UNIVERSITY OF TORONTO
OISE | ONTARIO INSTITUTE
FOR STUDIES IN EDUCATION

Postdoc à Uof T (Sept 2009-Aug 2011)

Ontario Institute for Studies in Education
Kids, Family and Place study
Jennifer Jenkins' Lab

Kids, Family and Place study (KFP)

KFP Research program

- Longitudinal community-based study in the cities of Toronto and Hamilton
- Over 650 families having a newborn and at least one older siblings
- Children's development in a nested, multilevel framework
  - L1 : longitudinal : from birth to school age. Multiple assessment over 18 months interval (end 2011, wave 4 data fully collected).
  - L2 : multiple siblings
  - L3 : families
  - L4 : neighboordhood, school & community

People

- PI : Jennifer Jenkins (University of Toronto) & Michael Boyle (University of McMaster)
- Collaborateurs :
  - University of Toronto : Janet Astington, Cathy Barr, John Challis, Alison Fleming, Gary Kramer, Chris Moore, Michal Perlman
  - McMaster University : Kathy Georgiades, Yvonne Racine, Louis Schmidt
  - University of Bristol, UK : Jon Rasbash, Rebecca Pillinger, George Leckie
  - University of Rochester, US : Tom O'Connor
  - University of Michigan, US : Dan Keating
  - University of Western Ontario : Greg Moran, Dave Pederson
  - York University : Debra Pepler
  - University of Waterloo : Hildy Ross
- 1 Postdoc : bibi
- 6 PhD student
- 5 Master student
- 15-20 research assistants
- 1 project coordinator

Measures

- Demographic
  - Marital status, Ethnicity, Education, employment, Income and assets, Pregnancy and infant health, health background (habits), family composition
- Child's measures
  - Perinatal : pregnancy, birth weight, health,…
  - Behavior and psychopathology : conduct, emotional problem, attention, empathy
  - Social competence : prosocial behavior, …
  - Language : PPVT…
  - Cognitive development :

Measures (cont.)

- Family measures :
  - Parents – coparents
    - Biological and genetic : oxitocin, cortisol, arginine vasopressine, genotype
    - Depression, satisfaction, abuse in childhood, social relationships, social support, marital conflict, reflective functionning (fmss) …
  - Parents-child
    - Interaction (obs)
    - Parenting/differential parenting
    - Attachment and sensitivity
  - Siblings
    - Siblings interactions : conflit, competition-collaboration, scaffolding
    - Siblings relationships
  - Home observation :
    - Household chaos,…

Measure (cont.)

- School, neighboorhood, community…
  - School : behavior, academic, exceptionalities, grade, attendance,…
  - Neighboorhood : safety, victimization, collective efficacy, census,…
  - Childcare and health services :…
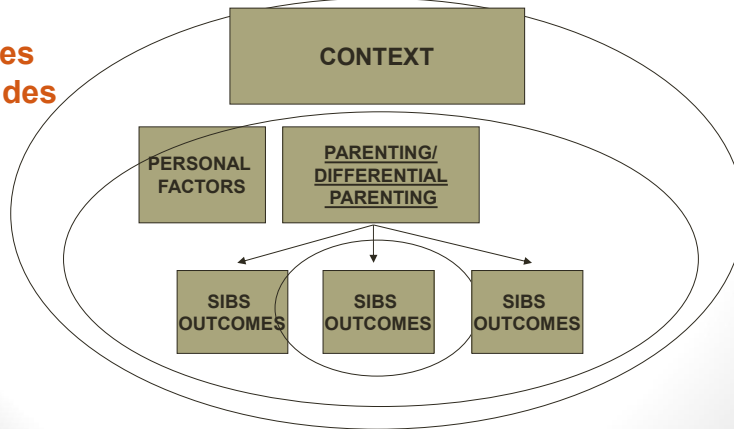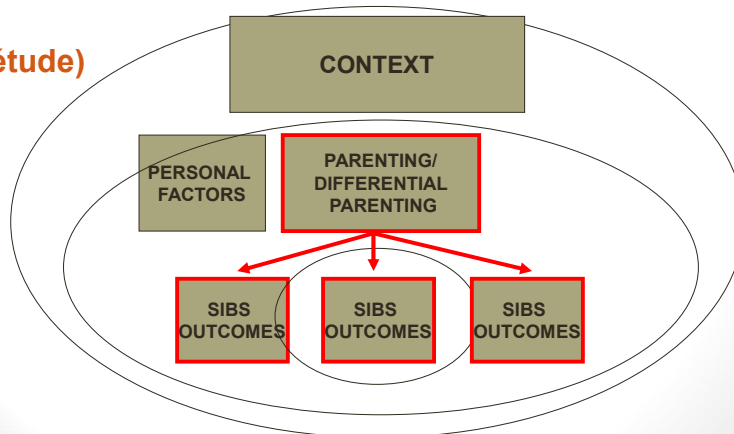- Census StatCan
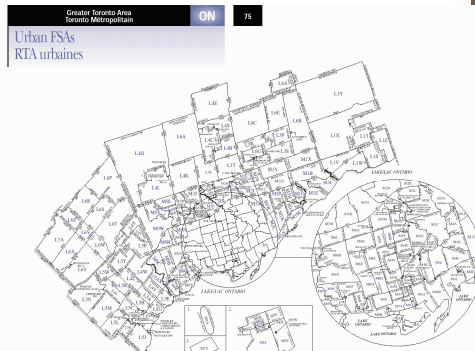
Postdoc research

Approche écosystémique

- **Comportements parentaux (parenting/differential parenting (DP))**
- Siblings' psychopathology and social development
- Contextual risk factor
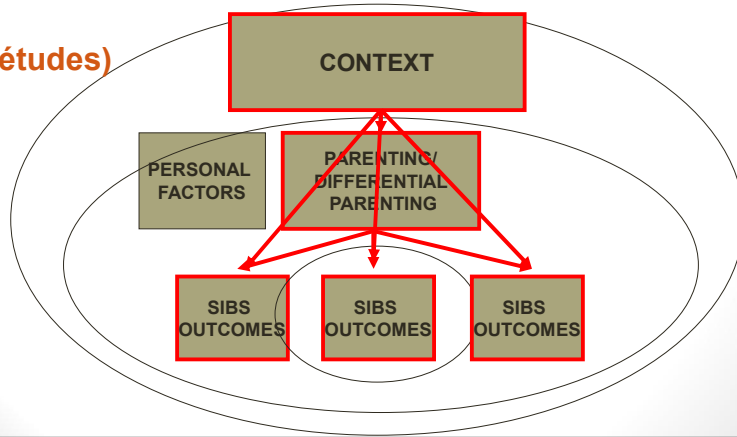- Parent's personal factors : personality and reflective functioning
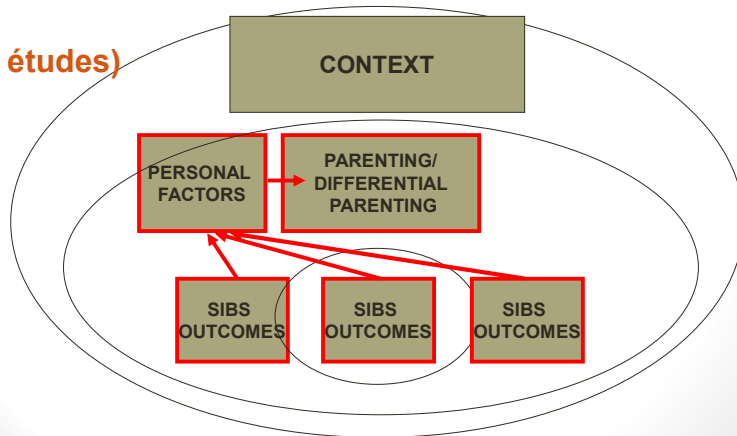
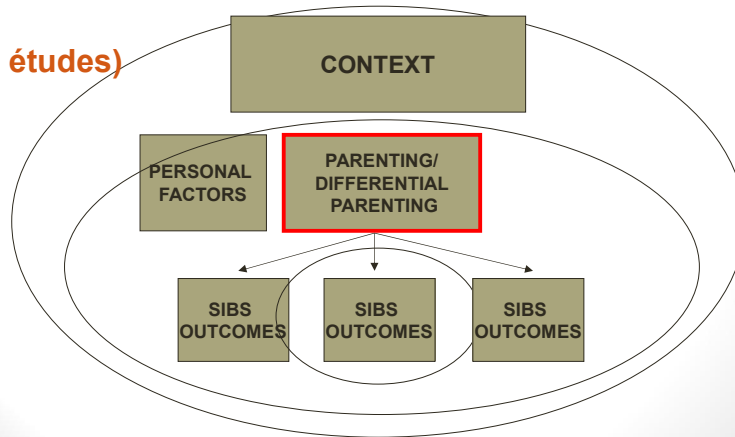**4 types d'études**

I. (1 étude)

II. (3 études)

CONTEXT

PERSONAL FACTORS

PARENTING/ DIFFERENTIAL PARENTING

SIBS OUTCOMES

SIBS OUTCOMES

SIBS OUTCOMES

III. (3 études)

CONTEXT

PERSONAL FACTORS

PARENTING/ DIFFERENTIAL PARENTING

SIBS OUTCOMES

SIBS OUTCOMES

SIBS OUTCOMES

IV. (2 études)

CONTEXT

PERSONAL FACTORS

PARENTING/ DIFFERENTIAL PARENTING

SIBS OUTCOMES

SIBS OUTCOMES

SIBS OUTCOMES

L'étude des comportements parentaux

Comportements parentaux
Approche traditionnelle

1. Parenting (P)

- à l'égard d'un seul enfant
  - Enfant « représentatif » de toute la fratrie
  - Comparaison des familles entre elles → « inter-familiale »
- Historiquement, la 1ère approche
  - Majorité des études et des connaissances sur l'influence parentale
- Comportements à risque :
  - Manque de comportements positifs : support, affection…
  - Trop de comportements négatifs : discipline sévère, arbitraire et/ou inconsistante, punition corporelle…
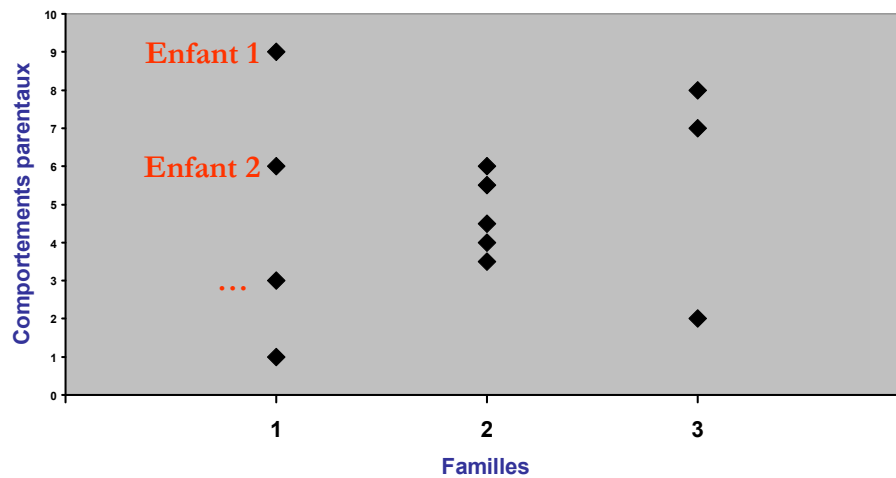
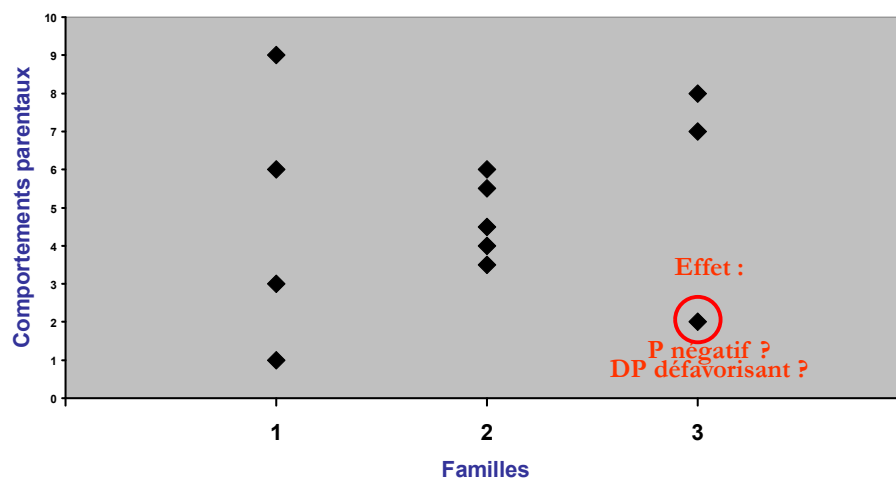# Comportements parentaux
Approche traditionnelle

2. Differential parenting (DP)

- à l'égard de plusieurs enfants
  - Analyses des différences →« intra-familiale »
  - Le plus souvent, deux enfants comme proxy de la fratrie
- Depuis 3 décennies, Daniels et Plomin (1985) :
  - Importance négligée de l'environnement non-partagé
  - Non-partagé: majorités des influences, différencie les enfants
- Pas comportement mais différence à risque :
  - Effets négatifs pour l'enfant défavorisé
  - Social comparison (Festinger, 1954) & Distributive justice (Deutsch, 1985): If children treated very differently, increase in behavioural problem
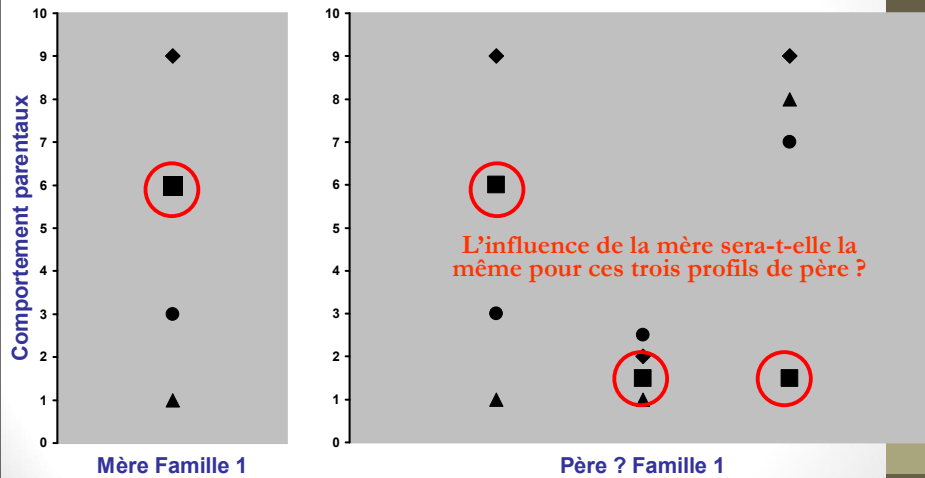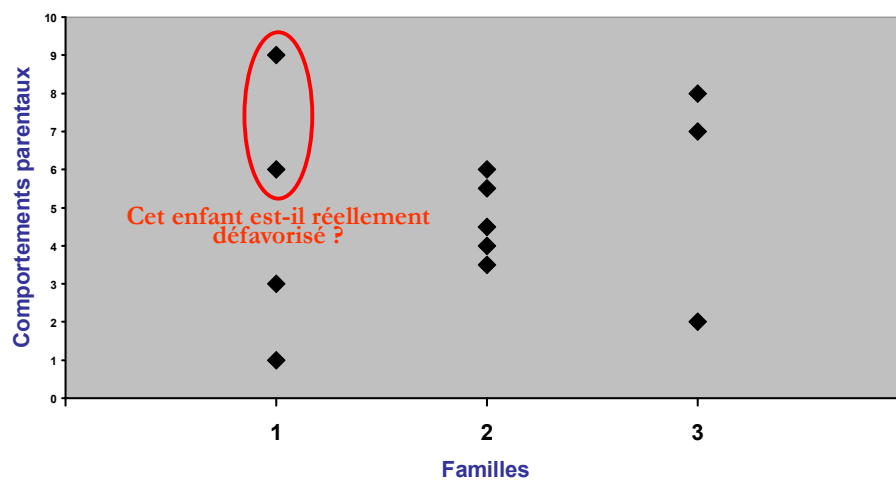
Imaginons 3 familles…

Comportements parentaux (axe vertical, gradué de 0 à 10)

Enfant 1 ◆ (valeur 9, famille 1)

Enfant 2 ◆ (valeur 6, famille 1)

… ◆

Familles (axe horizontal : 1, 2, 3)

1. Quid si P et DP considéré séparément ?

Comportements parentaux (axe vertical, gradué de 0 à 10)

Effet :

P négatif ?
DP défavorisant ?

Familles (axe horizontal : 1, 2, 3)

2. Quid si un seul parent (mère) considéré ?

Comportement parentaux (axe vertical, gauche)

Mère Famille 1

L'influence de la mère sera-t-elle la même pour ces trois profils de père ?

Père ? Famille 1

3. Quid si 2 enfants considérés pour DP ?

Comportements parentaux (axe vertical)

Cet enfant est-il réellement défavorisé ?

Familles

Comportements parentaux
Designs familiaux (approches multiniveaux)

- Modélisation Multiniveaux
  - Tirer profit de la hiérarchie du contexte et la modéliser
    - Structure hiérarchisée du contexte = répartition de la variance à tous les niveaux d'analyse : individuel et famille (ecological fallacy, Meijer, 1997)
    - Effets réels : enfants et familles (Observation non-indépendante et non-distribuée identiquement (Kreft & Deleeuw, 2003))
    - Tous les enfants : Enfants de la même fratrie & enfants de familles différentes
- Peut considérer tous les enfants dans la fratrie
  - Représentativité familiale, Puissance statistique, Cost-effective (1 contact/famille)
- P et DP simultanément
  - P : score spécifique à l'enfant
  - DP Individuel : écart de l'enfant par rapport à la moyenne familiale
  - DP Familial : variabilité des comportements parentaux (écart moyen dans la fratrie)

Designs familiaux: modèles multiniveaux
(Jenkins et al., 2003)

Hypothèse : inégalité des ressources
(Wilkinson, 1998)
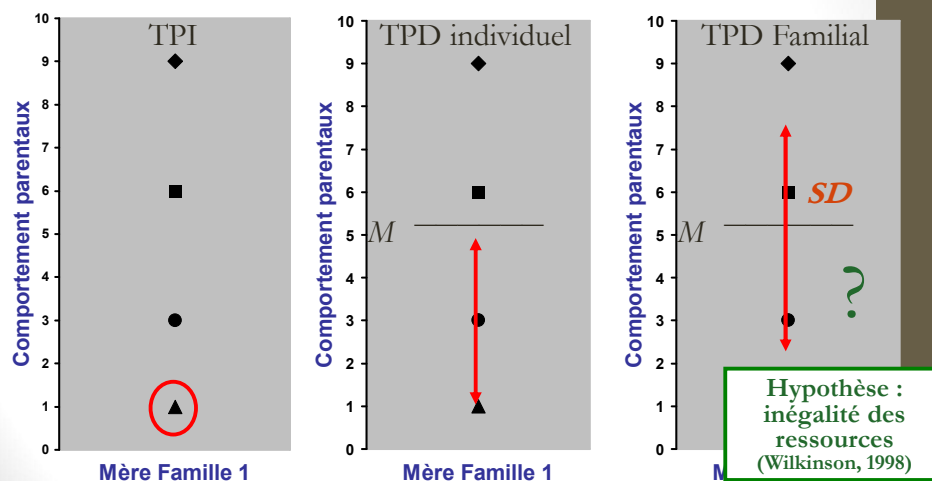
Theoretical Framework

- Differential Parenting (DP) as a negative phenomenon

  - Social comparison (Festinger, 1954) & Distributive justice (Deutsch, 1985): If children treated very differently, increase in behavioural problem.

- Parental capabilities as a resources

  - The more resources parents have, the more equitable they will be (Low/Normative DP)

  - But parents have a finite amount of resources…

Theoretical Framework (cont.)

- Family risk factors:

  - e.g. poverty, depression, divorce,…

  - Poorer children's outcomes

  - Limit parental resources : higher DP

    - When resources devoted to cope with adversity, parents have less resources to pay attention to equitable treatment (preference,… Henderson et al., 1996)

I. Complex relations between DP and siblings' psychopathology
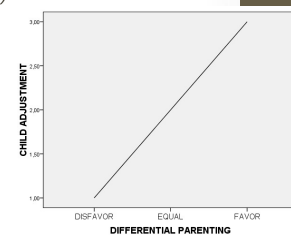*(1 étude)*
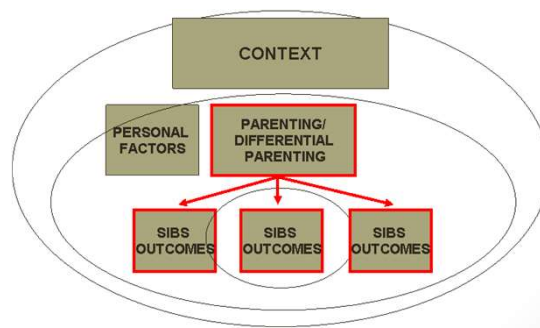
Etude 1*

a. Association DP-outcomes ? Lineaire ou curvilineaire ?

- DESIGN
  - Transversal sur 599 familles (Multilevel cross classified)
  - Mères, pères, tous les enfants (échantillon tout venant)
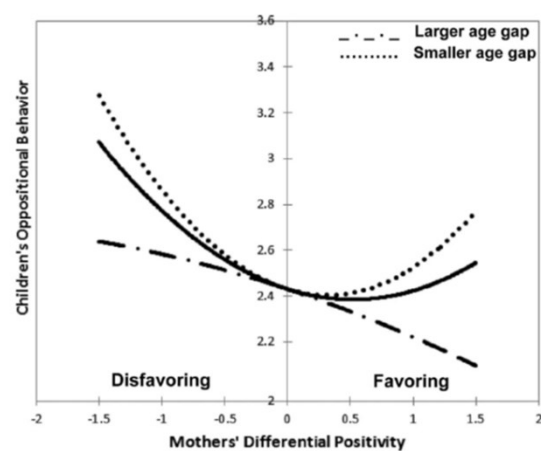- BACKGROUND
  - Un DP excessif est négatif pour l'enfant défavorisé :
    - OK unanime : social comparison
    - Démontrer dans toutes études par relation linéaire :
      au + défavorisé au pire les outcomes
  - Mais !!! : DP modéré considéré comme adéquat
    - Effet minimum dans portion médiane
  - Mais !!! : Quid enfant favorisé ?
    - Effet du sentiment de justice (subjectif) > favoritisme (objectif)
    - Justice distributive

*Meunier, Jenkins & Bisceglia, 2011, *Developmental Psychology*
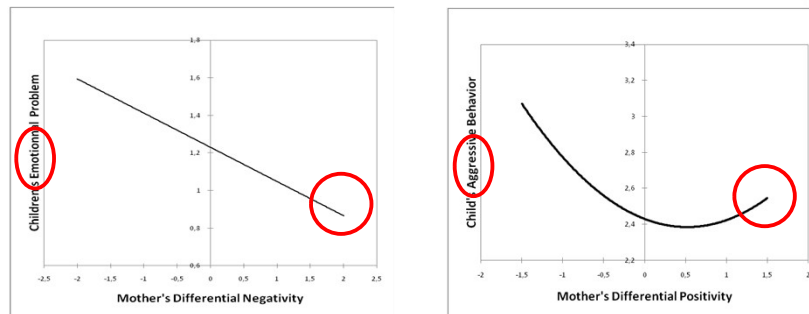
**Enfant favorisé : aucune raison de se sentir mal 'émotionnellement'
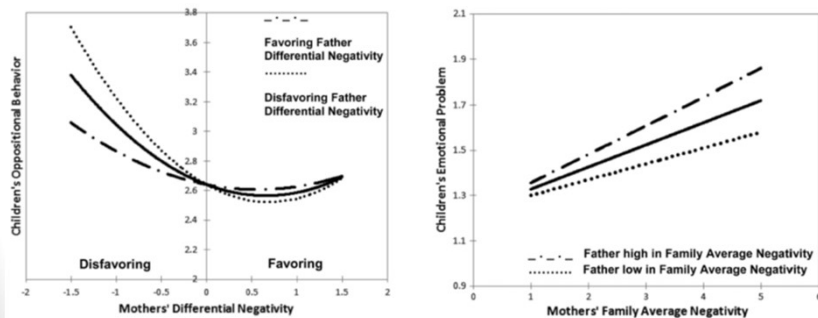mais plus de marge pour les comportements 'perturbateurs'**

Etude 1*
b. Prendre les deux parents en considération !
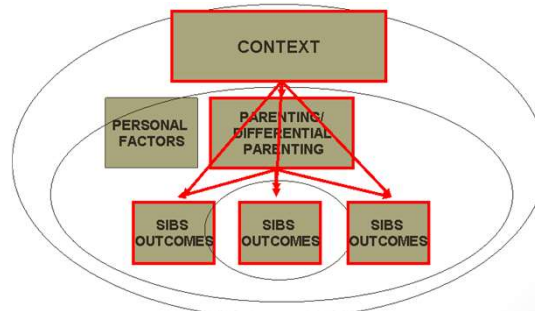
- BACKGROUND
  - Effet similaire du parenting maman et papa
    - Parenting-outcome > pour mère
  - Quid si les deux parents considérés ensemble ?
    - Additif ou Potentialisation (modération) ?

*Meunier, Jenkins & Bisceglia, 2011, *Developmental Psychology*

I. Contextual risk, DP and children's psychopathology
(3 étude)

Etude 2*

a. Influence du contexte sur enfants ? Passe par DP ?

- DESIGN
 - Étude longitudinal sur 397 familles (multilevel moderated mediation)
  - Mères et tous les enfants (échantillon tout venant)
  - Study variables :
    - Predicteur : Risk (6) et cumulative risk index : EL, depression, family type, abuse, chaos
    - Médiateur : DP
    - Outcomes : siblings' aggression, emotional problem, attentional problem, social relationships
- BACKGROUND
  - Débat sur shared-non-shared influences : GC dit Non-shared (DP) +++
    - Qd facteurs génétiques 'contrôlé' frères et sœur aussi différents que n'importe quel enfant
  - En pratique effet non-shared assez minime
    - Influence shared négligé ? Influence shared = non-shared ? **Influence shared → influence non-shared ?**

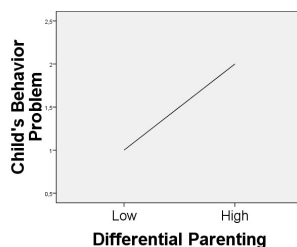*Meunier, Boyle, O'Connor, & Jenkins, revised, *Child Development*

Risk factors-Child's psychopathology
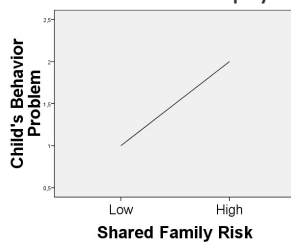
Risk factors-DP
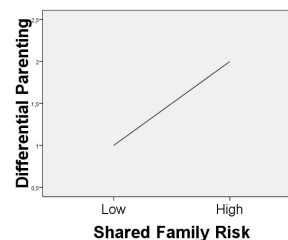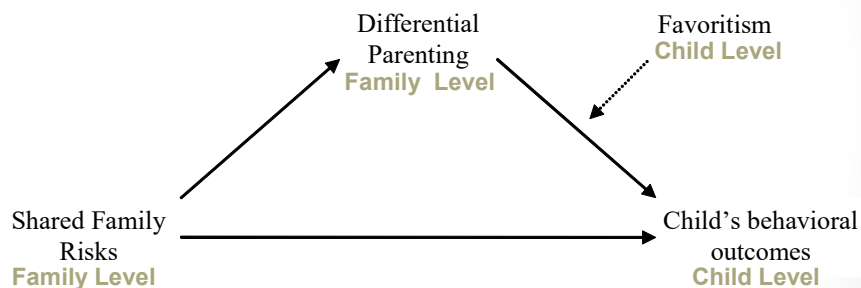
DP-Child's behavior

How are these variables related ?

- Children affected by shared family risk factors both directly and indirectly through DP

  - At the *Family Level* (mediation)

    - Deleterious for <u>all children</u> in the family (*magnitude* of DP)

Differential
Parenting
Family Level

Shared Family
Risks
Family Level

Child's behavioral
outcomes
Family Level
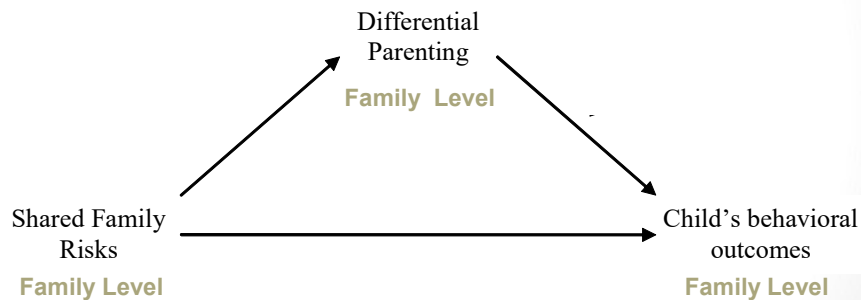
trouble émotionnel/comportement prosocial
Ethos familial plus négatif et sentiment d'insécurité dans la fratrie :
'chacun craint pour sa place' (Jenkins et al., 2003)

- Indirect effect through DP should be worst for the disfavored child

  - At the *Child Level* (moderated mediation)

    - More deleterious for <u>the disfavored child</u> (*direction* of DP)

Differential
Parenting
Family Level

Favoritism
Child Level

Shared Family
Risks
Family Level

Child's behavioral
outcomes
Child Level

**+ aspects externalisés (enfants
défavorisés)**
opposition, agressivité et agitation

17

Etude 3*

Enfants plus sensibles au DP en contexte adverse ?

- DESIGN
    - Étude transversale sur 397 familles (Multilevel multiresponse)
    - Mères et tous les enfants (échantillon tout venant)
    - Study variables :
        - Predicteur : DP
        - Modérateur : Risks (11) et cumulative risk index : EL, depression, marital conflict, family type, abuse, household chaos, neighbourhood quality, victimisation and safety,
        - Outcomes : siblings' prosocial behavior, aggression, emotional problem, attentional problem, social relationships
- BACKGROUND
    - Risk → limite ressources parentale
    - Risk → dvpt – enfant
    - Causalité ? DP←→ outcome ?
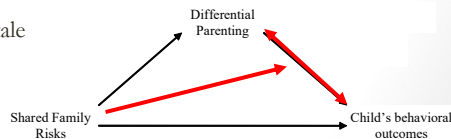
*Meunier, Wade & Jenkins, 2012, *Infant and Child Development*

Table 3. Multivariate multilevel model of moderation between cumulative risk index and mother's differential positivity and negativity in predicting children's outcomes[b]

	Prosocial behaviour	Emotional problem	Aggression	Attentional problem	Social relations quality	Wald test ($df = 5$)
Main effect						
Cumulative risk index	−.011 (.012)	.024 (.006)***	.045 (.008)***	.039 (.010)***	−.081 (.015)***	37.63***
Interactions						
Cumulative risk index × differential positivity	−.025 (.022)	.020 (.013)	−.015 (.015)	.020 (.018)	−.039 (.020)*	8.43
Cumulative risk index × differential negativity	−.038 (.014)**	.022 (.008)**	.021 (.009)*	.049 (.011)***	−.058 (.013)***	33.07***

[a]All models controlling for child's age and gender, sibling age spacing and gender composition, mother's educational level and mother's family−average parenting.
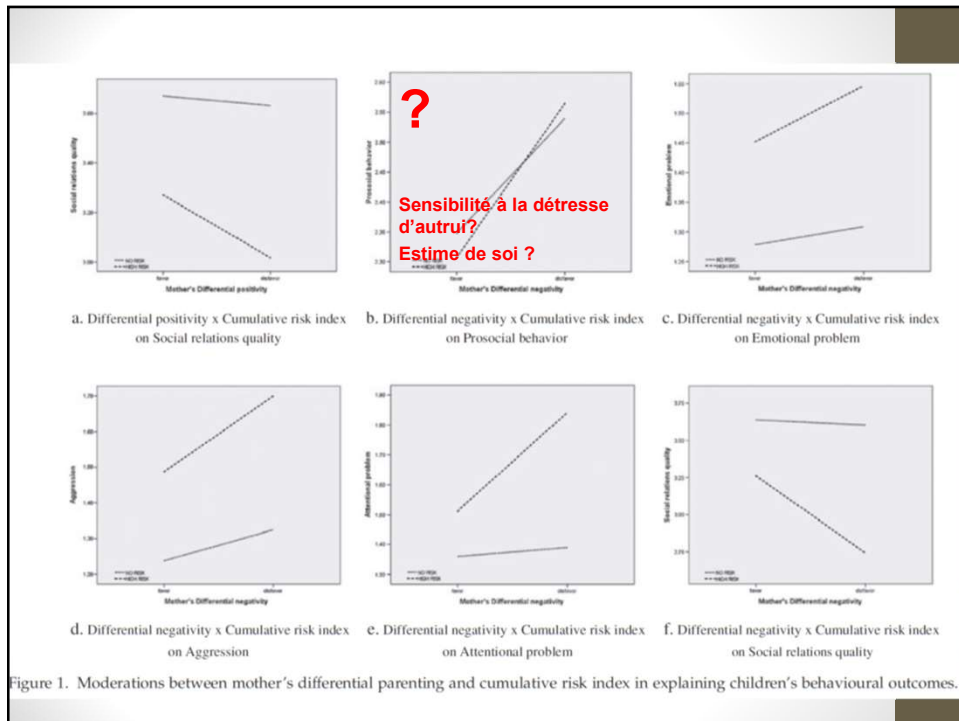[b]Excepting covariates which were included in all models (cf. [a]), each interaction was tested separately along with its main effects terms (not presented).
†$p < .10$.
*$p < .05$.
**$p < .01$.
***$p < .001$.

Figure 1. Moderations between mother's differential parenting and cumulative risk index in explaining children's behavioural outcomes.

Etude 4*

Potency of risks on siblings ?

- DESIGN
  - Étude transversale sur 397 familles (Multiresponse Multilevel)
  - Mères et tous les enfants (échantillon tout venant)
  - Study variables :
    - Control : age, gender
    - Predicteur : Risk (9) et cumulative risk index : EL, depression, marital conflict, family type, abuse, household chaos
    - Outcomes : siblings' aggression, emotional problem, attention, social relations, langage problems
- BACKGROUND
  - Effects of risk on outcomes
  - Effects of risk on comorbidity
  - Effects of risk on sibling similarity

*Meunier, Pillinger & Jenkins, submitted

Etude 4*

a. Potency of risks on siblings OUTCOMES ?

Table 1

Multivariate multilevel fixed effects model on shared family risk factors predicting children's behavioral outcomes

	Emotional Problem B(SE)	Conduct Problem B(SE)	Attentional Problem B(SE)	Relations Problems B(SE)	Langage Problems B(SE)	Wald test (d.f. = 5)
Family risks						
Step-families	.414(.166)*	.612(.169)***	.411(.168)*	.656(.189)***	.283(.174) †	22.095***
ΔR²₂ (risk vs. control)	.03	.06	.03	.05	.02	
Lone parent families	.703(.181)***	.083(.175)	.345(.19) †	.384(.195) †	.187(.18)	11.774*
ΔR²₂ (risk vs. control)	.09	.01	.02	.01	.00	
Mothers' EL	-.059(.015)***	-.038(.015)**	-.065(.015)***	-.019(.017)	-.062(.016)***	26.14***
ΔR²₂ (risk vs. control)	.08	.03	.09	.00	.11	
Teen motherhood	.533(.2)**	.4(.195)*	.348(.198) †	.382(.218) †	.299(.2)	9.576†
ΔR²₂ (risk vs. control)	.04	.03	.02	.01	.02	
History of abuse	.141(.086) †	.238(.085)**	.275(.082)***	.3(.09)***	.028(.088)	13.313*
ΔR²₂ (risk vs. control)	.02	.04	.06	.04	.00	
Mother's depression	.032(.006)***	.028(.006)***	.032(.006)***	.029(.007)***	.015(.007)*	49.269***
ΔR²₂ (risk vs. control)	.13	.10	.13	.07	.03	
Marital conflict	.007(.03)	.153(.03)***	.035(.03)	.139(.034)***	-.03(.032)	16.937**
ΔR²₂ (risk vs. control)	.01	.09	.01	.06	.01	
Home order	-.168(.073)*	-.29(.072)	-.25(.073)***	-.199(.08)*	-.225(.078)**	23.355***
ΔR²₂ (risk vs. control)	.03	.08	.06	.02	.06	
Cumulative risk index	.132(.029)***	.154(.028)***	.141(.028)***	.162(.030)***	.057(.029)*	55.708***
ΔR²₂ (risk vs. control)	.12	.14	.13	.10	.02	

Note.
ªReference category: boys
† p<.10 ; * p<.05 ; ** p<.01 ; ***p<.001

Etude 4*

b. Potency of risks on siblings OUTCOMES COMORBIDITY ?

Table 2

Between-family Residual correlations between children's behavioural outcomes before and after accounting for shared family risk factors

|	Baseline model	Specific risk models								Cumulative risk model	
	Controlling for age and gender	step	lone	education	teen	abuse	depress	conflict	order		
Emotional-Attentional	.624***	.612***	.613***	.588***	.614***	.618***	.566***	.629***	.611***	.572***	
Change				-.036			-.058				-.052
% of change				5.8			9.3				8.3
Conduct-Attentional	.580***	.563***	.585***	.563***	.571***	.560***	.527***	.627***	.550***	.516***	
Change							-.053	.047	-.030		-.064
% of change							9.1	7.5	5.2		11.0
Emotional-Conduct	.497***	.474***	.518***	.475***	.479***	.489***	.433***	.615***	.479***	.424**	
Change							-.064	.118			-.073
% of change							12.9	19.2			14.7
Conduct-Relation	.478***	.448***	.479***	.476***	.468***	.456***	.433***	.437***	.458***	.409**	
Change		-.030					-.045	-.041			-.069
% of change		6.3					9.4	8.6			14.4
Attentional-Language	.447***	.435***	.443***	.388**	.437**	.457***	.420**	.420**	.414**	.424**	
Change				-.059			-.027	-.027	-.033		-.023
% of change				13.2			6.0	6.0	7.4		5.0
Emotional-Language	.274*	.256†	.269*	.199	.255†	.273†	.231†	.239†	.248†	.239†	
Change		-.018		-.075	-.019		-.043	-.035	-.026		-.035
% of change		6.6		27.4	6.9		15.7	12.8	9.5		12.8
Attentional-Relation	.258**	.229*	.245**	.253*	.246*	.219*	.182†	.154	.229*	.164	
Change		-.029	-.013				-.076	-.104	-.029		-.094
% of change		11.2	5.0				29.5	40.3	11.2		36.4
Emotional-Relation	.183†	.150	.158	.174†	.163†	.163	.099	.128	.163†	.085	
Change		-.033	-.025				-.084				-.098
% of change		18.0	13.7				45.9				53.6
Wald test (df=10)	42.26***	37.82***	40.71***	36.37***	39.10***	38.45***	30.70***	34.42***	36.69***	29.77**	

† p<.10 ; * p<.05 ; ** p<.01 ; ***p<.001

Etude 4*

c. Potency of risks on siblings SIMILARITY ?

Figure 1

Change of multivariate intraclass correlation (ICC) as a function of the cumulative risk index
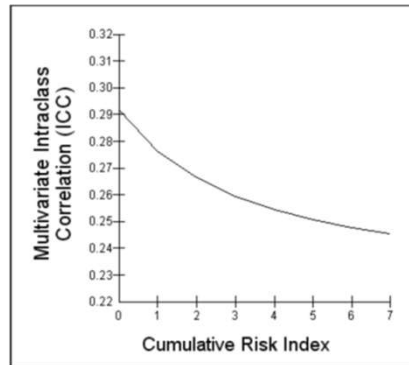
ICC = Between-family variance(L2)/total variance

- Indice du clustering des données

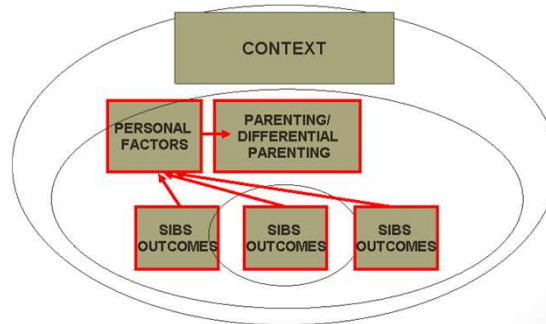- Indice de corrélation au sein du cluster (intra-familial)

0 pas de clustering

1 pas de variance intra-familiale

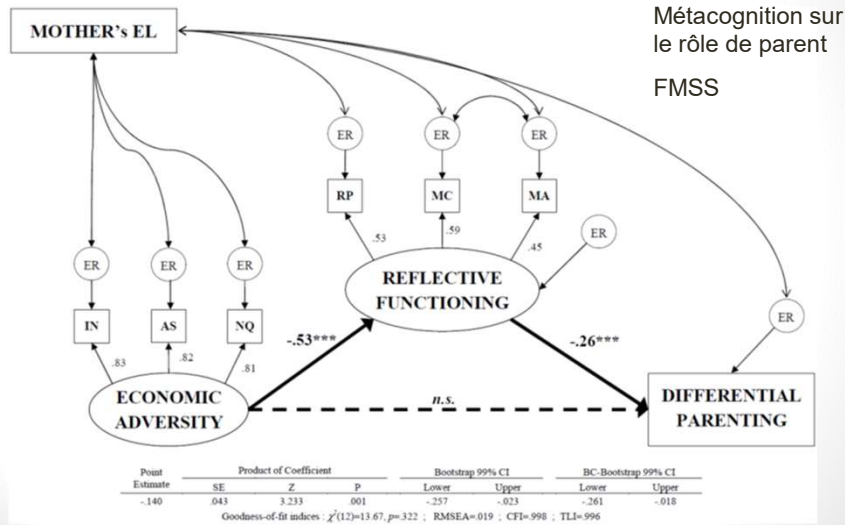Lower sibling similarity with increasing risks

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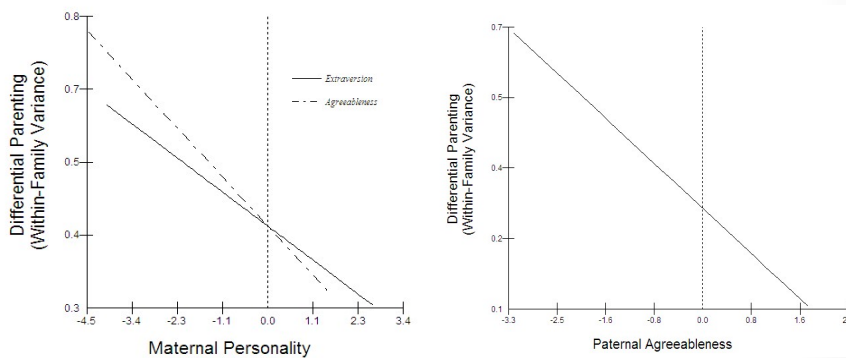# III. Parents' personal characteristics and DP + Differential susceptibility

(3 études)

Etude 5*

Reflective functioning and DP ?

Métacognition sur
le rôle de parent

FMSS

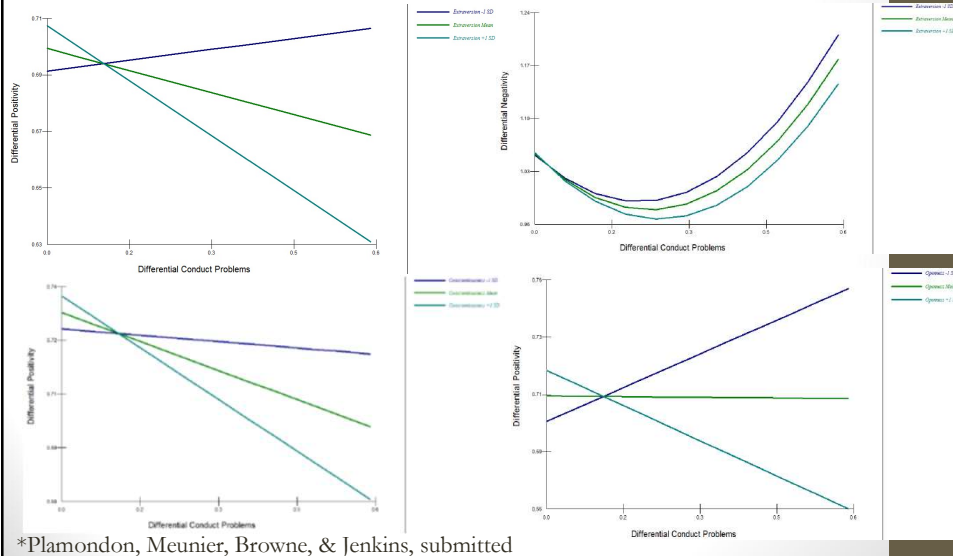*Jenkins, Meunier, & Boyle, in revision, *Developmental Psychology*

Etude 6*

Personality and DP ?

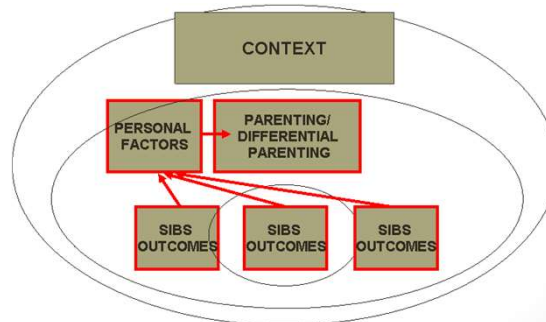*Browne, Meunier, O'Connor, & Jenkins, revised, *Journal of Family Psychology*

Etude 7*

Personality as indicator of Differential susceptibility to siblings difference

*Plamondon, Meunier, Browne, & Jenkins, submitted

IV. Person- and Family-centred approach on DP

(2 études)

Etude 8 & 9*

- BACKGROUND
  - Explorer typologies de style éducatif selon facteur suivant :
    - Parenting : positivity & négativity
    - Differential parenting : positivity & negativity
    - Discrepency entre DP posivity et negativity (person-centred)
    - Discrepency entre mère et père (family centred)
- DESIGN
  - Latent Profile Analysis (MPLUS)
    - Comme cluster mais mieux
      - Model based → goodness of fit
      - Probabilities au lieu de catégories d'appartenance
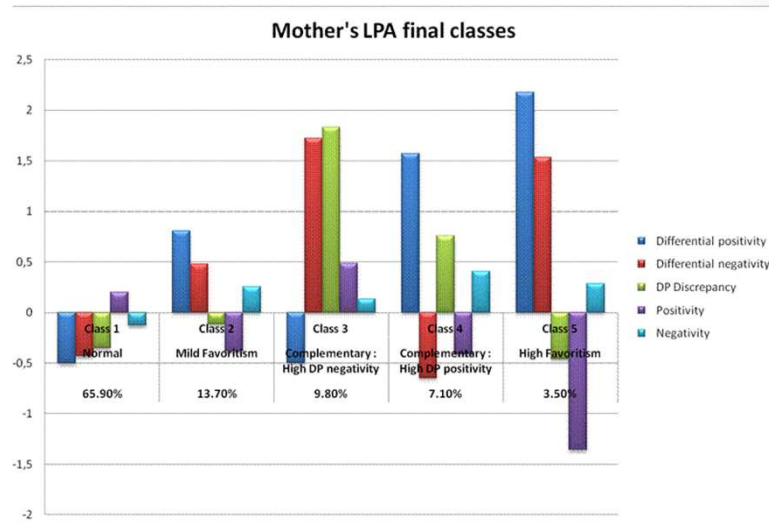   - Contrôle pour les variables endogènes (ex. age, sex pour P et diff age et sex pour DP).
  - Etude 8 (person-oriented) : 397 mothers et 351 fathers
  - Etude 9 (family-oriented) : 351 families (mothers-fathers)
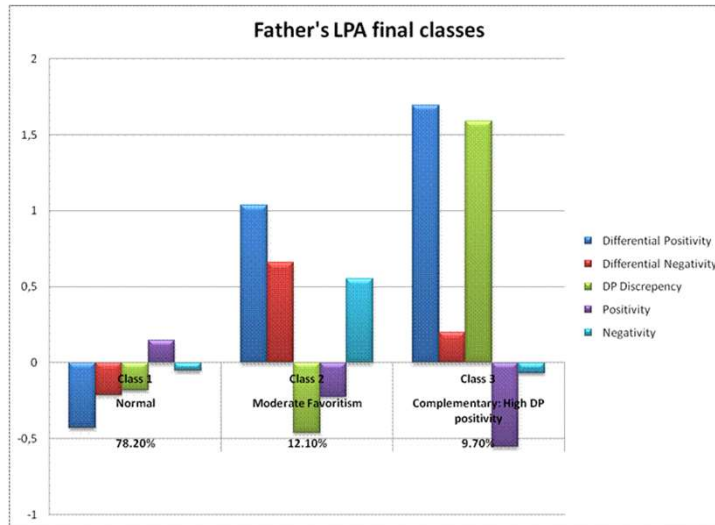
*Meunier, Perlman, Plamondon, & Jenkins, submitted

Etude 8*

a. Person-centred : Mothers

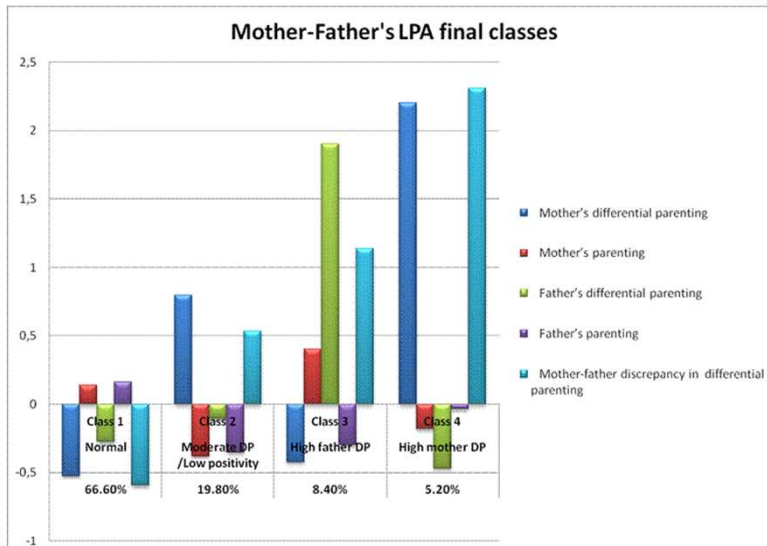*Meunier, Perlmann, Plamondon, & Jenkins

Etude 8*

b. Person-centred : Fathers

Father's LPA final classes

Legend:
- Differential Positivity
- Differential Negativity
- DP Discrepency
- Positivity
- Negativity

Class 1 — Normal — 78.20%
Class 2 — Moderate Favoritism — 12.10%
Class 3 — Complementary: High DP positivity — 9.70%

*Meunier, Perlmann, Plamondon, & Jenkins

Etude 9*

Family-centred : mothers-fathers

Mother-Father's LPA final classes

Legend:
- Mother's differential parenting
- Mother's parenting
- Father's differential parenting
- Father's parenting
- Mother-father discrepancy in differential parenting

Class 1 — Normal — 66.60%
Class 2 — Moderate DP /Low positivity — 19.80%
Class 3 — High father DP — 8.40%
Class 4 — High mother DP — 5.20%

*Meunier, Perlmann, Plamondon, & Jenkins