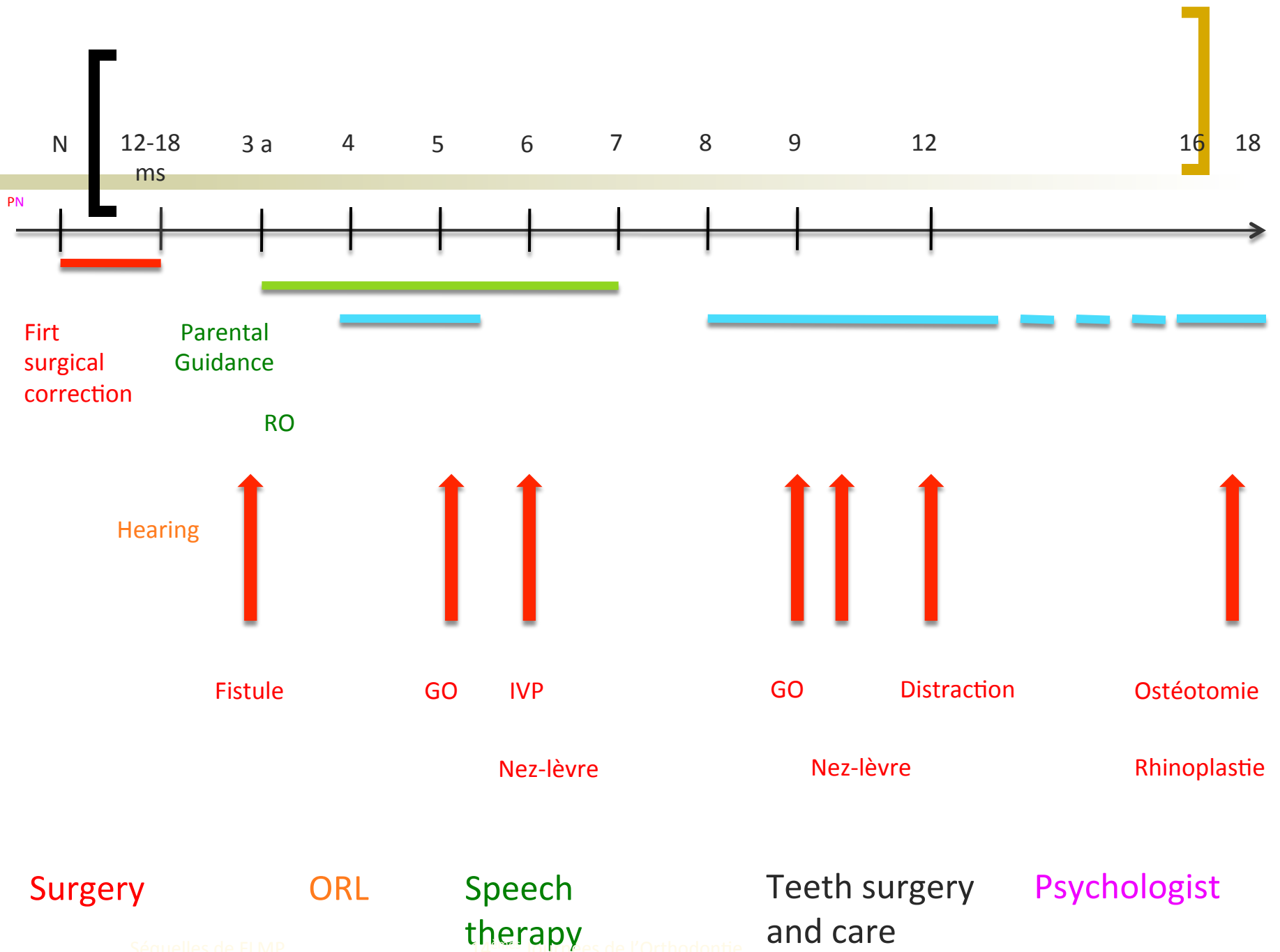
Such culturally clear-cut situations may helps us sort out what does what to whom, under which circumstances

- On the same token, is social withdrawal behavior in the child linked with some genetic susceptibility?
- We know this susceptibility is already demonstrated for temperament as well as for attachment disorganisation (D)
- All infant's have limits to what they can support in terms of desorganisation/desynchronisation, but their threshold probably differ

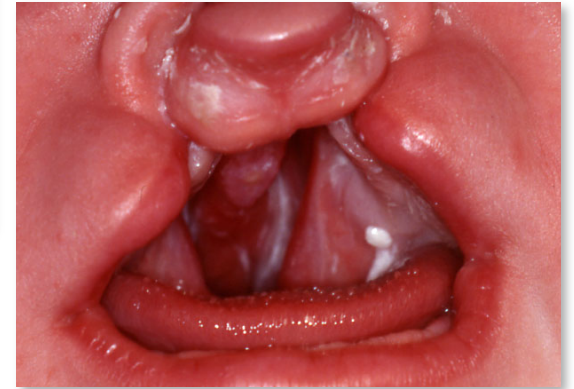
Cleft palate syndroms



- A major stress for the family
- Treatment take years: surgery, odotology, speech therapy
- As adults: poorer self esteem, higher rate of suicide
- What is the impact on the family and on parent - child relationship?

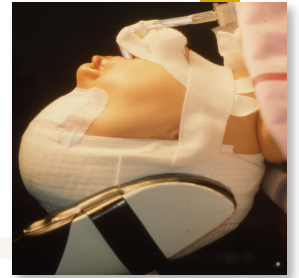


Neonatal surgery



Cortesy of Dr B Grollemund, Strasbourg

Results of the French Cleft Palate Study (Grollemund & al, submitted)



- Rate of social withdrawal behavior at age 4 months in CP: around 35 %
- Compared with 12 % in community samples
- Depending on parent's mental state
- Which does not depend on the severity of the malformation
- Better when diagnosis is antenatal and with early first surgical gesture

Hypotonia
(decreased
muscle tone)



Tauber & al (Front Horm Res. Basel, Karger, 2014, vol 42, pp 93–106)

- Prader-Willi syndrome (PWS) is a rare neurodevelopmental genetic disorder arising from the lack of expression of paternally inherited imprinted genes on chromosome 15q11–q13.
- It is the first known example of a human disorder involving genomic imprinting.
- In our opinion (MT), it is as if PWS infants display anorexia and subsequently develop obesity with hyperphagia and impaired satiety

Hypotonia
(decreased
muscle tone)



Early intervention with OCT in Prader Willy

(Tauber & al, submitted)

- Hospitalization of both parents and child; video training to help parents feed the child
- Several doses of OCT
- ADBB, CIB, IOFS, EPDS, STAI , fMRI
- Clear positive effect of OCT on feeding behavior, social withdrawal behavior and parent-infant interaction
- Reversal of the negative transactional situation of a hard to wake, hard to feed child
- Does OCT has Positive long terms cognitive effects?

Longitudinal controlled studies, using several types of assessment of children and parents : key to understanding early psychopathology

- Lars Smith & al Oslo: A longitudinal population study of infant vulnerability and plasticity from pregnancy to age 18 months, n=1200
- Raquel Costa & al , Portugal n=800
- EDEN study group, France, n=1500: birth weight predicts ADBB scores at age one (ECAP 2012); ADBB age 1 predicts emotional regulation at age 3 and behavioral disorders at age 5 (ECAP 2014); ADBB at age 1 linked with language and psychomotor delay (submitted)

[Take home]

- Longitudinal trajectoire studies will shed (a bit of) light on the still mysterious unfolding of normal psychological development and psychopathology
- The mutual effects on some dimensions of development on others is one of the new frontiers
- Using dimensional assessment tools for both parents and children
- Making use of specific situations to sort out GXE influences

Thank you for your attention

- ***The mind of children is like a candle lit in a windy place:
its light is always flickering***

Fénelon, L' éducation des jeunes filles, 1687

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