Child care influences on children's adjustment and achievement in the first year of school

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Background

- Importance of adjustment to school for children's academic and socio-emotional competence
- Family influences on children's development
- Non-parental care and children's development
  - Hours in care
  - Quality of care
  - Multiple and changeable care
  - Formal and informal care
- School experiences and school adjustment and achievement

Research questions

1. What is the experience of children and families in relation to regulated childcare?

2. What is the experience of children and families in relation to school transition and the first year of school?

3. What factors predict how well children are doing in their achievement and socio-emotional adjustment in the first year at school?

Participants

- 677 children, their primary caregiver at home and in child care, child care directors and Kindergarten teachers
- At recruitment, average age of children was 2 years 1 month (range: 4 months to 4 years 2 months)
- Initial sample recruited from city and country long day care centres and family day care schemes.
- Country sample comprised all but one centre and all FDC schemes in the selected regional and remote areas (central west and far west NSW)
- City sample selected on SES (low, middle, high income area with bias toward low income) in Sydney

Method and procedure

- Longitudinal study over 6 years with annual gathering of data from sample through:
  - Telephone interviews with parents
  - Parent questionnaire (Wave 1 only)
  - Director, carer and teacher surveys
  - Observations: long day care, family day care, preschool, first year of school
  - Child development assessments from age 3
  - Child interviews in first year of school

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Measures

- Child characteristics
  - Infant/Toddler Temperament Questionnaire

- Family characteristics
  - Index of Social Support
  - Depression Scale (CES-D)
  - Parent-child Relationship Scale
  - Shared Home Activities (Kindergarten)

Measures (cont.)

- ## Child care characteristics
  - Infant-Toddler Environment Rating Scale – Revised (ITERS)
  - Early Childhood Environmental Rating Scale– Revised (ECERS)
  - Family Day Care Rating Scale– Revised (FDCERS)
  - Student-Teacher Relationship Scale

- ## School characteristics
  - Student-Teacher Relationship Scale
  - Classroom Observation Instrument-Kindergarten (COI-K)

Measures (cont.)

- Children's socio-emotional adjustment
  - Prior to school
    - Student-Teacher Relationship Scale
    - Behavior Checklist
    - Social Skills Rating System
  - At school
    - Student-Teacher Relationship Scale
    - Strengths and Difficulties Questionnaire
    - Classroom Behaviour Inventory - teacher questionnaire
    - Feelings about School – Kindergarten

- Children's achievement
  - Woodcock-Johnson Psycho-Educational Battery – Revised Subtests: Letter-Word Identification, Spelling and Applied Problems

1. What is the experience of children and families in relation to regulated childcare?

- Children started in regulated child care at an average age of 10 months
- They generally attended one or two care settings in their first year of life with LDC + grandparent a common combination
- On the whole, care arrangements tended to be stable
- Parents reported high satisfaction with care, especially grandparent care
- Main reasons for multiple care were convenience and for the good of the child
- Quality of care found to be mainly good or above average (Means of 5.1 to 5.9 on 7-point scale)

2. Selected findings on transition to school and school experience

- Most helpful transition to school activities were orientation program and open days at schools (parent ratings)
- School arrangements were more stable than child care arrangements – only 5 children changed school in first year compared with 16% of children with 1 or more change in care arrangements in a 12-month period in the prior to school years
- High level of parent satisfaction with schools
- Parents reported participation in school activities from attending committee meetings (42%) to talking to the teacher informally about their child (94%)
- 30% of Kindergarten children attended before and after school care based in school grounds and 49% attended vacation care
- Classroom quality indicators in terms of management, social climate and instruction were observed, on average, "sometimes"

3. Predictor variables: background

- **Child characteristics**: gender, age, temperament
- **Family characteristics**: mother's education, mother's depression, social support, mother-child relationship quality, family income, number of children in the household
- **Child care history** (up to year before school, based on averages for each measure): age of entry, weekly hours of formal care, weekly hours of informal care, number of care arrangements, number of changes of care, quality of care in main care setting, carer-child relationship quality
- **Child's early development** (up to year before school, based on averages for each measure): communication ability, positive social skills (parent and carer reports), negative social skills (parent and carer reports), behaviour problems (parent and carer reports), receptive vocabulary, early numeracy

Predictor variables: current and recent experience

- For child care in year before school: quality of care, weekly hours of formal care, weekly hours of informal care, number of care arrangements

- For first year of school: weekly hours of formal care, weekly hours of informal care, classroom environment (management, social climate, instruction), family support for children's learning (number of transition to school activities, reading to the child at home, shared family activities)

- Total predictor variables: 38 for achievement and adjustment in the first year of school

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Predictions of child development: outcome variables

- Achievement outcomes based on child assessments for literacy and numeracy (Woodcock-Johnson subscales)

- Adjustment outcomes based on:
  - teacher ratings for prosocial behaviour and total difficulties on the Strengths and Difficulties Scale
  - Teacher reports on child's approach to learning on the Classroom Behavior Inventory
  - Child's reported feelings about school, their teacher and their peers

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Method of analysis

- **Distributions and transformations**
  - Distributions of dependent variables
  - Transformations to reduce skewness to <1

- **Data imputation**
  - Used to provide better data set for analyses
  - Cases used only if fewer than 10% data missing (subset of original 677 cases)
  - Multiple imputations

- **Regression analyses**
  - 2-step procedure (all IVs then selected IVs by domain) to produce a reduced model for each of the dependent variables

Predictors of achievement: Numeracy in first year of school

Domains	Significant predictors	Beta	p	Partial r^2
Early development	Early numeracy	.36	<.001	.133
	Negative social skills	-.18	<.01	.038

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Predictors of achievement: Numeracy

- Children who showed fewer social problems and a better aptitude for numeracy in their early development (prior to the year before school) were more likely to achieve higher numeracy scores in the first year of school

- Significant predictors came from one domain: previous development

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Predictors of achievement: Literacy

Domains	Significant predictors	Beta	p	Partial r^2
Family	No. of children	-.14	<.05	.022
	social support	-.13	<.05	.021
Early development	Negative social skills	-.16	<.01	.031
	Early numeracy	.31	<.001	.107

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Predictors of achievement: Literacy

- Children who had fewer siblings and showed fewer social problems and a better aptitude for numeracy in their early development were more likely to achieve higher literacy scores in the first year of school

- Significant predictors came from two domains: family characteristics and early development

Predictors of adjustment : Prosocial behaviour

Domains	Significant predictors	Beta	p	Partial r^2
Child	Gender	.12	<.05	.017
Child care history	Fewer –ve social behaviours	.22	<.01	.034
	Fewer hours of formal care	-.22	<.01	.046
	+ve carer-child relationship	.19	<.01	.028
Previous year child care	Longer hours of formal care	.16	<.05	.026

Predictors of adjustment : Prosocial behaviour

- Children who were rated by their teachers as more prosocial were more likely to be girls, to have shown fewer negative social skills, to have a history of fewer hours in formal child care in their early years and a close relationship with their carers in the early child care settings they attended.

- Significant predictors of prosocial behaviour came from three domains: Child characteristics, child care history and child care in the year before school

Predictors of adjustment: socio-emotional difficulties

Domains	Significant predictors	Beta	p	Partial r^2
Family	Lower income	-.20	<.01	.048
Child care history	Fewer +ve social behaviours	-.12	<.05	.014
	More hours of formal care	.14	<.01	.022
	-ve carer-child relationship	-.31	<.001	.096
School	Less effectively managed class	-.14	<.05	.024
	More hours of formal OOSH	.14	<.05	.021

Predictors of adjustment: socio-emotional difficulties

- Children who were rated by their teachers as having more socio-emotional difficulties were likely to have had an early child care history characterised by less positive social skills, less positive relationships with carers and longer hours of care in addition to longer current hours of formal outside school hours care. They were also more likely to come from families with lower incomes, to have achieved lower numeracy scores when aged 3 to 4 years and to be in Kindergarten classrooms that were less effectively managed.

- Significant predictors of socio-emotional difficulties came from three domains: Child characteristics, child care history and school characteristics.

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Predictors of academic adjustment

Domains	Significant predictors	Beta	*p*	Partial r^2
Family	Higher income	.18	<.05	.033
	Social support	-.13	<.05	.019
Child care history	More hours of formal care	-.18	<.001	.035
Early development	Higher numeracy scores	.28	<.001	.086

Predictors of academic adjustment

• Children who were rated by their teachers as more successful in their adjustment to the learning demands of the classroom, that is, were more task oriented, less dependent and distractible and more involved and active participants in learning activities, were likely to have shown an early aptitude for solving problems in numeracy.

• Family economic advantage and social support from friends and family were also predictors of academic adjustment. However, children who had received longer hours of formal child care in the early years were found to be less well able to meet the academic demands of their first year of school.

• Significant predictors of academic adjustment came from two domains: family and early childcare history

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Predictors of children's liking of school

Domains	Significant predictors	Beta	*p*	Partial r^2
Family	Shared family activities	.17	<.01	.030
Child care history	No. of changes	-.12	<.05	.016
	Carer-child relationship	.17	<.05	.031
Previous year child care	Hours of formal care	-.11	<.05	.014

Predictors of children's liking of school

• A more adaptive adjustment to school, as perceived by the child, was more likely when children had had more positive relationships with caregivers in child care. More changes to care arrangements as well as longer hours in formal care in the year before starting school were associated with children feeling less positive about school. Family factors were also important. In particular, involvement in shared family activities was seen to be predictive of children's liking of school.

• Significant predictors of children's liking of school came from three domains: Family characteristics, child care history and child care experience in the year before school

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Discussion and Conclusions

1. Earlier development and early child care history found to be significant predictors of achievement and adjustment during the first year of school (compared with immediately prior educational experiences)

2. Early school success is supported by the relationships children form in child care but diminished by extensive amounts or instability of care

3. Family factors were important, particularly in prediction of adjustment to school e.g., higher family income featured in predictions of academic adjustment and fewer socio-emotional difficulties and family shared activities were associated with children's liking of school

4. Implications for parental choices around hours and combinations of informal and formal care and the number of changes in care arrangements for their child

5. Child Care Choices study as a source of Australian data on child care and child development and transition to school (for children attending formal care arrangements)