The quality, type and time spent in child care in the first three years of life and children’s cognitive and socio-emotional development at school entry

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# Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contents</td>
<td>i</td>
</tr>
<tr>
<td>Abstract</td>
<td>iv</td>
</tr>
<tr>
<td>Declaration</td>
<td>vii</td>
</tr>
<tr>
<td>Publications contributing to this thesis</td>
<td>viii</td>
</tr>
<tr>
<td>Presentations arising out of this thesis</td>
<td>ix</td>
</tr>
<tr>
<td>Coverage of findings arising from this thesis</td>
<td>xi</td>
</tr>
<tr>
<td>Awards arising out of this thesis</td>
<td>xii</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>xiii</td>
</tr>
<tr>
<td>Abbreviations</td>
<td>xv</td>
</tr>
<tr>
<td>List of Figures</td>
<td>xvi</td>
</tr>
<tr>
<td>List of Tables</td>
<td>xvii</td>
</tr>
<tr>
<td>1 Introduction</td>
<td>1</td>
</tr>
<tr>
<td>1.1 Thesis aim</td>
<td>6</td>
</tr>
<tr>
<td>1.2 Thesis outline</td>
<td>7</td>
</tr>
<tr>
<td>2 Literature review</td>
<td>9</td>
</tr>
<tr>
<td>2.1 Child care in Australia</td>
<td>9</td>
</tr>
<tr>
<td>2.2 Type of child care</td>
<td>11</td>
</tr>
<tr>
<td>2.3 Time spent in child care</td>
<td>17</td>
</tr>
<tr>
<td>2.4 Quality of child care</td>
<td>18</td>
</tr>
<tr>
<td>2.5 Measurement of child care quality</td>
<td>18</td>
</tr>
<tr>
<td>2.6 Family factors and children’s development</td>
<td>21</td>
</tr>
<tr>
<td>2.7 Child care and children’s development</td>
<td>22</td>
</tr>
<tr>
<td>2.8 Quality of child care in Australia and the United States</td>
<td>31</td>
</tr>
<tr>
<td>2.9 The Australian policy context</td>
<td>32</td>
</tr>
<tr>
<td>2.10 Research justification</td>
<td>35</td>
</tr>
<tr>
<td>3 The Longitudinal Study of Australian Children</td>
<td>38</td>
</tr>
<tr>
<td>3.1 LSAC overview</td>
<td>38</td>
</tr>
<tr>
<td>3.2 Sample design</td>
<td>39</td>
</tr>
</tbody>
</table>
4 Time spent in different types of child care and children’s development at school entry: an Australian longitudinal study.............................. 67

4.1 Preface........................................................................................................... 67

4.2 Publication: Time spent in different types of child care and children’s development at school entry: an Australian longitudinal study.............................. 68

4.2.1 Statement of authorship.................................................................. 68

4.2.2 Abstract............................................................................................ 70

4.2.3 Introduction....................................................................................... 72

4.2.4 Subjects and Methods.................................................................... 73

4.2.5 Results............................................................................................... 77

4.2.6 Discussion......................................................................................... 84

4.2.7 Online Appendix............................................................................... 87

5 Child care quality and children's cognitive and socio-emotional development................................................................................... 94

5.1 Preface........................................................................................................... 94

5.2 Publication: Child care quality and children’s cognitive and socio-emotional development: an Australian longitudinal study.............................. 95

5.2.1 Statement of authorship.................................................................. 95

5.2.2 Abstract............................................................................................ 97

5.2.3 Introduction....................................................................................... 97

5.2.4 Methods............................................................................................ 101

5.2.5 Results............................................................................................... 112

5.2.6 Discussion......................................................................................... 119

5.2.7 Online Appendix............................................................................... 123

5.3 Publication: Quality of child care influences children’s attentiveness and emotional regulation at school entry................................................ 132

5.3.1 Statement of authorship.................................................................. 132

5.3.2 Abstract............................................................................................ 134

5.3.3 Introduction....................................................................................... 135

5.3.4 Methods............................................................................................ 136

5.3.5 Results............................................................................................... 143

5.3.6 Discussion......................................................................................... 149

6 Social inequalities in child care quality and their effects on children’s development at school entry: findings from the Longitudinal Study of Australian Children.............................. 152

6.1 Preface........................................................................................................... 152
6.2 Publication: Social inequalities in child care quality and their effects on children’s development at school entry: findings from the Longitudinal Study of Australian Children

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.2.1</td>
<td>Statement of authorship</td>
<td>153</td>
</tr>
<tr>
<td>6.2.2</td>
<td>Abstract</td>
<td>155</td>
</tr>
<tr>
<td>6.2.3</td>
<td>Introduction</td>
<td>157</td>
</tr>
<tr>
<td>6.2.4</td>
<td>Methods</td>
<td>158</td>
</tr>
<tr>
<td>6.2.5</td>
<td>Results</td>
<td>164</td>
</tr>
<tr>
<td>6.2.6</td>
<td>Discussion</td>
<td>171</td>
</tr>
<tr>
<td>6.2.7</td>
<td>Online Appendix</td>
<td>174</td>
</tr>
</tbody>
</table>

7 Summary and conclusions ................................................................. 184

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1</td>
<td>Key findings and contributions</td>
<td>184</td>
</tr>
<tr>
<td>7.2</td>
<td>Limitations and future directions</td>
<td>188</td>
</tr>
<tr>
<td>7.3</td>
<td>Concluding remarks</td>
<td>191</td>
</tr>
</tbody>
</table>

8 References ........................................................................................................ 192
Abstract

**Background:** Evidence from decades of research suggests that children’s experiences before starting school are crucial foundations for learning and behaviour across the life course. During the preschool years, children spend a large proportion of their time both in the family home and in the non-parental child care environment. The family home and non-parental child care settings are the key caregiving environments where infants and toddlers learn and build healthy relationships prior to commencing school. Previous research, mainly from the USA, suggests that the type, time and quality of child care influences children’s development, but there is little or no information describing the effects of these different aspects of child care on children’s development within the Australian context.

**Aim:** The overarching aim of this thesis was to investigate the association between the type, time and quality of child care experienced by infants (0-1 years) and toddlers (2-3 years) and these children’s cognitive (receptive vocabulary, task attentiveness, academic literacy and maths proficiency) and socio-emotional development (emotional regulation, internalising and externalising behaviours) when they started school (aged 4-5 and 6-7). Specifically the aims were:

- To determine whether the total amount of time spent in child care through the first three years of life was associated with children’s cognitive and socio-emotional development at age 4-5 years and whether this association varied according to the primary type of child care;
- To determine whether the quality of formal child care at age 2-3 years was associated with children’s cognitive and socio-emotional development at age 4-5 and 6-7 years;
To establish if higher quality child care was associated with better cognitive and socio-emotional outcomes at school entry for children from lower compared to higher income families.

**Method:** Data for this thesis were drawn from the Longitudinal Study of Australian Children, a national study following the health and development of a population-representative sample of children recruited in their first year of life (age range 3 to 19 months). The analytic approaches to answer the aims of this thesis included multiple imputation, regression, propensity score matching, effect measure modification, and the absolute and relative slope differences within strata of income.

**Results:** In the first study, more time in child care through the first three years of life was not associated with children’s receptive vocabulary ability but was associated with higher levels of parent-reported and teacher-reported externalising problem behaviours and lower levels of parent-reported internalising problem behaviours at age 4-5 years. These effects were concentrated among children who experienced predominately centre-based child care.

In the second study, the quality of relationships in formal child care at age 2-3 years was associated with children’s task attentiveness, emotional regulation, receptive vocabulary, literacy and maths proficiency, internalising and externalising behaviours at age 4-5 years, and these effects, although weaker, continued to exert their influence at age 6-7 years after two years of formal schooling. The quality of activities in formal child care was only associated with children’s emotional regulation and there was no evidence that provider or program characteristics of care were associated with children’s developmental outcomes.

In the third study, after adjusting for confounding, there was some evidence of effect measure modification on the additive and multiplicative scales of child care quality by income. Specifically, higher quality child care, in terms of relationships with child care providers, was more strongly associated with better cognitive and socio-emotional
outcomes among children from lower income than those from higher income families, suggesting that higher quality child care matters more for lower income children.

Conclusions: Findings from this thesis present the first comprehensive, longitudinal analysis of the type, time and quality of child care on children’s development using a nationally representative sample of children relevant to the Australian experience. The findings are consistent with overseas research showing that child care may influence children’s development in both positive and negative ways. Most notably, these findings suggest that higher quality relationships in child care support children’s positive cognitive and socio-emotional development at school entry, particularly in relation to children from disadvantaged backgrounds.
Declaration

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other institution and affirms that to the best of my knowledge, the thesis contains no material previously published or written by another person, except where due reference is made in the text of thesis. In addition, I certify that no part of this work will, in the future be used in a submission for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint-award of this degree.

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Signed..............................................................................................................

Angela Gialamas (Candidate)

Date: ……….. 06/07/2015………………………………
Publications contributing to this thesis


Presentations arising out of this thesis


• Gialamas A, Mittinty MN, Sawyer MG, Zubrick SR, Lynch J. Quality of non-parental child care and children’s receptive vocabulary and academic achievement at age 4-5 and 6-7 years. The University of Adelaide, Faculty of Health Sciences Postgraduate Research Conference, Adelaide, August 2012.


Coverage of findings arising from this thesis

- “Day care is more than child’s play”, Daily Telegraph, Sydney, 6 September 2014.
- “Good relationships: good beginnings”, EarlyChildhood Australia WebWatch #195, 03 September 2014.
- “High-quality childcare helps kids be more attentive and better deal with their emotions, study shows”, The Australian, Australia, 26 August 2014.
- “High-quality childcare helps kids be more attentive and better deal with their emotions, study shows”, Herald Sun, Victoria, 26 August 2014.
- “High-quality childcare helps kids be more attentive and better deal with their emotions, study shows”, Adelaide Now, 25 August 2014.
- Interview with Dr Wendy Craik, Presiding Commissioner, Productivity Commission Inquiry into Child Care and Early Childhood Learning, 19 December 2013.
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Abbreviations

ARIA  Accessibility and Remoteness Index of Australia
ARS  Academic Rating Scale
ATT  Average Treatment Effect on the Treated
CCB  Child Care Benefit
CCR  Child Care Rebate
CI  Confidence Interval
DAG  Directed Acyclic Graph
ECERS-R  Early Childhood Environment Rating Scale – Revised
EPPE  Effective Provision of Pre-School Education Project
EMM  Effect Measure Modification
IQR  Interquartile range
K6  Kessler 6 Scale
LSAC  Longitudinal Study of Australian Children
NICHD  National Institute of Child Health and Development
OECD  Organisation for Economic Co-operation and Development
ORCE  Observational Record of the Caregiving Environment
PPVT  Peabody Picture Vocabulary Test
RII  Relative Index of Inequality
SD  Standard Deviation
SDQ  Strength and Difficulties Questionnaire
SII  Slope Index of Inequality
UK  United Kingdom of Great Britain and Northern Ireland
USA  United States of America
List of Figures

Figure 2.1: Proportion of children in child care, 2011 .............................................................9
Figure 3.1: Study timeline ........................................................................................................40
Figure 3.2: DAG representing the effect of time in child care on child outcomes .... 61
Figure 3.3: DAG representing the effect of main type of child care on child outcomes ................................................................. 61
Figure 3.4: DAG representing the effect of child care quality on child outcomes ....63
Figure 4.1: Eligible cohort and numbers included for analyses .............................................78
Figure 5.1: Data flow of recruitment into LSAC and identification of children in centre or family day care at age two to three and their cognitive and socio-emotional outcomes at ages four to five and six to seven ........................................ 103
Figure 5.2: Data flow of recruitment into LSAC and identification of children in formal child care at age 2-3 years and their task attentiveness and emotional regulation at age 4-5 and 6-7 years ............................................. 138
Figure 6.1: Absolute and relative slope differences in the quality of the carer-child relationship and proportion of children with a receptive vocabulary score < median by income group ...................................................................................... 167
Figure 6.2: Density plot of measured receptive vocabulary (PPVT score) for children aged 4-5 years ............................................................................................................. 174
Figure 6.3: Eligible cohort and numbers included for the analyses.................................. 175
Figure 6.4: Absolute and relative slope differences in the quality of the carer-child relationship and proportion of children with parent-reported behavioural difficulties by income group .......................................................... 177
Figure 6.5: Absolute and relative slope differences in the quality of the carer-child relationship and proportion of children with teacher-reported behavioural difficulties by income group .......................................................... 178
List of Tables

Table 2.1: Types of formal and informal child care ................................................................. 11

Table 3.1: A priori domains and indicators of child care quality selected from the LSAC centre and home-based non-parental questionnaires (n=31 indicators) ........................................................................................................................................... 44

Table 3.2: Final list of indicators identified using exploratory factor analysis, representing ‘activities in child care’ and ‘carer-child relationship’ .......................................................... 50

Table 3.3: A priori items selected from the Strengths and Difficulties Questionnaire and Short Temperament Scale for Children to represent self-regulation at ages 4-5 and 6-7 years ......................................................................................................................................... 59

Table 3.4: List of items identified from exploratory factor analysis to represent task attentiveness and emotional regulation at ages 4-5 and 6-7 years ............... 60

Table 3.5: Characteristics of study participants by outcome for the multiply imputed sample .......................................................................................................................................... 79

Table 4.1: Unadjusted and adjusted associations between increasing the quantity of child care by 1 day per week in the first 3 years of life and children’s receptive vocabulary scores (PPVT), parent-reported and teacher-reported externalising and internalising problems at 4-5 years using the multiply imputed sample ......................................................................................................................... 81

Table 4.2: Main type of child care in the first 3 years of life and children’s receptive vocabulary scores (PPVT), parent-reported and teacher-reported externalising and internalising problem behaviour scores at 4-5 years using the multiply imputed sample ......................................................................................................................... 83

Table 4.3: Adjusted associations between increasing the quantity of child care by 1 day per week in the first 3 years of life for children aged 0-1 years and children’s receptive vocabulary scores (PPVT), parent-reported and teacher-reported internalising and externalising problem behaviour scores at 4-5 years using the multiply imputed sample ......................................................................................................................... 87

Table 4.4: Adjusted associations between increasing the quantity of child care by 1 day per week in the first 3 years of life for children aged 2-3 years and children’s receptive vocabulary scores (PPVT), parent-reported and teacher-reported internalising and externalising problem behaviour scores at 4-5 years using the multiply imputed sample ......................................................................................................................... 90

Table 4.5: Adjusted associations between main type of child care for children aged 0-1 years and children’s receptive vocabulary scores (PPVT), parent-reported and teacher-reported internalising and externalising problem behaviour scores at 4-5 years using the multiply imputed sample ......................................................................................................................... 92
Table 4.7: Adjusted associations between main type of child care for children aged 2-3 years and children’s receptive vocabulary scores (PPVT), parent-reported and teacher-reported internalising and externalising problem behaviour scores at 4-5 years using the multiply imputed sample ..........93

Table 5.1: Characteristics of the study participants by outcome using the complete-case sample ..............................................................................................................................113

Table 5.2: Quality of carer-child relationship at 2-3 years of age and children’s receptive vocabulary (PPVT score), teacher-reported literacy and math proficiency (ARS score), parent-reported and teacher-reported internalising and externalising behaviour scores using multiply imputed data .................117

Table 5.3: Characteristics of the study participants by outcome using the multiply imputed sample .............................................................................................................................. 123

Table 5.4: Propensity score analysis using nearest neighbour matching with caliper <0.01 showing the average treatment effect on the treated (ATT) (treated: higher quality carer-child relationship) at 2-3 years of age on children’s receptive vocabulary (PPVT score) at age 4-5 and 6-7 years, academic literacy and math proficiency (ARS score) at age 6-7 years and internalising and externalising behaviour scores at age 4-5 and 6-7 years .... 126

Table 5.5: Activities in child care at 2-3 years of age and children’s receptive vocabulary (PPVT score) and teacher-reported literacy and maths proficiency (ARS score) using multiply imputed data, unadjusted model .... 127

Table 5.6: Activities in child care at 2-3 years of age and parent-reported and teacher-reported internalising and externalising behaviour scores at ages 4-5 years using multiply imputed data, unadjusted model .............................................. 127

Table 5.7: Activities in child care at 2-3 years of age and parent-reported and teacher-reported internalising and externalising behaviour scores at ages 6-7 years using multiply imputed data, unadjusted model ................................. 128

Table 5.8: Provider and program characteristics of care and children’s receptive vocabulary (PPVT score) and teacher-reported literacy and maths proficiency (ARS score) using multiply imputed data, unadjusted models .. 129

Table 5.9: Provider and program characteristics of care and parent-reported and teacher-reported internalising and externalising behaviour scores at age 4-5 years using multiply imputed data, unadjusted models ......................................................... 130

Table 5.10: Provider and program characteristics of care and parent-reported and teacher-reported internalising and externalising behaviour scores at age 6-7 years using multiply imputed data, unadjusted models .............................. 131

Table 5.11: Characteristics of the study participants .......................................................................................................................... 131

Table 5.12: Provider and program characteristics of formal child care and task attentiveness and emotional regulation scores at age 4-5 and 6-7 years using the imputed sample (n=1038) ................................................................. 147
Table 5.13: Quality of activities and quality of carer-child relationships in formal child care at 2-3 years of age and children’s task attentiveness and emotional regulation scores at age 4-5 and 6-7 years using the imputed sample (n=1038) .................................................................................................................. 148

Table 6.1: Summary characteristics of study participants using the multiply imputed sample.............................................................................................................. 165

Table 6.2: Receptive vocabulary (PPVT): effect measure modification of the quality of carer-child relationship by income group ...................................... 169

Table 6.3: Parent-reported behavioural difficulties (SDQ): effect measure modification of the quality of carer-child relationship by income group....... 169

Table 6.4: Teacher-reported behavioural difficulties (SDQ): effect measure modification of the quality of carer-child relationship by income group....... 170

Table 6.5: Computational process of constructing the absolute and relative slope differences to examine inequalities in the quality of the carer-child relationship and poorer receptive vocabulary and behavioural difficulties by income group .......................................................................................................................... 176

Table 6.6: Sensitivity analyses to explore the effects of possible misclassification of quality carer-child relationship and receptive vocabulary status on relative risk estimates .................................................................................................................. 179