Rough-and-tumble play and the cooperation-competition dilemma: Evolutionary and developmental perspectives on the development of social competence

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Social Competence

- Social animals are dependent on relationships throughout the life span
- Deep-rooted neural systems
  - Attachment
  - Trust
  - Empathy
Biological basis of aggression

- Also motivated to maximize position in dominance hierarchies
  - Access to resources
  - Longevity
  - Reproductive success
  - Protection from disease
- Biological systems designed to defend and expand interests
  - Physical aggression
  - Indirect aggression
  - Political action
  - Military aggression
  - Symbolic aggression
  - Climbing the corporate ladder
  - Verbal repartie
Competition vs cooperation

• Ongoing existential dilemma:
  • Maximizing position within a social hierarchy without upsetting the relationships on which we depend for survival.
The development of aggressive behavior

- Physical aggression emerges early
- Peaks in preschool years
- Declines into school age with frontal development
- 5% of Children fail to learn to regulate aggressive behaviour (e.g. Tremblay, 2006)
- Impulsive-aggressive temperament (Suomi)
  - Characterized by poor frontal lobe functioning (e.g. Séguin et al, 2004)
- Chronic Physical Aggression = deficits in behaviour self-regulation in preschool years
- Poor playmates
- Risk Factors:
  - Age, socio-economic status, and parenting of mother
  - Father absence
- Effective treatment: preschool age, include parents!
Means for Physical Aggression Trajectories from ages 1 1/2 to 5 years (Observed and Predicted)

Development of physical aggression

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Male Physical Aggression Trajectories (Montreal)

Play & Development

- Play contributes to social, emotional, and cognitive development of young mammals

- Parent-child play is part of children’s socialization (Parke)
  - Predicts peer relationships
  - Emotion-regulation

- R&T Play
  - Aggressive behavior in a play context
  - Ancient and widespread
  - Least studied
  - Mothers > Fathers > Peers (Pellegrini & Smith, 1998)
Rough-and-tumble play

- Socialization of aggression through R&T play
  - Principle of mutual enjoyment
  - Frontal development (Panksepp, Pellis)
  - Developmental origins of social competence and social cognition (Peterson & Flanders, 2005)
Why fathers?

- Monogamous species: provide care
- Distinct role: provider of resources and protection
- In evolution
- Activation relationship (Paquette)
  - Challenging children to confront and master the unfamiliar and unpredictable in the outside world
  - Stimulation of risk
  - Discipline
  - Help develop skills and self-confidence for competitive situations
- Socialization of aggression
  - Competitiveness cannot be inhibited, needs to be focused and channeled
The R&T Play Scales

- The rough-and-tumble play scales: Validation study of new measures of parent-child and peer rough-and-tumble play frequency and quality
  - Flanders, Gray, Parent, Zelazo, Tremblay, Pihl, and Séguin (2007)

- Québec Longitudinal Study of Children’s Development (N=202)

- Mother, Father, and Peer R&T Play

- R&T Play frequency and Quality
Frequency Scales

- 3 frequency items:
  - Play fighting
  - Pushing or rough-housing
  - Tickling

- 3 quality items: Dysregulation during R&T play
  - Parent intervenes to reduce excitement
  - Play ends with child upset or hurt
  - Child stops quickly when asked (R)

- Scale scores = mean of 3 items
Results (Highlights)

- Modest but acceptable factorial validity, test-retest reliability
- Mother-child, father-child, and peer RTP all significantly correlated
- Sex differences in play-fighting

Content validity:
- RTP frequency not related to behaviour problems
- Dysregulation during all types RTP associated with aggression and hyperactivity
- Controlling for socio-economic factors known to be related to both
Observational Study


- Observational study of 85 father-child play dyads
- Preschool aged children
- Coded for dominance dynamics in play session
- Questionnaire measures of play frequency and child behavior
Observational Study

- R&T Play frequency associated with higher physical aggression among dyads with less dominant fathers
- Controlled for general play frequency, time with father, sex
- How does this play out over development?
Follow-up Study


- Revisited the families 5 years later
- Assess physical aggression at school age
- Assess emotion regulation abilities
- Some loss to attrition
Follow-up Study

- R&T Play frequency associated with:
  a) more physical aggression and
  b) worse emotion regulation abilities among dyads with less dominant fathers

- Same controls. Controlling for T1 aggression attenuated finding slightly

- No positive effects?

- Clinical applications
Conclusion

- Preliminary evidence for hypothesis that R&T play is related to the development of aggression self-regulation

- Future research could address:
  - Correlational
    - Child effects?
  - Intervention study
  - Clinical applications
Clinical Application

- Father-son play fighting group
- Day hospital at Child & Family Psychiatry Unit of the Jewish General Hospital in Montreal
- Behaviour problems with aggression
- 1 meeting/week for 6 weeks (60 minutes)
  - Theme
  - Goal setting
  - Play
  - Relaxation
  - Debrief
Conclusions

- R&T trains social competence for C/C dilemma
- Taps ancient neural circuitry, stimulates the brain, social cognition, and relationships
- Central to father’s activation relationship
- Implicated in the socialization of aggression
- Potential clinical applications