

Example PhD topic: Professor Fiona Steele (October 2012)

Child development within the family context

The following projects investigate reciprocal effects between members of the same family, including parent-child, sibling and mother-father relationships, using data from a birth cohort study of Canadian children and their families. The projects would involve collaboration with Professor Jennifer Jenkins, a clinical and developmental psychologist from the University of Toronto.

The Kids, Families and Places study (KFP)

This is a study of socioemotional development in young children in two cities in Southern Ontario. Five hundred and one families were recruited through Public Health Units. All families had a newborn (Sibling 1, S1) and at least one older sibling (Sibling 2, S2) under four years of age. Questionnaire data, including reliable and valid assessments of prosocial behaviour, have been collected on all children (to a maximum of 4 children, Sibling 3 and Sibling 4) in the family across four waves. In addition, observational data were collected on S1, S2 and mothers (not the whole family because of response burden on families) and genetic data on both children and both parents. At wave 1, 376 families had two children, 95 families had three children, and 30 families had four or more children (N=1157 children). Waves 2-4 occurred when S1 was 18 months, 3 years, and 4.5 years, respectively. Sixty-six percent of families remained in the study from Wave 1 to Wave 4. We have collected data from mothers (100%), fathers (70%), teachers (62%) and childcare staff (63%).

Possible research projects

(i) Prosocial development within the family context

Prosocial behaviour in children involves helping, sharing and cooperation between children. This behaviour increases with age and is also thought to be related to the quality of relationships within the family. Parental positivity and warmth, as well as affectionate sibling behaviours have been suggested as important correlates in the development of cooperation in children. Using 4 waves of longitudinal data we will examine the role of family relationships in change in children's capacity to cooperate. We utilize a multilevel simultaneous equations model for the analysis (Steele et al., 2012). In it, we allow for residual variation in the outcomes of parents and children at the occasion, individual, and family levels, and residual correlation between parents and children due to the unmeasured shared environment, genetic factors, and informant bias. The model allows us to test the causal effects of one person's measured earlier behaviour on another person through cross-lags, having taken account of the starting points of individuals. Our interest is in specific cross-lag paths that we expect to be significant after taking account of residual correlation at the family level. This model allows us to test complex hypotheses regarding the ways in which family members influence one another, while ensuring that spurious effects that would otherwise confound causal inferences are discarded. The goal of this study is to estimate the degree of familial clustering on prosocial behaviour and to examine whether the behaviour of one family member causes change in the behaviour of another family member. The following hypotheses will be tested 1) Family membership will account for 25% of the variance in prosocial behaviour (Jenkins et al. 2012; Rasbash et al. 2011); 2) Mothers will influence the development of prosocial behaviour more than fathers (Hastings et al. 2077; Kochanska et al. 2005); 3) The effect of children on parents will be stronger as children mature (Zadeh et al. 2010); and 4) effects of siblings on one another will be strongest for older to younger (Ruffman et al. 2008).

(ii) Aggressive behaviour within the family context

Children's aggression is also thought to develop within the context of negative family relationships, including harsh parenting and aggression between siblings. We use the model described above to examine time varying influences of parental harshness and sibling aggression on the development of aggression in young children.

(iii) Parenting mediates the relationship between social disadvantage and child disturbance

Cumulative risk during childhood (the number of environmental risks experienced by an individual) has been shown to predict physical and mental health problems during both childhood and adulthood. Here we test the hypothesis that parenting mediates the relationship between cumulative risk and child outcomes. A mediation model is most appropriately examined using three waves of data to allow each of the hypothesized 'causal' effects to precede the mediator or outcome. Consequently, we look at whether cumulative risk at Time 1 predicts change in parenting at time 2 and whether change in parenting at Time 2 predicts change in children's behaviour at Time 3.

References

Hastings, P.D., W.T. Utendale, and C. Sullivan (2007) The socialization of prosocial development, in *Handbook of socialization: Theory and research*, J. Grusec and P.D. Hastings, Editors. Guilford Press; US: New York, NY. p. 638-664.

Jenkins, J.M., et al. (2012) The role of maternal factors in sibling relationship quality: a multilevel study of multiple dyads per family. *Journal of Child Psychology & Psychiatry*, 53(6): p. 619-722.

Kochanska, G., N. Aksan, and J.J. Carlson (2005) Temperament, relationships, and young children's receptive cooperation with their parents. *Developmental Psychology*, 41(4): p. 648-660.

Rasbash, J., et al. (2011) A social relations model of observed family negativity and positivity using a genetically informative sample. *Journal of Personality and Social Psychology*, 100(3): p. 474.

Ruffman, T., et al. (1998) Older (but not younger) siblings facilitate false belief understanding. *Developmental Psychology*, 34: p. 161-174.

Steele, F., J. Rasbash, and J.M. Jenkins (2012) A multilevel simultaneous equations model for within-cluster dynamic effects, with an application to reciprocal parent-child and sibling effects. *Psychological Methods* Online First Publication, July 16, 2012. doi: 10.1037/a0029316.

Zadeh, Z.Y., J. Jenkins, and D. Pepler (2010) A transactional analysis of maternal negativity and child externalizing behavior. *International Journal of Behavioral Development*, 34(3): p. 218-228.