

Attachment in Institutionalised and Community Children in China

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I, Marc Archer, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Signed _____ Date _____

Abstract

INTRODUCTION: This thesis critically applies Attachment Theory concepts and methodology with two large and previously understudied populations: family and institutionally reared infants in Mainland China.

METHOD: Study 1, assessing 61 infants (aged 12-38 months, mean = 21) with their mothers, provides both an exploration/validation of the Strange Situation Procedure (SSP) in a Chinese cultural context and a community comparison group for Study 2, which assesses 78 infants (12-37 months, mean = 20) with caregivers in institutional care. The institutionalised sample includes 4 different units with differing qualities of care, across 3 cities.

RESULTS: Study 1. As predicted, upon the basis of previous findings, the majority (57%) of infants assessed with their mothers demonstrated secure attachment patterns, and only 13% were found to be disorganised. Study 2. For the entire institutionalised sample, prevalence of secure attachments was extremely low (average 17%, range = 8-50% across Units) and disorganised classifications extremely high (average 50%, range = 42-70% across Units), consistent with similar studies in other countries. Whilst among family-reared infants insecure-avoidant attachments were low by comparison to Western norms, they were markedly high among institutionally-reared infants compared to previous studies. Neither caregiver-to-infant ratio nor the provision of a dedicated caregiver was significantly associated with attachment classification. Only the unanticipated variable of

previous placement in a foster care family was significantly associated with organised, but not secure, attachment.

DISCUSSION: The findings provide support for the utilisation of Attachment Theory within these settings, whilst suggesting the need for both conceptual and methodological adaptation. Overall, the findings confirm that resources should be channelled into enhancing caregiving across institutions where they are necessary – increasing the valuation, training, and benefits to caregivers which is likely to enhance their role and retention – whilst reducing exposure to high numbers of transient caregivers, minimizing transitions, and moving toward early and stable family-based care wherever possible.

Dedicated to my family

Acknowledgements

Doing a PhD is a great way to relearn, with a relatively mature head, how to balance independence with dependence. I have lots of people to thank for keeping me on an even keel, absorbing wobbles, and righting me from time to time. In the 5 years since this project was first suggested as a possibility, countless people have offered an amazing array of support, which, when I reflect upon it, moves me as both an individual negotiating my own path and as a researcher focused upon the complexity of socio-emotional phenomena. Naturally my parents are top of the list; they challenge me into being, and offer an indefatigable and indispensable love. My brothers, and family, are an amazing extension of this. In addition to the benefits of modern technologies, the potential threats from being so far from home have been transformed into warmth and adventure by friends old and new. I've been inspired and sustained by too many characters to mention.

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The location of the studies presented in this thesis at time of data collection (2006-7).

Left: Main avenue of a small agricultural community an hour or so from the provincial capital and similar to the foster care village included in Study 2. Right: Main Avenue of provincial capital, location of community sample for Study 1, and ‘Aunty Programme’ Institution of Study 2.

CONTENTS

section		page
Introduction		
0.1.	Background to this Research	15
0.2.	Origins of this Thesis	17
0.3.	The Aunty Programme	18
0.4.	Evaluation of the Aunty Programme	19
0.5.	Setting-up of the Evaluation	19
0.6.	Structure of this Thesis	20
Chapter 1: Attachment Theory and Research		
1.0.	Introduction	21
1.1.	Origins of Attachment Theory	23
1.2.	Measurement and Classification of Attachment: The Strange Situation	27
1.3.	Attachment Classifications: Secure, Insecure-Avoidant, Insecure-Resistant	29
1.4.	Ecological Validity of the SSP	31
1.5.	Conflict between Antithetical Behaviour Systems	32
1.6.	Formulation of the ‘Disorganised’ Classification	34
1.7.	Associations between Attachment Behaviour & Quality of Care	36
1.8.	Attachment Classification Concordance and Stability	38
1.9.	Developmental Trajectories associated with Quality of Infant-Caregiver	39
1.10.	Disorganised Classifications Specified by Forced-Alternative	41
1.11.	Mediational Model of Developmental Trajectory	42
Chapter 2: Chinese Culture, Childrearing, & Attachment Theory		
2.0.	Introduction	47
2.1.	An Integrated Theoretical Framework for Cross-cultural development	48
2.2.	Macrosystem-Exosystem	49
2.2.1.	Ecological Context, Biological & Cultural Adaptation	49
2.2.2.	Socio-Political Context, Cosmology & Religion	50
2.2.3.	Historical Context: Supremacy, Subjugation, Autocracy	53
2.2.4.	Social And Familial Decimation	55
2.2.5.	Opening-up and Reform (1978 to the present)	56
2.3.	Microsystem (Developmental Niche - Social and Physical Settings)	58
2.3.1.	Filial Piety	58
2.3.2.	Household Structure	59
2.3.3.	Urban-Rural Divide	60
2.3.4.	Overlap of Home-Workplace Orbits	61
2.3.5.	Family Planning	61
2.3.6.	Parenting Styles, Parental Ethnotheories/Ideas	63

2.3.7.	Proximal and Distal Parenting Strategies	64
2.3.8.	Inhibition	65
2.3.9.	Discipline	66
2.4.	Attachment Across Cultures	68
2.5.	Attachment Theory and Research in Chinese Contexts	69
2.6.	Strange Situation Procedure Studies in China	70
2.7.	Attachment Research and Findings in Comparable Cultures	76
2.8.	The Present Study and Hypotheses	80

Chapter 3: STUDY ONE

Infant-Caregiver Attachment in a Chinese Community Sample

3.1.	METHOD	81
3.1.2.	Sampling and Recruitment	82
3.1.3.	Participants	82
3.1.4.	Measures	83
3.1.5.	Procedure	83
3.1.6.	Coding of Strange Situation Procedures	84
3.1.7.	Data Analysis	84
3.2.	RESULTS	85
3.2.2.	Child, Mother-Child Closeness, and Household Characteristics	85
3.2.3.	Attachment Classifications	87
3.2.4.	Associations between Attachment Classifications and Demographic Variables	90
3.2.5.	Childrearing Characteristics	92
3.3.	DISCUSSION	97

Chapter 4: Infant Abandonment and Alternative Childrearing

4.0.	Introduction	108
4.1.	Infant Abandonment as Adaptive – an Evolutionary Perspective	109
4.2.	Abandonment and Affluence	111
4.3.	State Regulation of Reproduction	113
4.4.	Historical Picture of Infant Abandonment in China	114
4.5.	Imbalance of Development in China	116
4.6.	Infant Abandonment in Present Era China	118
4.7.	Non-Parental Childrearing	121
4.8.	Historical Context of Care for Abandoned Infants in Europe	122
4.8.1.	Institutional Care	122
4.8.2.	De-institutionalisation	124
4.9.	Provision for Abandoned Infants in China	125

Chapter 5: Strange Situation Procedure Research with Institutionalised Children

5.0.	Introduction	133
5.1.	Major Advances on Bowlby's WHO Report (1951) through the 1980s	135
5.2.	Research Subsequent to 1989 and the Collapse of Communist States	138
5.3.	Attachment Quality of Children in Institutional Care	140
5.3.1.	Institutional Care Without a Dedicated Caregiver	140
5.3.2.	Institutional Care With a Dedicated Caregiver	141
5.3.3.	Further Consideration and Comparison of Classification Distributions	145
5.4.	Attachment Quality of Children Following Institutionalisation	150
5.4.1.	The BEIP Foster Care Programme:	154
5.5.	Other Diverse Studies of Adopted Infants	163
5.6.	Quality of Caregiving	166
5.7.	Methodological Issues	166
5.8.	Summary	167
5.9.	Areas of Uncertainty	168
5.10.	The Present Study and Research Questions	169

Chapter 6: STUDY TWO

Infant-Caregiver Attachment in a Chinese Institutionalised Sample

6.1.	METHOD	171
6.1.2.	Selection of CWIs	172
6.1.3.	Selection of Sample	173
6.1.4.	Participants	175
6.1.5.	Child characteristics Overall and by CWI	176
6.1.6.	Grouping Strategies	180
6.1.7.	Foster Care Group	185
6.1.8.	Characteristics of Institutional Environment	188
6.1.9.	Characteristics of Caregivers in Sample	197
6.1.10.	Measures	199
6.1.11.	Training of RAs	199
6.1.12.	Data Collection Procedure	200
6.1.13.	Coding of SSP Data	203
6.1.14.	Research Questions and Statistical Analysis	203
6.2.	RESULTS	206
6.2.1.	Research Question 1: Overall Distributions	206
6.2.2.	Research Question 2: Distributions by CWI	208
6.2.3.	Research Question 3: Distributions by CWI Unit	209
6.2.4.	Research Question 4: Distributions by Caregiver-to-Infant ratio	210
6.2.5.	Research Question 5: Distributions by provision of Dedicated Caregiver	210
6.2.6.	Research Question 6: Distributions by Experience of Foster Care	212
6.2.7.	Distributions by Child Characteristics	213
6.2.8.	Distributions by Caregiver Characteristics	217
6.2.9.	Multivariate Analyses of Time 1 Data	219
6.2.10.	Overall Distributions at Time 2	223

6.2.11.	Test-Retest Distributions by Group	224
6.2.12.	Stability of Attachment Classifications (Test-Retest)	226
6.2.13.	Stability of Attachment Classifications by Group	228
6.2.14.	Test Re-Test as Increasing Sensitivity to Detection of Disorganised	233
6.2.15.	Post-Study Follow-up: Overseas Adoptions.	233
6.2.16.	Summary of Results	235
6.3.	DISCUSSION	238
6.3.1.	RQ 2: Generalisability Across Institutions	241
6.3.2.	RQ 3: Heterogeneity Across Units within Institutions	242
6.3.3.	RQ 4 and RQ 5: Caregiver to Infant Ratio and Dedicated Caregiver	243
6.3.4.	RQ 6: The Implied Benefits of Foster Care	246
6.3.5.	Gender and Disability	249
6.3.6.	Multivariate Analyses	255
6.3.7.	Stability of Attachment Classifications	255
6.3.8.	The Importance of the Caregiver	259
6.3.9.	Prospects Following Overseas Adoption	265
6.3.10.	Methodological Considerations	266
6.3.11.	Concluding Comments	269

Chapter 7:

Conclusions, Limitations, and Future Research

7.1.	Strengths of This Thesis	271
7.2.	Limitations of This Thesis	272
7.3.	Methodological Reflections	276
7.4.	Indications for Programming and Policy	281
7.5.	Form and Function of an Authentic Cultural Psychology	287
7.6.	Shifts in Research Focus	294

References	299
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Appendices	345
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The Appendices are labelled according to the chapters and sections with which they are associated rather than following an independent numeric sequence:

Conclusions, Limitations, and Future Research

0.1	* <i>A Joyful Visit with the Aunties and Children in [Provincial Capital]*</i> by the Director of Funding Agency's Adoption Resource Center	
0.2.	Initial Research Proposal: <i>An investigation of the efficacy of the "Aunty" program in Chinese Child Welfare Institutes</i>	271
3.1.	Information Sheet & Consent Form (Study 1)	272

6.1.	Study 2: Health Status for each infant	276
6.2.	Daily Routine for State-Run and Independent-Run Units in Part-Enhanced Institution	281
6.3.	Caregiver Interview Form	287

List of Tables

1.1.	Outline of the 8 Episodes of the Strange Situation Procedure	28
1.2.	Indices of Disorganized-Disoriented Infant Attachment Behaviour	34
2.1.	Distribution of Attachment Classifications in Chinese, Japanese, and Western Studies	73
3.1.	Characteristics of Community Sample	86
3.2.	Distribution of Attachment Classifications (% 3-way) with comparisons to	87
3.3.	Distribution of Attachment Classifications (% 4-way) with comparison to van IJzendoorn et al.'s (1999) meta-analysis with Western and Non-Western Norms.	88
3.4.	Distribution of Attachment Classifications (% 4-way) and Comparison to US NICHD study and collation of previous Chinese SSP-based study distributions.	89
3.5.	Distribution of Attachment Classifications (% 4-way) for 12-18 month old age-range	91
3.6.	Distribution of Attachment Classifications (% 4-way) for gender	92
3.7.	Tests for Association between Child and Mother-Child Characteristics and Secure and Disorganised Attachment.	93
3.8.	Tests for Association between Mother and Household Characteristics and Secure and Disorganised Attachment.	94
3.9.	Logistic Regression on whether a Child is Classified as Securely Attached to Mother.	95
3.10.	Percentage of Secure Classifications (derived from 3-way classifications) per Gender x Closest to Mother Grouping.	96
5.3.1.	Distributions of Attachment Classifications for Infants in Institutional Care	144
5.4.1.	Distributions of Attachment Classifications for Romanian Infants Previously in Institutional Care	156
5.4.2.	Collation of Attachment Classification Distributions from multiple Institutionalised and Adopted/Fostered Samples	160
5.4.3.	Collation of Distributions from Multiple Institutionalised Samples.	161
5.4.4.	Collation of Distributions from Multiple Adopted Samples.	162
6.1.1.	Comparison of all children target age-range and those included in sample by Unit	175
6.1.2.	Percentage of life in CWI: categorical ranges for comparison to BEIP Study	176
6.1.3.	Sample Characteristics by CWI	178
6.1.4.	Sample Characteristics by UNIT	182
6.1.5.	Sample Characteristics by Caregiver: Infant Ratio Groups	183
6.1.6.	Sample Characteristics by With/Without Dedicated Caregiver	184

6.1.7.	Sample Characteristics by Foster Care/No Foster Care Group	185
6.1.8.	Details of Caregiver Structure by Unit	188
6.1.9.	Summary and Comparison of 4 CWI Units (Tables a & b)	192
6.1.10.	Characteristics of Caregiver Sample by Unit (Tables a & b)	194
6.2.1.	Distributions of Attachment Classifications (% 3-way) for Institutional and Community Samples	207
6.2.2.	Distributions of Attachment Classifications (% 4-way) for Institutional and Community Samples	207
6.2.3.	Distributions of Attachment Classifications by CWI (% 4-way/O-D)	208
6.2.4.	Distributions of Attachment Classifications by Unit (% 4-way/O-D)	209
6.2.5.	Distributions of Attachment Classifications by Caregiver:Infant Ratio (% 4-way/O-D).	210
6.2.6	Distributions of Attachment Classifications by provision of Dedicated Caregiver (% 4-way/O-D).	211
6.2.7.	Distributions of Attachment Classifications by Experience of Foster Care (% 4-way/D-O).	212
6.2.8.	Distribution of Attachment Classifications (% 4-way) for 12-18 months old age-range.	213
6.2. 9.	Attachment Distributions by Gender (% 4-way/O-D).	214
6.2.10.	Summary of results for ANOVA between 4-way and 2-way attachment classifications and Age at Assessment and Age at Admission to CWI.	215
6.2.11.	Attachment Distributions by Child Health Condition (4-way and Dis/Org).	216
6.2.12.	Attachment Distributions by Caregiver Characteristics (4-way and Dis/Org).	217
6.2.13.	Characteristics of Caregiver per Attachment Classification.	218
6.2.14.	Age of Caregiver by Infant Attachment Classification (4-way).	219
6.2.15.	Logistic regression to predict Disorganised attachment to caregiver (n = 78).	220
6.2.16.	Logistic regression to predict Disorganised attachment to caregiver, including children classified as Typically Developing or with Visible Deformity for Health Variable (n = 42).	221
6.2.17.	Logistic regression to predict Disorganised attachment to caregiver, including children classified as Internal Illness or with Developmental Delay for Health Variable (n = 36).	222
6.2.18.	Comparison of Distributions of Attachment (% 3-way) for infants assessed Once or Twice	224
6.2.19.	Comparison of Distributions of Attachment (% 4-way) for infants assessed Once or Twice	224
6.2.20	TIME 2: Distributions of Attachment Classifications (% 3-way and Binary Secure/insecure)	225
6.2.21.	TIME 2: Distributions of Attachment Classifications (% 4-way and Binary Organised/disorganised)	226
6.2.22.	Stability/Change of individual infant Attachment classifications (Freq 3-way Time 1 and Time 2	227
6.2.23.	Stability/Change of individual infant Attachment classifications (Freq 4-way Time 1 and Time 2	227

6.2.24.	Comparison by Group of % Change/Stability of Attachment Organisation between T1 and T2	229
6.2.25.	Comparison by Group of % Positive versus Negative Change/Stability of Attachment Organisation between T1 and T2	231
6.2.26.	Binary coding of Attachment Organisation over 2 Assessments	232
6.2.27.	Characteristics of Adopted/Non-adopted Infants	234
6.2.28.	Comparisons of Distributions of attachment classifications of subsequently adopted infants (% 4-way/D-O)	235

List of Figures

1.1.	Overlap and contrasts of Home and SSP behaviour patterns and Classifications.	30
2.1.	An integrated theoretical framework for the cross-cultural study of human development.	48
2.2.	Outline of Chinese History, Features of Modern Period, and Recent Demographic Transformations	54
3.1.	Graph of Table 3.2.	87
3.2.	Graph of Table 3.3.	88
3.3.	Graph of Table 3.4.	89
5.1.	Attachment to mother at 16 years. (<i>Based on Hodges & Tizard, 1989</i>)	136
5.4.1.	Attachment to Caregiver at 12-48 months (Based on 18 samples)	160
6.1.	Levels of Analyses, Research Questions, and Grouping Strategies.	180
6.2.	Comparison of Attachment Classification Distributions (%): Institution and Community Samples	206

人之所恶，唯孤、寡、不谷，而王公以为称。故物或损之而益，或益之而损。

People loath being alone, separated from their group, orphaned, yet the regents recognise themselves as such¹. So it is that some things are increased by being diminished, and others are diminished by being increased.

-- Excerpt from Chapter 42 of Laozi's *Dao De Jing*, 6th Century BC

-Introduction

0.1. Background to this Research

UNICEF estimates that there were approximately 18 million orphaned children (0-17 years of age) worldwide in 2009, more than 15 million of whom are growing-up in developing nations². Many of these, along with abandoned children (or ‘social orphans’), are among the estimated 8 million being reared in institutional settings (Save the Children, 2009). The fate of these children is varied, but those who come to the attention of the developed nations of the Western world might benefit from intervention programmes to enhance institutional facilities and alternative care provision, or be adopted into a developed nation (there are estimated to be more than 40, 000 international adoptions

¹ The first sentence here is altered from the somewhat obscure interpretation by Arthur Waley: ‘*What men dislike is to be orphans, to have little virtue, to be as carriages without naves; and yet these are the designations which kings and princes use for themselves.*’

² http://www.childinfo.org/hiv_aids_orphanestimates.php Accessed 22.03.2011

annually; Van Londen, Juffer, & van IJzendoorn, 2007). In 2006 for example, the year in which the majority of data collection for this study was completed, 6,492 children were adopted from the People's Republic of China to the USA³. There have been concerns for the psychological adjustment of internationally adopted children, as a result of being placed in an ethnically/culturally different family (Mulheir & Browne, 2007; McGinnis, Smith, Ryan, & Howard, 2009), and as a result of deprivation/trauma suffered during early infancy before entering or whilst in institutional care (e.g. Chisholm, 1998; O'Connor, Marvin, Rutter, Olrick, & Britner, 2003; Smyke, Zeanah, Fox, Nelson, & Guthrie 2010). There has also been criticism of the ethnocentric (Western) conceptualisation of childrearing that informs interventions in developing countries (Panter-Brick, 2000; Wang, 2010). Furthermore, the utilisation of one of the foremost paradigms of Western development psychology – Attachment Theory – has been critiqued as inappropriate for use within both normal (low-risk) populations of non-Western cultures (Rothbaum, Weisz, Pott, Miyake, & Morelli, 2000; Harwood, Miller, & Irizzary, 1995), as well as for use with institutionalised populations where the behaviours and psychological phenomenon underlying the attachment system are at risk of being atypical and highly disturbed (Zeanah et al., 2005, Rutter, Kreppner, & Sonuga-Barke, 2009). Thus, the conceptualisation, assessment, and implications of attachment formation for infants residing in Chinese Child Welfare Institutions (CWI) constitute a complex and nuanced issue.

A number of ground-breaking and comprehensive experimental studies of institutionalised infants (e.g. Zeanah, Smyke, Koga, Carlson, & The BEIP Core Group, 2005) and post-institutionalised infants (Smyke, 2010; O'Connor et al., 2003) have been

³ Figures derived from US immediate relative visa issues, cited on The Adoption Institute website: www.theadoptioninstitute.org Accessed 12.12.2010

conducted, the fine details of disturbed attachment formation have been examined through numerous expositions (Rutter, 2008; Bernier & Meins, 2008) and meta-analyses (van IJzendoorn 1999; van den Dries, Juffer, van IJzendoorn, & Bakermans-Kranenburg, 2009; Fearon, Bakermans-Kranenburg, van IJzendoorn, Lapsely, & Roisman, 2010), and the significance of cultural specificity in infant-caregiver attachment has been subject to fruitful debate (van IJzendoorn & Sagi-Schwartz, 2008; Rothbaum et al., 2000; Gjerde, 2001). This thesis is designed to assimilate the various evidence and postulations arising from these and other diverse fields in situating the two empirical studies presented here in cultural-historical, as well as abstracted psychological-behavioural, contexts, with the aim of providing a better understanding of the real experiences and risks of institutionalised infants in Chinese CWIs so that a more informed appraisal of care provision might be possible.

0.2. Origins of this Thesis

This thesis stems from a US-led project to evaluate a US-funded intervention (The ‘Aunty Program’ – see below) in a Chinese CWI designed to improve infant development by normalising caregiver experience, specifically assigning a dedicated ‘aunty’ to each infant so that an exclusive infant-caregiver attachment might be formed. I was lead researcher responsible for organisation and completion of data collection in China. This thesis builds upon that evaluation project through further examination of the data generated, the provision of a comparison community sample within the same cultural group (Study 1), and a consideration of the broader context within which the studied phenomena occur and the study is conducted. In this way criticisms of the use of ‘institutionalised’ child-rearing and non-Western ‘culture’ as dichotomous variables in attachment-based studies are addressed.

Study 2 draws a sample of infants from heterogeneous institutional care settings in one sub-provincial and two prefecture-level cities in a north western province of China (population 27 million). As of the approximate time of assessment, with a per capita income of around US\$1, 500, it represents a relatively poor province (ranked around 20 of 31 provinces by per capita GDP). There is, however, considerable economic inequality within the province which is reflected in the facilities at the 3 CWIs: while the provincial capital (sub-provincial population over 8m) is highly developed, the location of the most impoverished institution (prefecture population 2.6m), located in a rural mountainous region (a 5 hour rail link to the capital was established 2001), is significantly poorer. In terms of prosperity and development the other CWI included in the study (based within a prefecture area with a population of 4.8m), located 1 hour north of the provincial capital, falls somewhere in the middle.

0.3. The Aunty Programme

The Aunty Programme, which has been in operation at the provincial capital CWI since 2000, provides improved caregiver-to-infant ratios, trains caregivers to provide responsive caregiving, and allows for greater consistency of caregiving through the assignment of a dedicated 'Aunty' for each infant. Informal reports by those overseeing the program suggested significant improvements in the children across several domains of development, supporting the need for more systematic evaluation (such a report on a visit at the time of setting-up for this study is included in Appendix 0.1). Funding for the Aunty Program and its evaluation (the 'Aunty Study') were provided by a US international adoption agency.

0.4. Evaluation of the Aunty Programme

The Aunty Study was designed and led by Dr Howard Steele and Dr Miriam Steele, of the Centre for Attachment Research at the New School for Social Sciences, New York, in collaboration with Dr Xiaochun Jin also of the New School. In the capacity of lead researcher in China, I oversaw and assisted in all data collection and served as liaison to researchers in New York.

0.5. Setting-up of the Evaluation

The study rationale and design were outlined in a proposal approved by the US agency funding the evaluation in April 2006 (Appendix 0.2). The research team (HS, MS, X CJ and myself) convened in the provincial capital, the site of the target institution, in late June and were joined by two research assistants hired through X CJ's local contacts. Training was given to the research assistants (including myself) over the following week and the team, accompanied by representatives from the funding agency and the Provincial Department of Civil Affairs, made visits to all of the CWIs involved in the study. At each visit introductions were made through formal meetings, the requirements and rationale for the research were explained, and appropriate facilities for conducting assessments provided. In December 2006 a collaborative partnership was commenced with a local psychology department (at the provincial Teacher Training University) to collect data on a community comparison group. Data collection at the CWIs (Study 2) was completed between July 5th 2006 and March 13th 2007, and for the community comparison sample (Study 1) between April 22nd and July 1st 2007. Further details on sites, samples, data collection and treatment of data are provided in the Methods sections (contained in Chapters 3 and 6).

0.6. Structure of this Thesis

This thesis is organised into 2 Parts, each composed of 3 chapters and centred on an empirical study, which are integrated in a final closing chapter:

Part One. Chapter 1 provides background information on attachment theory, Chapter 2 considers the use of the attachment theory paradigm in a Chinese cultural context, and Chapter 3 consists of the method, results, and discussion of Study 1, an assessment of attachment formation within a Chinese community sample. Attachment Theory is arguably the ‘*most visible and empirically grounded conceptual framework*’ of social and emotional development (Cassidy & Shaver, 2008), yet it has hardly been applied in Chinese contexts (van IJzendoorn & Sagi-Schwartz, 2008). Given that China accounts for the largest of all national/ethnic groups, the longest recorded history, a particular emphasis on family, and rapid social and material changes, this dearth presents exciting challenges and opportunities.

Part Two. Chapter 4 is a review of literature on two phenomena as they occur within human groups: infant abandonment and the provision of non-maternal care to abandoned infants. Previous research into the psychological adjustment of institutionalised, adopted and fostered children – with an emphasis on the formation of infant-caregiver attachments – is considered in Chapter 5. Chapter 6 constitutes the method, results, and discussion of Study 2.

Chapter 7 consolidates the picture drawn through the preceding 6 chapters with a set of tentative conclusions from, and possible implications of, the findings. The

limitations of the present study are elucidated, methodological lessons shared, and suggestions are made for future research.

-Chapter One

Attachment Theory and Research

1.0 Introduction

In this chapter I will outline attachment theory demonstrating its suitability to the present investigation of socio-emotional development among Chinese community and institutionalised infants. The clinical and research background that led to the formulation of attachment theory is briefly reviewed, followed by an outline of key developments to date. Special attention is paid to the category of disorganised attachment, associated with experiences of a frightening or fearful caregiver, extremely high prevalence of which has been reported among groups of infants reared in institutional settings. Attachment across different cultural contexts is considered in further detail in Chapter 2, an introduction to Study 1, and empirical findings from recent investigations into the effects of institutional rearing are presented in Chapter 5, preceding Study 2.

1.1. Origins of Attachment Theory

Attachment theory, as developed primarily by John Bowlby, constitutes a sophisticated appreciation of subjective experiences of psychodynamic mechanisms and objective evolutionary influences on adaptation. As an independent minded psychoanalyst Bowlby drew on Freud's ground-breaking insights regarding the importance of the inner-world (e.g. 1900, 1920, 1940), whilst insisting on a greater emphasis on the actual and objectively verifiable experiences with figures in the outer-world (e.g. Bowlby, 1958; Fonagy & Target, 2007, 2008). Bowlby shared Freud's view of the mother as '*the first and strongest love-object and as the prototype of all love-relations*' (Freud, 1940, p.188), but viewed the nature of the tie to the mother as being derived from the need for nurturance and connection, not merely '*the satisfied need for nourishment.*' (Ibid. p.188). From the attachment theory perspective survival is primarily facilitated by the formation and operation of emotional bonds, not the gratification of impulses for nutritional sustenance which follows from these bonds (e.g. Bowlby, 1956, 1958, 1969, 1979).

In a general shift away from the drive satisfaction model, a number of leading psychoanalysts emphasised what became generally known as object-relations. Sandor Ferenczi distinguished a '*stage of passive object-love or of tenderness*', between primary narcissism⁴ and true object-love, and placed greater emphasis on actual objective reality over fantasy (Ferenczi, 1933/1949, p.228). Ian Suttie, whose work Bowlby acknowledges as a forerunner to attachment theory, noted that:

⁴ Freud differentiated between auto-eroticism, the instinct which is active from the first moments of life, to Narcissism, which requires 'a unity comparable to the ego' ('On Narcissism' 1914, SE VOL XIV, p.77)

Instead of an armament of instincts, latent or otherwise, the child is born with a simple attachment-to-mother who is the sole source of food and protection... the need for a mother is primarily presented to the child mind as a need for company and as a discomfort in isolation. (1935, p.15)

Winnicott (1956) posited the concept of '*good enough mothering*' which, he theorised, facilitates the emergence of infant's sense of separateness and the establishment of a healthy ego (as opposed to a 'pseudo-self'). Balint (1958) similarly traced the origin of pathology (termed the 'basic fault', being somehow 'not right') in his adult patients to inadequate early object-relations experiences:

In my view the origin of the basic fault may be traced back to a considerable discrepancy in the early formative phases of the individual between his bio-psychological needs and the material and psychological care, attention and affection available during the relevant times. This creates a state of deficiency whose consequences and after-effects appear to be only partly reversible. (p.337)

Fairbairn also placed great emphasis on the real experience of first relationships to caregivers, positing that '*libidinal activity is inherently and primarily object-seeking*' rather than pleasure seeking, that development consisted of an evolving dependence, and that personality was thus a reflection of internal object-relations (1958). In 1946 he wrote: '*I have come to adopt the principle of dynamic structure, in terms of which both structure divorced from energy and energy from structure are meaningless concepts.*' (p.149).

Bowlby advanced attachment theory through the assimilation of his and other clinicians' work with adult patients, the integration of empirical findings from cognitive psychology, ethology, and comparative psychology, and, critically, accumulating evidence of the debilitating consequences of disruptions to the infant-caregiver relationship. Distinguishing attachment theory from mainstream psychoanalysis Bowlby drew on systematic observational methods, treating the developing infant as complex but behaviourally comprehensible:

[Attachment theory] postulates that the attachment behaviour which we observe so readily in a baby of 12 months old is made up of a number of component instinctual responses which are at first relatively independent of each other. The instinctual responses mature at different times during the first year of life and develop at different rates; they serve the function of binding the child to mother and contribute to the reciprocal dynamic of binding mother to child. (1958, p.351).

The repeated and routine interactions between infant and caregiver mould expectation of responsiveness, theorised to be represented as mental schema (internal working models), and thus guide subsequent behavioural patterns. In this way an infant develops a mode of interaction with a specific adult, homeostatic regulation is moderated by such tailored anticipatory behaviour, and the attachment takes on an enduring quality. By around 9 months of age, which Bowlby conceptualised as a third phase in development (following indiscriminate then discriminate orientation toward caregivers), at which point a real attachment has usually formed to the primary attachment figure, the quality of approach,

following, and general use of the caregiver is likely to demonstrate consistent and discernible patterns.

For his 1951 WHO report 'Maternal Care and Mental Health' Bowlby examined and presented varied studies of the effects of disrupted infant-mother relationships and the effects of institutionalisation. This includes accounts of, for example, a '*hunger for affect*' in infancy which, persistently ungratified, gives way to an '*undifferentiated apathetic personality*' in later childhood and adolescence (from the work of Goldfarb, e.g. 1943, p.127/8), and descriptions of physical and psychical frailty stemming from '*hospitalism*' (Spitz, 1945), and '*anaclitic depression*' associated with separation from mother occurring during the second half of the first year (Spitz & Wolf, 1946). Bowlby's own work with older children, his so called '44 thieves', added the dimension of elevated risk for '*affectionless psychopathic*' character and delinquency for those who had experienced separation from primary caregiver of at least 6 months during the first 5 years of life (Bowlby, 1944). The apparent contradiction between those who are 'affectionless' and 'affection craving' is explained in the following terms: '*Many affectionless characters crave affection, but nonetheless have a complete inability to accept or reciprocate it.*' (Bowlby, 1951, p.38). The infant as a 'character' in family life, doted upon, encouraged to social expression and play, integrating with and effectively shaping his social environment, is contrasted with the institutional infant who '*...is not encouraged to individual activity because it is a nuisance; it is easier if he stays put and does what he is told. Even if he strives to change his environment he fails.*' (p.55). Emphasis is placed on the exclusivity and mutuality of the infant-mother bond which, through continuity, fosters the essential feeling of belonging. Bowlby illustrates how seemingly mundane

functional interactions are in fact an essential and infinitely rich source of affective sharing and psychical formation:

Above all, the brief intimate games which mother and baby invent to amuse themselves as an accompaniment to getting up and washing, dressing, feeding, bathing, and returning to sleep -- they are all missing. In these conditions, the child has no opportunity of learning and practising functions which are as basic to living as walking and talking. (p.55)

A review of the most recent studies of attachment formation among infants in institutional settings is provided in Chapter 5, followed by the presentation of the study of infant-caregiver attachment within Chinese institutions. The assessment utilised in all of these, the ‘gold standard’ of infant attachment research, is introduced below.

1.2. Measurement and Classification of Attachment:

The Strange Situation Procedure

Consistent with the assumption that the attachment behavioural system is universal, and providing a foundation of cross-cultural validity, the Strange Situation Procedure (SSP) stems from an observational study of infant-caregiver relations in Ugandan country villages conducted in 1953 (Ainsworth, 1967). Mary Ainsworth identified 3 distinctive ‘attachment patterns’: secure infants were able to use mother as a ‘secure base’ from which to explore, sought her during separation, and showed joy upon her return; insecure infants ventured less from mother, were highly distressed during separation and showed negative emotional reactions upon her return, and a third group demonstrated no

Table 1.1.

Outline of the 8 Episodes of the Strange Situation Procedure (Ainsworth et al., 1978)

Episode Number	Activity
1	Entry into Unfamiliar Room. Caregiver and baby are introduced to an unfamiliar room where caregiver places baby on the floor among toys and then sits on one of 2 chairs and looks at a magazine.
2	Exploration. Baby is left to play and explore alone, caregiver is instructed to respond as usual, but not initiate interactions (3 minutes).
3	Stranger Enters. A stranger enters the room, sits on the other chair and after 1 minute begins to converse with the caregiver for 1 minute, before approaching the infant and attempting to initiate play for 1 minute.
4	First Separation – Alone with Stranger. While the baby is engaged with the stranger, the caregiver unobtrusively leaves the room. Stranger returns to seat allowing infant to explore alone.
5	First Re-union. Caregiver returns after 3 minutes (less if baby shows distress), greets infant and comforts as necessary. The Stranger leaves unobtrusively and caregiver returns. Once calm, baby is left to play alone and caregiver returns to chair to read (3-minutes).
6	Second Separation – Alone. Caregiver leaves, this time saying "goodbye" to the baby. The baby is left alone for 3 minutes (less if baby shows distress).
7	Comforting by Stranger. Stranger enters the room and attempts to comfort/engage with the baby (3 minutes, or less if baby shows distress).
8	Second Re-union. Stranger leaves unobtrusively as caregiver enters the room and greets/comforts the baby (3 minutes or more if required).

preferential behaviour toward mother. Moreover, secure infant attachment patterns were observed to be associated with the experience of a sensitive caregiver, mothers who showed empathic insight and adapted caregiving to their infant's needs. This general set of findings was replicated in a subsequent and more systematic study of 23 US middle-class urban mother-infant dyads during the first year of life; however, 3 key characteristics in the Ugandan infants were less pronounced: use of the mother as 'secure base', distress upon separation, and fear of stranger (Ainsworth, Blehar, Walters, & Walls, 1978). It was through the effort to evoke and amplify these behaviours that the SSP was developed. Several previous researchers had utilised controlled laboratory situations to systematically evoke characteristic responses to distress in human (Arsenaian, 1943) and monkey (Harlow, 1958) samples, and children had been categorised in previous attachment-related work, though this was related to pathological conditions and not experimentally derived. Central to Ainsworth et al.'s (1978) 20-minute procedure are two pairs of separation and re-union episodes, and the presence of an unfamiliar adult, designed to evoke patterns of attachment behaviour specific to the infant's cumulative experiences of the accompanying caregiver (the SSP is outlined in Table 1.1 above).

1.3. Attachment Classifications: Secure, Insecure-Avoidant, Insecure-Resistant

On the basis of behaviour toward mother, particularly during the re-union episodes (5 & 8), infants are assigned one of 3 classifications: Secure (conventionally labelled 'B'), Insecure-Resistant ('C'), and Insecure-Avoidant ('A'). Infants classified as Secure show a comfortable balance between exploration and attachment behaviours, are moderately distressed upon separation but readily comforted upon re-union. This confident use of the mother, typically accompanied by positive affect, is described as 'secure base' behaviour.

Those classified as Avoidant tend to show markedly low levels of approach, orientation toward or communication with mother, appear indifferent to her departure, and demonstrate marked avoidant gestures such as pointed looking or moving away. Infants classified as Resistant explore little and maintain close proximity to caregiver; they are highly distressed upon separation and resistant to comfort upon re-union. Characteristic behavioural patterns in the SSP and the home are outlined in Figure 1.1 below.

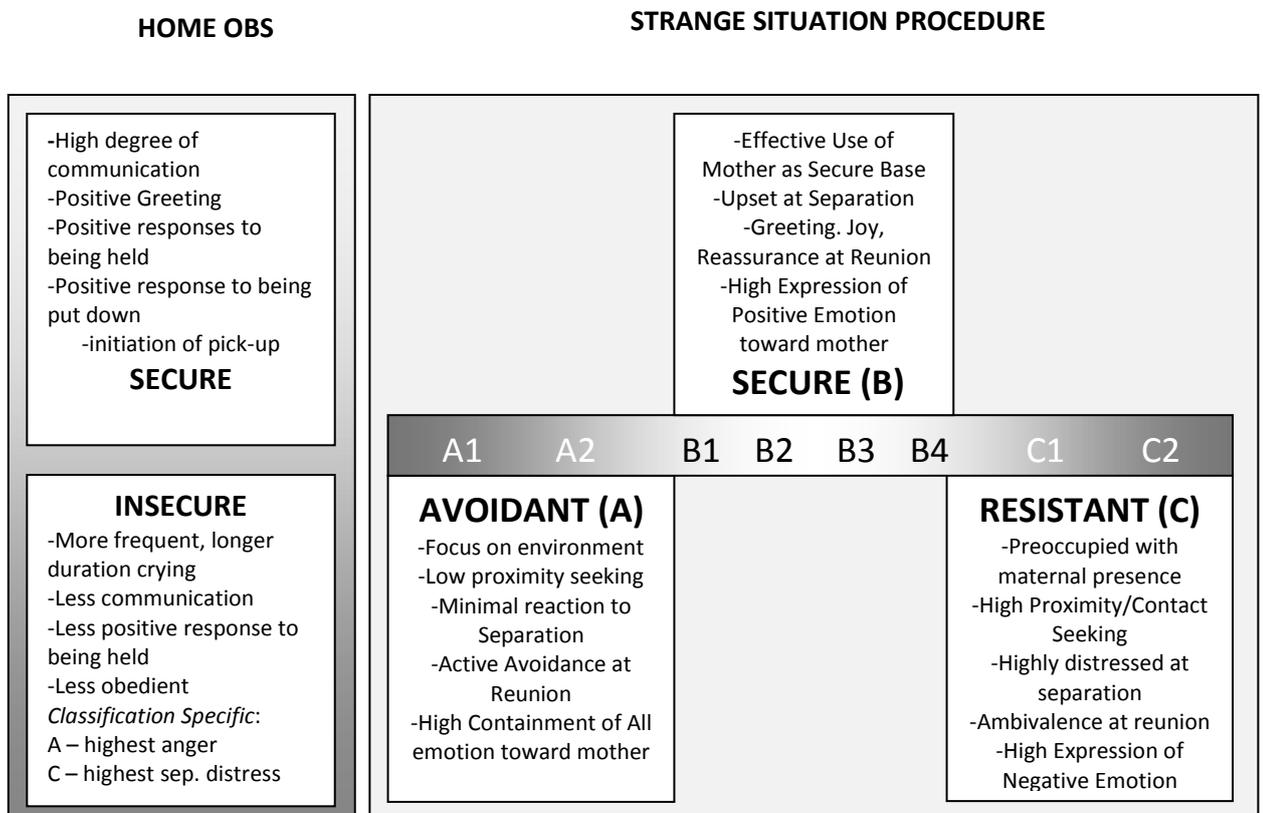


Figure 1.1. Overlap and contrasts of Home and SSP behaviour patterns and Classifications. The contrast reflects Ainsworth et al. (1978) observation that: ‘Group A and C resemble each other in regard to most home behaviours more closely than either resembles Group B. This finding seems paradoxical in view of the fact that the strange-situation behaviour of Groups A and C differs strikingly.’ (P.125)

These classifications were devised by Ainsworth and her colleagues through a series of observations and clustering of behaviour patterns within an initial group of 13 infants, followed by the integration of additional samples adjusting and refining categories

(Ainsworth et al., 1978). This 3-way classification, a compression of 8 categories (A1, A2; B1, B2, B3, B4; C1, C2, as represented in Figure 1.1.), has proven remarkably inclusive with hundreds of subsequent samples, the secure classification tending to be most prevalent. For example, among the initial sample of 23 infants the 3-way distribution was 57% B, 26% A, 17% C, which is very similar to that of an early meta-analysis combining 21 US samples ($n = 1,584$): 67% B, 21% A, and 12% C (van IJzendoorn, Goldberg, Kroonenberg, & Fenkel, 1992). In contemporary research, indeed most that has utilised the SSP, though the 8 sub-categories are widely utilised and reported to be useful in attributing classifications during the coding process (Waters & Beauchaine, 2003), distributions and analyses are usually limited to the broad A, B, or C, or simply secure-insecure (B-notB), classifications.

1.4. Ecological Validity of the SSP

Behavioural patterns, discerned from coding of naturalistic in-home observations of the initial 23 dyads during the 4th quarter of the infant's first year of life, showed a strong association with the classifications generated during SSP at 12-months (Ainsworth et al., 1978). By comparison to insecure infants, secure infants cried less frequently and for significantly shorter durations, communicated to mother more effectively, showed significantly more positive greeting to mother at re-union, and more positive response to being held. They also demonstrated significantly less anger and more compliance. Specific at-home tendencies of infants subsequently included in Group C corresponded directly with SSP characteristics, with manifest signs of resistance (significantly less non-crying communication than other groups), passivity (significantly less following when mother leaves the room, significantly less initiation of pick-up) and ambivalence (significantly more crying and mixed greeting upon reunion, more initiation of put-down).

However, most interestingly, at-home behaviours of infants classified as Insecure-Avoidant in the SSP were found in several regards to be quite contrary to the ‘minimising’ strategy in the laboratory environment: *‘The apparent independence of the mother manifested by A babies in the strange situation is associated with avoidance; at home A babies are less frequently ready than B babies to cheerfully accept being put down, and by inference are less ready to shift to independent activity.’* (p.128). Group A infants were distinguished from the other two groups in several ‘close contact with mother variables’, specifically they displayed more tentative contact behaviours, less ‘sinking in’ and fewer active behaviours during contact.

1.5. Conflict between Antithetical Behaviour Systems

The insecure-avoidant group of infants are distinct from both secure and insecure-resistant infants in the extent to which they demonstrate self-control (inhibition), which is more acute in the laboratory situation. Ainsworth et al. (1978) interpret the range of contradictory – approach-avoidance - behaviours within the home environment as indicative of *‘conflict between antithetical behaviour systems’* (p.129), which could be tied to anger and fear stemming from repeated experiences of frustrated (incomplete) attempts to satisfy goals of attachment behaviours. They suggest that simultaneous and high-level activation of avoidant and attachment behaviours in the SSP (it is noted that during separation Group A infants searched for mother at least as strongly as did other infants), neither gaining effective mastery over the other, leads to ‘displacement behaviour’ manifest as exploration which the authors compare to *‘a bird equally instigated to attack and to flee [who] merely preens his feathers’* (p.130). This conceptualisation is similar to that first posited by Arsenian (1943) to account for similar behaviours observed in the accompanied (by mother or mother substitute) conditions of

her earlier strange situation experiments: ‘*When dependent children experience rejection by an adult, their insecurity may be prolonged and an avoidance reaction towards the adult may be set up.*’ (p.15). Observations of maternal behaviours in the home have confirmed the association between experiences of rejection and a tendency toward avoidance (detailed below). The quality of internal conflict, or the activation of opposing behavioural systems, was also anticipated by Bowlby:

The conditions which lead to certain responses being manifested at abnormal levels, either too low or too high an intensity, and the conditions which lead to a perpetuation of such a state may be explored. Other main interests will be the study of the conflicts arising when two or more incompatible responses are activated at once and the modes by which conflict is regulated. (Bowlby, 1958. P.16)

As has been noted, during early life the infant relies upon the mother to provide or assist with regulatory functions, and the extent to which this is effective determines how the developing child will subsequently look to the mother (and other social figures) in the process of self-regulation, in negotiating interpersonal experiences, or utilizing or avoiding interpersonal resources in enhancing internal equilibrium. Patterns of rejecting maternal behavior, their underlying psychical state, and intergenerational transmission of conflicting tendencies are considered further below. Scrutiny of peculiar behavioural patterns among a minority of infants, indicative of unregulated incompatible behavioural responses, has led to elaborations of the SSP classificatory system (e.g. Crittendon, 1988; Marvin & Cassidy, 1992; Main & Solomon, 1990)

Table 1.2.

Indices of Disorganized-Disoriented Infant Attachment Behaviour

- 1 Sequential display of contradictory behaviour patterns, such as very strong attachment behaviour suddenly followed by avoidance, freezing, or dazed behaviours.
- 2 Simultaneous display of contradictory behaviours, such as strong avoidance with strong contact-seeking, distress, or anger.
- 3 Undirected, misdirected, incomplete, and interrupted movements and expressions, for example, extensive expressions of distress accompanied by movement away from, rather than toward, the mother.
- 4 Stereotypies, asymmetrical movements, mistimed movements and anomalous postures, such as stumbling for no apparent reason and only when the parent is present.
- 5 Freezing, stilling, and slowed “underwater” movements and expressions.
- 6 Direct indices of apprehension regarding the parent, such as hunched shoulders, fearful facial expressions.
- 7 Direct indices of disorganization and disorientation, such as disoriented wandering, confused or dazed expressions, or multiple, rapid changes in affect.

From Main & Solomon (1990)

1.6. Formulation of the ‘Disorganised’ Classification

Of all innovations building on the original tri-partite classification system, the demarcation of ‘disorganised’ behaviours has attracted most attention and arguably lent

greatest explanatory clarity. The Disorganised (D) classification was first formulated to explain and accommodate a large number of ‘hard to classify’ infants (Main & Solomon, 1990). In contrast to either secure or insecure classifications, disorganised infants lack a coherent strategy for use of mother during SSP, or their otherwise coherent strategy breaks down. The range of discreet behaviours serving as indices of disorganisation in attachment strategy (such as freezing, stereotypies, and disorientation, see Table 1.2) toward a particular caregiver are unified by a quality of ‘*contradiction or inhibition of action as it is being undertaken*’ (Main and Hesse, 1990, p.173). Main and Hesse (1990) explain that: “*For children who are disorganised/disoriented, the mother is the source of fear as well as the source of comfort.*” While the quality of conflict is common to insecure-avoidant classifications, a disorganised classification can be attributed to an infant whose behavioural pattern would otherwise be classified as A, B, or C (it is standard practice to assign a ‘forced’ or ‘alternative’ 3-way classification when applying the disorganised category). Prevalence of disorganised attachment in low-risk samples is typically between 10-20% but much greater among high risk samples (reviewed in Lyons-Ruth & Jacobvitz, 2008), with highest reported figures of 93% for maltreated children (Cicchetti, Rogosch, & Toth, 2006) .

1.7. Associations between Attachment Behaviour & Quality of Care

There is robust evidence to support the assumption that the behaviour of a specific caregiver moulds an infant’s behavioural patterns in relation to that person. For example, among the 23 infants upon whose SSP behavioural patterns the A, B, C classificatory system is based, mothers of securely attached infants were significantly more responsive to crying, acknowledged infant significantly more when entering the room, showed more affection, tenderness, and care in pick-ups and were less interfering and inept than

mothers of infants included in Group A or C (Ainsworth et al., 1978). In addition, mothers of infants classified as insecure-avoidant tended to demonstrate 4 specific qualities: *'(1) rejection; (2) especially rejection communicated through aberrant reactions to close bodily contact; (3) submerged anger; and (4) a generally compulsive kind of adjustment.'* (p.152). These are a clear corollary of the inhibited quality of insecure-avoidant infants, indicating a transmission of disposition as well as a behaviourally contingent moulding of attachment strategy, suggesting a channel of implicit socialisation. An early replication study in Bielefeld, Germany, conducted with the guidance of Ainsworth and her colleagues, identified the same pattern of maternal sensitive behaviours and positive association with infant secure attachment (Grossman, Grossman, Spangler, Suess, & Unzer, 1985). The infants of sensitive mothers cried less often, sought more bodily contact to which they responded more actively and protested less to being put down. There were, however, several interesting between sample differences in terms of both distribution of attachment classification and maternal tendencies. Almost half (49%) of the north German infants were classified as insecure-avoidant, somewhat fewer (39%) secure, and only 12% insecure-resistant. This difference, widely cited since, has been interpreted in terms of cultural favouring of independence and emotional restraint which is thought to influence parenting styles. Observed maternal behaviours in the home when infant was 10-months old are congruent with this supposition; for example there were differences in frequencies and durations of contact (e.g. Bielefeld mothers held infants for more frequent but shorter periods, and were less tender, careful and affectionate but more adept during close body contact), which were mirrored in differences in frequencies and durations of infant behaviours (e.g. Bielefeld infants communicated less, cried less when mother left the room, responded less to being picked-up/put-down, and initiated pickup less). The influence of culture-specific

valuation of independence over interdependence, and the possible association with socialisation practices, is elaborated further in Chapter 2.

Subsequent studies utilising the same measures of maternal behaviours in the home during infancy have identified two subgroups associated with disorganised classifications (Lyons-Ruth, 2007). Mothers classified as ‘helpless-fearful’ demonstrate significantly more apprehension, hesitation, or withdrawal in response to infant attachment behaviours: *‘These mothers appeared more fearful and inhibited, in general, and sometimes appeared particularly sweet or fragile’* (Lyons-Ruth, 2007, p.17). The second group of mothers, classified as ‘hostile-self-referential’, showed a higher degree of contradictory rejecting gestures and tended to demand attention from their infants. Likelihood of an infant demonstrating disorganised attachment behaviours has been linked to several other caregiver variables, as well as demographic composition of samples. For example, a meta-analysis by van IJzendoorn, Schuengel, and Bakermans-Kranenberg (1999), found that while 15% of middle-class infants have been classified as disorganised, this is the case for 25% of those in lower socio-economic status families, a proportion marginally higher than that for samples of depressed (21%) or teen (23%) mothers. More severe environmental deprivation, neglect, and abuse lead to dramatically increased risk. Almost half (43%) of infants with drug (including alcohol) abusing mothers and 77% of infants of maltreating parents are classified as disorganised on the SSP (van IJzendoorn et al., 1999). Recent studies of infants in institutional care, detailed in Chapter 5, have found similarly elevated levels of attachment disturbance.

1.8. Attachment Classification Concordance and Stability

Several studies have found low concordance between quality of attachment to mother and quality of attachment to father along lines of secure-insecure (Main & Weston, 1981; Belsky, Garduque, & Hmcir, 1984), as well as organised-disorganised (Main & Solomon, 1990; Fonagy, Steele, & Steele, 1996). This set of findings support the understanding that attachments are qualities of relationships, represented in IWMs independently for specific individuals, and not a quality of the child in the same way that temperament is generalisable. However, the extent to which specific attachments can influence development and subsequent characteristic socio-emotional competences is outlined below. Certainly the evidence suggests that having at least one secure attachment serves as a resilience factor.

A lack of stability of SSP-derived attachment classifications poses both theoretical and methodological challenges. Among Ainsworth et al.'s (1978) initial sample of 23 infants only 12 showed a stable classification over a 2-week test-retest interval. Subsequent studies have also found test-retest stability utilising the SSP to be weak or inconsistent (Ainsworth et al., 1978; Belsky, Campbell, Cohn, & Moore, 1996; Grossman, Grossman, & Waters, 2005). For example, Belsky et al. (1996) found stability of A, B, C attachment classification with mother or with father to be around 50% between 12 and 18 months. Carlson, Cicchetti, Barnett, and Braunwald (1989) found that while 80% of maltreated infants were disorganised at 12 months of age, only 60% remained disorganised at 24 months. While modest but significant stability of disorganization between 12 and 60 months was found in a meta-analysis including 840 children ($r = 0.36$), as with other attachment classifications, rearing context has been associated with variability, and disruptive family events specifically tied with shifts to disorganization

(van IJzendoorn et al., 1999; Vondra, Shaw, Swearingen, Cohen, & Owens, 2001). As attachment behaviours observed in the natural setting of the home over extended periods map onto SSP classifications at the end of the first year of life (detailed above), it is suggested that this lack of continuity, at least in infancy and over the short term, is attributable to infants' altered sensitivity through repeated measures (Ainsworth et al., 1978), and the inherently unpredictable quality of disorganisation. Goossens, van IJzendoorn, Tavecchio, and Kroonenberg (1986) found 100% stability of classifications among their Dutch sample when assessments were conducted in a lab SSP with a 1 month test-retest interval. Stability was comparably high (90%) if assessments were conducted in the home context, but these fell to 55% 1st assessed in home, and then lab at T2, and 33% for reverse order. The authors interpret the high level of test-retest reliability if environment is kept constant as resulting from an interval (1 month) which removes 'memory' influence, as found in the Ainsworth et al., (1978) study, without extending to duration over which developmental and caregiver changes would be expected to occur.

1.9. Developmental Trajectories associated with Quality of Infant-Caregiver Attachment

Longitudinal attachment studies have – through an inconsistency in findings – confirmed the complex and subtle way in which the attachment system and IWMs develop in constant reconstitutive fashion with several key variables identified (Sroufe, 2010). Evidence supporting the critical role of early attachment-related experiences has accumulated and refined understanding of multiple processes and their dynamic interaction. For example, the seeming contradiction between the first two follow-up studies published – only one of which found an association between insecure attachment (specifically avoidance) and childhood behavioural problems (Erickson, Sroufe, &

Egeland, 1985) – may be interpreted as evidence of fundamental mediation by quality of wider rearing environment (while Erickson et al., (1985) examined trajectory in a high-risk sample, Bates, Mashin, and Frankel (1985) utilised a markedly different low-risk sample). Subsequent studies have supported this inference with an association found within a low-SES sample (Shaw & Vondra, 1995), but not within a low-risk middle-class sample (Belsky, Hsieh, & Crnic, 1998). Similarly, among infants of adolescent mothers, those classified as insecure-avoidant or disorganised at 12 months went on to exhibit higher levels of externalising problems than secure infants (Munson, McMahon, & Spieker, 2001), and only insecure-avoidant attachment predicted heightened internalising and externalising symptoms at 4 years among a more heterogeneous sample (Goldberg, Gotowiec, & Simmons, 1995). Carlson (1998) reported an association between infant disorganisation and internalising behaviour, poor emotional health at early school age, and dissociative symptoms in later childhood.

Van IJzendoorn et al.'s (1999) meta-analysis (including 12 studies, $n = 734$) determined that disorganised classification at a mean age of 39 months was predictive of externalising behaviour problems (aggression) in school at a mean age of 59 months ($r = 0.29$). A more recent and comprehensive meta-analysis (Fearon et al., 2010) confirmed this association (24 studies utilising the SSP, $n = 3,161$, $d = 0.27$, $p < .01$), and elaborated on several details. Separate analyses for the two *insecure* subgroups found that only insecure-avoidant classifications ($d = 0.13$, $p < .01$) were significantly associated with externalising problems. An additional analysis comparing secure against all other classifications (labelled 'insecure', though including 'disorganised' as well as avoidant and resistant classifications) also found an association with externalising problems ($d = 0.18$, $p < .01$). The authors suggest that this set of findings do not indicate

disorganised attachment as predictive of risk to a degree much more pronounced than insecure classifications (Fearon et al., 2010). However, the inclusion of disorganised infants in the secure-insecure comparison muddies the waters somewhat, and an alternative interpretation might be that the evidence shows a clearly increased risk for infants classified as insecure-avoidant and those classified as disorganised, a risk which is not suggested for either secure or insecure-resistant infants. An examination of the alternative ‘forced classification’ (A, B, or C) of the D infants might provide greater insight into possible risks associated with sub-categories of disorganisation, specifically disorganised infants with a forced-avoidant classification.

1.10. Disorganised Classifications Specified by Forced-Alternative

There is a body of evidence to suggest that, as we would expect from the wide-range of contributing indices, there may be recognisable sub-groups of disorganised attachment in the same way that there are subgroups of the A, B, and C classifications, and as insecure behaviours share marked similarities in contrast to secure strategies in the home environment, though differ significantly in different contexts. For example, Lyons-Ruth and Block (1996) found that whereas disorganised infants with an alternate secure classification tended to have mothers displaying fearful behaviour, those with an alternate insecure classification tended to have mothers displaying frightening/hostile behaviour. Lyons-Ruth, Repacholi, McLeod, and Silva’s (1991) review of several studies found that: *‘D forced-secure infant behaviour occurs in more favourable settings and might be expected to result in more favourable later outcomes than D forced-insecure behaviour.’* (p.379). Bernier and Meins (2008), following Forbes (2004), have also suggested that a sub-classification of disorganised for infants who do not demonstrate a coherent form of A, B, or C category behaviours may also be useful: *‘It may be that the disorganized/no-*

strategy category is predicted by different factors than those that result in disorganization where an organized strategy breaks down under stress, or that the relative contribution of different predictive factors varies across these groups.’ (p.38)

1.11. Mediational Model of Developmental Trajectory

To achieve a more refined understanding of the relative influence of quality of attachment measured during infancy we must consider the contribution and interaction of other factors in dynamic continuum (Belsky, Fish, & Isabella, 1991). The simplest way in which multiple variables - among which attachment to a given caregiver is a mediator or mediated - interact is arguably through the production of a *cumulative* effect (Rutter, 1979). For example, Belsky, Woodworth, and Crnic (1996) found that risk of insecure attachment to father increased in step with the count of risk variables within a family (such as unhappy marriage, paternal personality). Further evidence of cumulative risk was provided through an analysis of the largest single study of infant development (Belsky & Fearon, 2002; utilising a sample of 948 dyads drawn from the NICHD study). Initial tests for direct association revealed that infants classified as insecure-avoidant with mother at 15 months scored significantly lower on measures of social and language competence at 3 years (importantly for this study, infants classified as disorganised demonstrated no greater vulnerability for negative outcomes⁵). An analysis of parallel factors, namely environmental risks (e.g. SES, maternal depression), determined that with increasing cumulative risk (categorised as none (0 risks), low (1 risk), medium (2 risk) and high (3+risk)), developmental competencies decreased linearly, but there was no direct association between infant attachment classification and risk level. However, a

⁵ However, as is acknowledged by the authors, the sample utilised suffered an attrition bias, namely disproportionate data unavailable for families at higher risk. Accordingly, and without details of forced classification of these infants, the possibility cannot be ruled out that disorganised-secure classifications, with markedly different pathological profiles to disorganised-avoidant infants, predominated and thus were at lower general and developmental risk.

more nuanced analysis identified an *interactive* effect with children classified as insecure-avoidant in infancy demonstrating far greater susceptibility to behaviour problems and poorer social competence at moderate levels of risk than any other group. Those in all other groups only showed such problematic outcomes when risks were at the highest cumulative category. A subsequent study involving this sample examined outcomes at early school age, drawing upon teacher as well as parent reports, and found that attachment effects were mediated by ongoing consistency or change in parenting quality (NICH, 2006). Importantly, outcomes of poor social competence and behavioural problems were tied to downturns, and positive outcomes tied to upturns, in parental quality, but only for dyads within which insecure attachment had been observed during infancy.

Infants who demonstrate disorganization in attachment strategies are much more likely than others to develop a controlling manner toward others as they progress into childhood. This controlling of the social environment can be recognized as an outer manifestation of tendencies exerted over otherwise overwhelming internal conflicts. This has been delineated into two coherent forms: caregiving, in which there is a degree of role-reversal and the child endeavors to entertain and ‘parent’ the parent, and punitive, which is characterized by aggressive outbursts (Main & Cassidy, 1988). These relational tendencies are inferred from story-stem completions in which there is a tendency toward highly constricted, congested, offerings and graphic disintegrative family scenes respectively. Controlling-caregiving children have been described as utilizing a ‘profound and obviously inflexible strategy’ in which the degree of constriction renders them unable to think, with ‘too many possibilities’ available but none emerging, whilst controlling-punitive children are ‘flooded with attachment-related affect and images’

which are conveyed explosively (Solomon & George, 1999). It should also be noted that a child occasionally combines these two strategies, with constricted types ‘flooding’ or flooded types becoming ‘constricted’. The first of these shifts may be paralleled to breakdown in the contained ‘displacement behaviours’ in avoidance, when forced constricted exploration gives way to attachment behaviors, and the latter a discursive equivalent to the stilling or similar behavioural anomalies more characteristic of disorganization.

The capacity to develop implicit ‘theory of mind’ of others, and the capacity to reflect upon one’s own cognitive-affective self, is arguably a uniquely human sophistication (Fonagy, Gergley, & Target, 2007). The complex role of mental representation, and the ability to discern the nuanced interfaces of external reality and overlapping minds representing that reality, has been demonstrated to have powerful intergenerational effects, with quality of parental reports of own experiences of caregivers predictive of their children’s attachment to them in infancy (e.g. Fonagy, Steele, Steele, Moran, & Higgit, 1991; Steele, Steele, & Fonagy, 1996). Several studies have found positive associations between maternal capacity to recognise her infant as possessed of a subjective mind and the infant’s subsequent secure attachment (Meins, Ferryhough, Fradley, & Tuckey, 2001), as well as infant’s later demonstration of a similar capacity to appreciate others’ subjectivity (Meins, Fernyhough, Wainwright, Das Gupta, Fradley, & Tuckey, 2002). Conversely, distortions in maternal mentalisation capacity have been found to be significantly associated with disorganized infant attachment (Slade, Grienberger, Bernbach, Levy, & Locker, 2005; Grienberger, Kelly, & Slade, 2005). Deprivation – neglectful and abusive caregiving – has been associated with a significantly

impaired capacity for mentalisation (Cicchetti, Rogosch, Maughan, Toth, & Bruce, 2003).

According to Fonagy and Target (2003):

What is most important for the development of mentalizing self-organisation is the exploration of the mental state of the sensitive caregiver, which allows the child to find in his image of her mind a picture of himself motivated by beliefs, feelings and intentions. In contrast, what the disorganised child is scanning for so intently is not the representation of his own mental states in the mind of the other, but the mental states of that other which threaten to undermine his own self. (p. 276)

It follows that, being at higher risk of neglect and typically experiencing a stream of transient caregivers, institutionalized infants are at high risk of such impairments.

The caregiver state of mind, capacity and expectation to engage intersubjectively, is also likely to have culture-specific characteristics which should be considered in relation to the present study. For example, according to Lyons-Ruth (2007):

The affectively intense forms of interchange encouraged or discouraged within the family in various cultures and historical epochs will also shape how individuals participate in socially distributed learning. How attachment-related communications are organized within the family around the most intense and survival-related affects and how those organizations are represented and transmitted intergenerationally will have important implications for the particular ways that intersubjectivity is elaborated at both individual and societal levels. / Less collaborative strategies of sharing within the family, as also documented by attachment research, are more

restricted or one sided in that they privilege one person's voice over the other's (e.g., the parent's emotional needs, as in ambivalent strategies) or certain forms of "truth" over other forms of truth (e.g., happy affects over sad or angry affects, as in avoidant strategies). (p.604)

The following chapter will elaborate upon such broad historic-cultural patterns in an effort to elucidate ways in which we might anticipate and interpret observable differences in infant-caregiver attachment behaviors within Chinese populations. Central to this endeavor is the assumption that the role – and by association the quality – of the individual within a social group is adaptive at multiple levels, the most immediate and mutually influential of which is the family. In Part 2 these themes will be expanded to include the complex issue of infant abandonment and subsequent provision of alternative care.

-Chapter Two

Chinese Culture, Childrearing, and Attachment Theory

子夏问孝。子曰：“色难。有事弟子服其劳，有酒食先生馔，曾是以为孝乎？”

Zi Xia asked about the treatment of parents. The Master said:
'It is the demeanour that is difficult. Filial piety does not consist merely in young people undertaking the hard work, when anything has to be done, or serving their elders first with wine and food. It is something much more than that.'

--Confucius, *The Analects*, Chapter 2, part 8 circa (5th century BC)

2.0. Introduction

The many significant ways in which China is historically, contemporarily, and projected to be, superlative among all nations occupies increasing space in the popular press, political and economic transactions, and the day to day musings of people in many walks of life. Despite this, the Chinese, and many China experts, often bemoan the general lack of insight which leads to misunderstanding. With its extremely pronounced emphasis on the family, an understanding of Chinese culture offers a rich source of study for developmental psychologists, and one which is likely to be of particular relevance in the coming decades. The aim of this chapter is to review previous Strange Situation

Procedure based studies of infant-mother attachment in a Chinese context, consider possible implications of related research, and provide a cultural-historical framework within which to better understand the context of this study and the developmental niche of the contemporary Chinese infant. As both empirical studies which follow are inherently cross-cultural, it is hoped that this chapter will allow a more realistic and fruitful understanding of the findings.

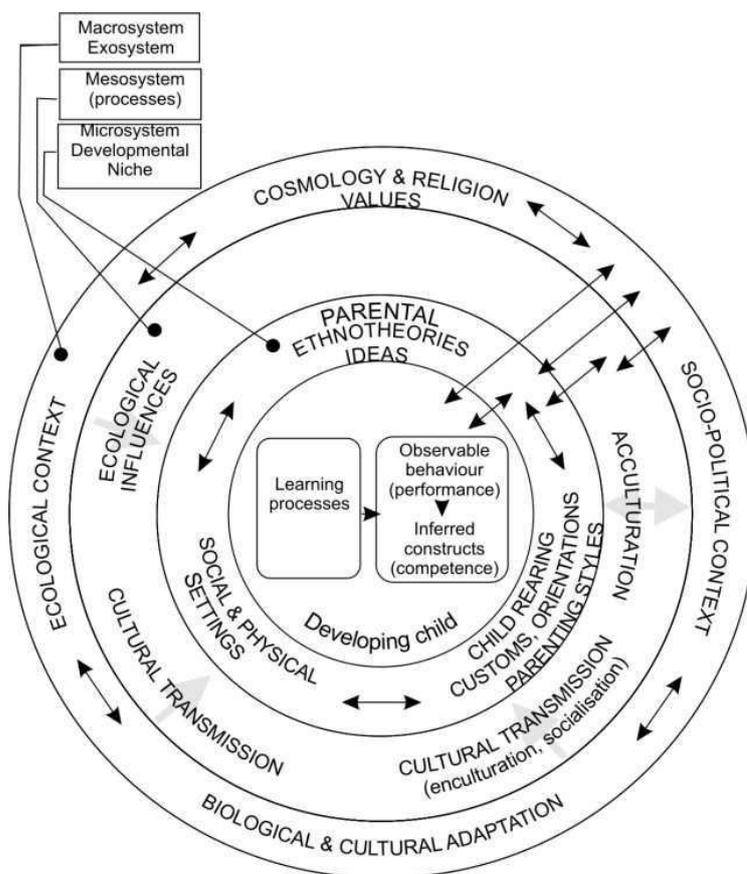


Figure 2.1.
 'An integrated theoretical framework for the cross-cultural study of human development'
 (reproduction of figure in Dasen, 2003)

2.1. An Integrated Theoretical Framework for Cross-cultural development

I will use Dasen's (2003) 'Integrated Framework of Human Development' (see Figure 2.1 above) to organise my outlining of Chinese cultural components that are of relevance to both Study 1 and Study 2 of this thesis. This eco-cultural perspective assimilates the major components of several influential models including Bronfenbrenner's (1989) 'Ecological Systems Theory', Kagitcibasi's (1996) 'Model of Family Change', and Bril's

(1999) ‘Developmental Niche’ which, according to Dasen, are all ‘fundamentally psychological’ and follow the cross-cultural psychology principle that ‘human behaviour *must* be viewed in the socio-cultural context in which it occurs if we are to truly understand it` (citing Segall, Dasen, Berry, & Poortinga, 1999, p1). The developing child is at the centre of this framework, with explicit learning processes moulding *observable* behaviours (‘performance’ e.g. ‘*secure-base*’ behaviours) which can be configured as *inferred* constructs (‘competence’ e.g. *secure attachment*). The infant is contained within a Microsystem consisting of social and physical settings, child rearing customs/orientations, parenting systems, and parental ethnotheories/ideas. Surrounding the Microsystem are Macro, Exo, and Meso systems which exist in a dynamic state of mutual influence. The Macro and Exo systems are composed of cosmologies, religions, and values, which co-exist with biological and cultural adaptation to the ecological and socio-political context. The Mesosystem represents the processes of genetic and cultural transmission (enculturation, socialisation), and ecological influences, acting on the Microsystem, as well as bidirectional acculturation.

2.2. MACROSYSTEM-EXOSYSTEM

2.2.1. Ecological Context, Biological & Cultural Adaptation

Approximately 1 in 5 of all humans is Han Chinese⁶, the vast majority of whom (over 1.3 billion) are concentrated into the world’s most populous nation, The People’s Republic of China, whose 9.6 million square kilometres make it the world’s 3rd largest country.

Extensive land borders (20, 000 kilometres, with 15 neighbouring territories) and 18, 000 kilometres of coastline have resulted in territorial disputes and conflict throughout the

⁶ 91.5% of Mainland China’s population, by far the largest of 56 ethnic groups, and approximately 20% of the global population.

long history of ‘Zhong Guo’ (meaning ‘Middle Kingdom’) as it is geocentrically known to its inhabitants. The earliest record of human presence in China dates back approximately 100 thousand years (Liu et al., 2010), and its continuous historical record of around 5000 years is the longest of any civilisation. A relatively low proportion of arable land, and a relatively high incidence of natural disaster (flooding, drought, earthquake, hurricane) has shaped the survival practices of the peoples, with social organisation further specified by region with a greater tendency to insular interdependence in the mountainous south, where travel between locales is relatively constrained, than the flat plains of the north (Yang, 2004). This geographical variation is reflected in the greater heterogeneity of distinct dialects in the south and greater commonality – suggesting greater social fusion – in the north (Ramsey, 1989⁷).

2.2.2. Socio-Political Context, Cosmology & Religion

Chinese cultural diversity is reflected in the multitude of deities and belief systems which guide daily moral orientation and ritualistic practices (Thompson, 1996). The tendency to integrate multiple belief systems simultaneously, and without contradiction, is consistent with the Confucian principle of ‘The Golden Mean’ (exercising moderation in all things), and what has been described as the essentially pragmatic and interwoven quality of ‘Chineseness’. This lack of theological and ideological specificity is mirrored in a relative preference for felt approximation over contrived polarities, which is even more prominent in the material and social realms, with reasonableness favoured over reason, and a pervasive scepticism of absolutes (Spence-Rodgers, Boucher, Mori, Wang, & Peng,

⁷ ‘The Mandarin area, on the one hand, is unusually uniform; virtually all of the dialects spoken there are mutually intelligible – or very nearly so. A native of Harbin, in the extreme northeastern corner of the Mandarin range, has little trouble conversing with someone from ChongQing, a city in the extreme Southwest over 1,600 miles away. Mandarin has no more variety than French say, or German. But the non-Mandarin area is extremely varied, and within it sharply divergent forms of speech are often separated by only a few miles.’ Ramsey, 1989, P.21

2009). In his *'My Country and My People'* Lin Yutang stressed that the Chinese are quintessentially pragmatic, which he ties to the person, or personality, of Confucius:

This realism and this attached-to-the-earth quality of the Chinese ideal of life has a basis in Confucianism, which, unlike Christianity, is of the earth, earth-born. For Jesus was a romanticist, Confucius a realist; Jesus was a mystic, Confucius a positivist; Jesus was a humanitarian, Confucius was a humanist. In these two personalities we see typified the contrast between Hebrew religion and poetry and Chinese realism and common sense. (p.103).

Confucianism, believed to originate with the teachings of Confucius (circa 500BC), advocates the organisation of society and the family as a hierarchy of vertical collectives: individual conduct is role-based and relations to others accord with a prescribed hierarchy in which submission to authority is valued and expected (Ho, 1986; Chao, 1994; Kim, 2000; Ko, 2004). In outlining his research tradition of 'Chinese Relationism' Hwang (2000) indicates that: *'Confucius advised that social interaction should begin with an assessment of the role relationship between oneself and others along two social dimensions: intimacy/distance and superiority/inferiority.'* (p.168). Members of a family are highly interdependent, 'self-construal' is theorised to be heavily influenced by references to relationships with others, and the self relatively fluid and context dependent (Kim & Markus, 1999; Kagitcibasi, 2005). This system is contrasted to Western traditions which advocate individualism, equality, and an independent self-construal that is assumed to be relatively constant across contexts (Markus & Kitayama, 1991; Brewer & Chen, 2007).

Individual conduct is of great importance, and Confucianism provides instruction on self-development which is centred on the cultivation of a quality of ‘*ren*’ (usually translated as benevolence, goodness, or compassion, though Alan Watts (1958) suggests the more nuanced ‘human heartedness’⁸). The quality and function of *ren* differs to Western ideals of unprejudiced universal compassion and can be aligned with *vertical* collectivism, which is characterised by hierarchical authoritarianism, and tends to foster in-group biases (Schwartz, 2007), and distinguished from *horizontal* collectivism, which tends toward democratic principles associated with universalism of morality and generalised social empathy (Triandis & Gelfand, 1998). This distinction highlights the inherent error of the often used but overly simplistic Individualistic-Collectivistic dichotomy. Western democratic societies are characterisable as Collectivistic, but the degree to which submission to others is expected and valued differs significantly. In the vertically collectivistic Chinese cultural milieu, allegiance to a collective (e.g. the P.R.C) and allegiance to family operate at different levels of de-individualisation and depersonalization⁹. As elaborated below, although collectivism is implicated by extension, it is more useful to emphasise the parallel dimension of interdependence (connectedness/relatedness etc) in the study of infant-caregiver relationships.

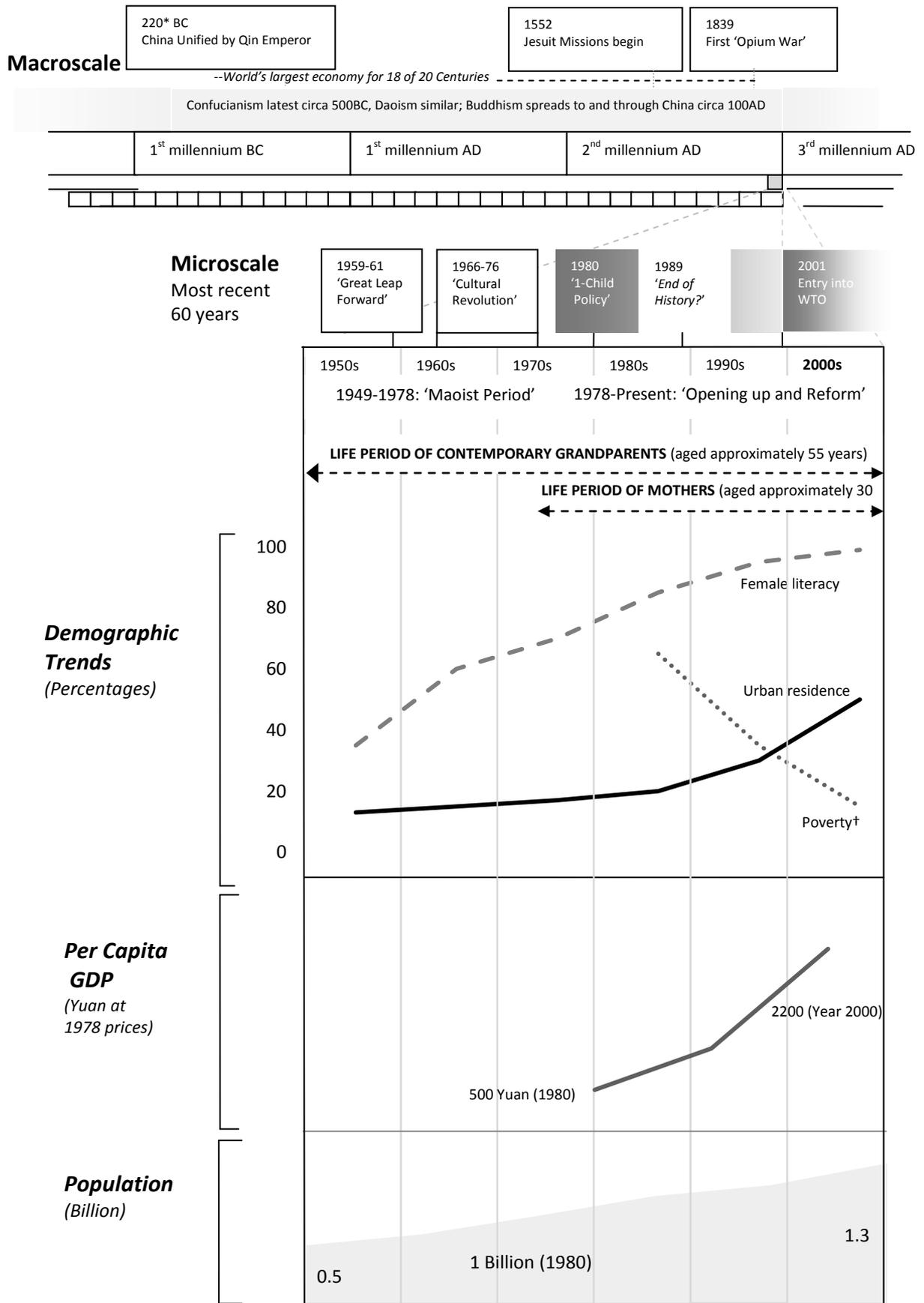
⁸ The cultivation of ‘*ren*’ is so highly esteemed that in the collection of his sayings, The Analects, Confucius states that: ‘*When it comes to goodness (ren) one need not avoid competing with one’s teacher.*’

⁹ A more comprehensive model, suggested by Brewer & Chen (2007), includes 9 components in a matrix of 3 ‘targets’ (individual, relationships, collectives) by 3 ‘loci’ (identity, agency, obligation), which perhaps most importantly removes the artificial polarity of Individualism-Collectivism, and further separates the target of Collectivism into ‘personal networks’ and ‘impersonal collectives’

2.2.3. Historical Context: Supremacy, Subjugation, Autocracy

China's legacy and self-identity of sophistication, innovation, and supremacy prior to the scientific revolution in the West has been studied and discussed in great depth, perhaps most comprehensively in the 27+ volume work '*Science and Civilisation in China*' initiated by Joseph Needham (volume 1, 1954, ongoing). The relatively recent and traumatic overtaking and exploitation of China led to a century of fragmentation and humiliation under foreign occupation (mid-19th to mid-20th century), giving rise to and ended by the formation of the People's Republic of China in 1949. The new stability coupled with ideological zeal led to economic recovery through industrialization and reduced poverty as class inequality was widely eradicated. This economic growth and redistribution of resources was coupled with new gender equality, the establishment of women's rights, the outlawing of footbinding, polygamy, and prostitution, and Chairman Mao Zedong's declaration in 1968 that '*Women hold up half the sky*'. Mao, the leader of the peasant revolution and by far the most conspicuous single contributor to the societal re-structuring, had engendered a reproductive boom during the early years of the PRC with the slogan '*The more people, the more power*'. A population of 400 million in 1949 (which had remained steady for a century) almost doubled to 700 million by the time of his death in 1976. During this same period life expectancy was lifted from 35 to 55. These advances were, however, outpacing capacity to provide resource security. In the early 1970s national family planning was introduced to reverse the high fertility rate, and the 'One Child Policy' was introduced in 1979 (Hesketh, Lu, & Zhu, 2005). These historical and demographic currents are represented graphically in Figure 2.2., below.

Figure 2.2. Outline of Chinese History, Features of Modern Period, and Recent Demographic Transformations



NOTE: Graph lines are approximate, intended to convey trends, data sourced as follows: Female literacy from Jowett (1989) and UNICEF (http://www.unicef.org/infobycountry/china_statistics.html); Urban Residence (National Population and Family Planning Commission of P.R.C, 2010); Poverty, Per Capita GDP (World Bank, 2009); and Population (United Nations, Department of Social and Economic Affairs, Population Division (2007) †Percentage in Poverty is based on the World Bank Consumption Head Count Rate of Poverty and is much higher than domestically calculated figures for which poverty has fallen from 31% to 3% since 1978 (Chinese Rural Survey Organisation of National Bureau of Statistics, 2004).

2.2.4. Social And Familial Decimation

These population manipulations have been inextricably linked to pervasive political turmoil which, stemming from struggles over ideology and authority within the governmental elite, dragged the people of China through a series of disastrous economic, labour, social, and cultural experiments. Two of these are particularly significant for their direct decimation of the traditional family structure, and also for the lingering spectre of political skepticism among the present populous for whom these events form personal life history (Thaxton, 2009). A campaign to accelerate industrial productivity through collectivization of household resources and labour, ‘*The Great Leap Forward*’ (1958-61), failed catastrophically for reasons of policy resistance, farming failures with peasants diverted to ill-fated industrial production, and natural disaster resulting in what may be the worst famine in history (estimates suggest that up to 43 million perished, Peng, 1987; Ball, 2006). The resulting swell of dissenting reformists threatening Mao’s authority was countered with what would evolve into a sweeping and brutal political movement, ‘*The Cultural Revolution*’ (1966-1976). Those who challenged the leadership were labeled as ‘anti-revolutionary’ and a ruthless campaign to identify and eradicate such ‘capitalist roaders’ gained momentum. Systematic ‘Destruction of the Four Olds’ (Old Customs, Old Culture, Old Habits, Old Ideas) ruptured families ideologically and physically as Confucianism, along with all other superstitious traditions accused of contributing to the oppression of the peasantry, was outlawed and temples destroyed (e.g. Su, 2007). Children were turned against those to whom piety had for millennia been unquestionable. In what was characterized as the necessary completion of the peasant revolution, Mao engaged the ideal of the working classes in a virtual freezing of the education system ‘sending down’ young urban intellectuals to learn from rural farmers in remote areas, further stretching and severing the traditional ties of families and dissolving intellectual as

well as material legacies. In addition to the familial and social mayhem, this crackdown on real and perceived sources of political dissent led to the cessation of social science beyond the well-defined needs of the state machine, with psychology departments only gradually re-opening in the 1980s (Wang, 1993).

2.2.5. Opening-up and Reform (1978 to the present)

What is widely acknowledged, though still rarely discussed, within the PRC as a period of traumatic upheaval (the assessment made by Deng Xiaoping that Mao's influence on Chinese history is '70% positive and 30% negative' tends to diminish compulsion for debate¹⁰) came to an end in 1976 with Mao's death and soon gave way to an era of 'Opening up and Reform' characterized by receptiveness to foreign investment, the embracing of entrepreneurial capitalism, and the reduction of collectivistic production and dependency¹¹. Balancing free market economics with the authoritarian political control of a Leninist government, which has lifted approximately half a billion people out of poverty, has now prevailed for over 3 decades and thus accounts for the major portion of the PRC's existence (MacGregor, 2010). The perpetuation of this system, which has been characterized as 'The Beijing Consensus' with its growing appeal as a model for economic growth in developing countries (Ramos, 2004¹²), is more perplexing when the

¹⁰ Widely condensed to Deng Xiaoping's assessment that Mao's leadership was '70% positive, 30% negative', the 'Resolution on Certain Questions in the History of Our Party Since the Founding of the People's Republic of China' (Adopted by the Sixth Plenary Session of the Eleventh Central Committee of the Communist Party of China on June 27, 1981) states that: '(27) Comrade Mao Zedong was a great Marxist and a great proletarian revolutionary, strategist and theorist. It is true that he made gross mistakes during the "cultural revolution", but, if we judge his activities as a whole, his contributions to the Chinese revolution far outweigh his mistakes.' <http://english.cpc.people.com.cn/66095/4471924.html>

¹¹ This about-turn was advanced primarily by one of the post-Great Leap Forward threats to Mao's leadership, Deng Xiaoping, who had been severely persecuted during the Cultural Revolution

¹² Ramos's description of the contemporary leadership strategy includes an appreciation of a sustained cultural pragmatics: 'The Washington Consensus was a hallmark of end-of-history arrogance; it left a trail of destroyed economies and bad feelings around the globe. China's new development approach is driven by a desire to have equitable, peaceful high-quality growth, critically speaking, it turns traditional ideas like privatisation and free trade on their heads. It is flexible enough that it is barely classifiable as a doctrine. It does not believe in uniform solutions for every situation. It is defined by a ruthless willingness to innovate

wave of communist collapse in 1989 is considered. No doubt the disquieting and silencing actions of Tiananmen have had a resounding influence. In the February preceding the events of that summer, Fukuyama famously asked if we had not reached ‘The End of History?’: ‘*What we may be witnessing in not just the end of the Cold War, or the passing of a particular period of post-war history, but the end of history as such: that is, the end point of mankind's ideological evolution and the universalization of Western liberal democracy as the final form of human government.*’ (1989, p.1¹³). Two more decades into China’s ‘economic miracle’, and its deft navigation of the recent global financial crisis, contributes to an increasing international influence and domestic assuredness, with ‘Western liberal democracy’ achieving no great popularity (Li, 2009).

Deng Xiao Ping instilled the principle that economic development occur with an outward appearance of modesty, a benign duplicity that is increasingly difficult, and perhaps increasingly unnecessary, to maintain (Lee, 2010). The emerging colossus will inevitably display less and command more humility and concession in global forums (McGregor, 2010). The dramatic and tangible advances for the lives of the Chinese provide ample incentive for submission to a leadership that exercises – perhaps as key to its success – a high degree of censorship. Domestically, it could be argued that this dynamic is consistent with a vertically collective approach, a relatively seamless continuation of a culturally compatible patriarchal social organization charged with responsibility for material development, social harmony, and national security in exchange for individual liberties. The undeniably authoritarian government generates a

and experiment, by a lively defense of national borders and interests, and by the increasingly thoughtful accumulation of tools of asymmetric power projection. It is pragmatic and ideological at the same time, a reflection of an ancient Chinese philosophical outlook that makes little distinction between theory and practice.’ (p.6)

¹³ Initially a lecture at the University of Chicago on February 8th, 1989, adapted for publication in the summer issue of National Interest.

paradox here: while there is no doubt an intolerance of dissent, the debate over whether the relative lack of political dissent is a result of political apathy or political coercion is much more animated outside of China (Li, 2008). Domestically, the degree of and desire for political involvement is debatable, though it is arguably the case that what is often characterised as pervasive political apathy may reflect the implicit and explicit taboo of political criticism stemming from recent modern history (Siu, 1984). Figure 2.2. provides a graphic summary of several such events and associated trends, mapped onto the life course of mothers (and grandmothers) currently rearing small infants. In addition, it is arguably the case that the depiction of China by the Western media, and the view of even the generally well-informed, is far from keeping pace of rapid changes in freedom of political expression (Li, 2008).

2.3. MICROSYSTEM (Developmental Niche)

Social and Physical Settings

2.3.1. Filial Piety

No element of Confucianism has emerged more impressively from the chaos of Maoist decimation than the institution of filial piety ('*xiao*'), and a general reverence for the older generation that extends beyond the grave (Ho, 1996; Chen, Bond, & Tang, 2007; Liu, 2008). The force of this dynamic which, as previously noted, has proven an essential social glue of China's longevity, mirrors the thriving of the authoritarian (and nominally) Communist Party in a post-Communist world order. The strength and value of patriarchy

perpetuates the gender bias most concretely observable in the son preference¹⁴, which in practical terms provides labour and old age support, and in metaphysical terms ensures continuation of ritual offerings providing for ancestors. Family unity and prosperity are a first point of reference in the conduct of all members and thus, while formally arranged marriages are rare, the influence of parents in selecting, or at very least condoning, partners is pervasive and the pressure to marry and provide offspring in a timely and responsible manner remain central pillars of contemporary Chinese life (Riley, 1994; Pimentel, 2000). Thus, the pairing of partners, the timing of reproduction, and newborn infants are fundamentally shared responsibilities with hierarchical guidance (Han, 2010). The degree of involvement of grandparents can be seen clearly through the practice of ‘doing the month’, a ritualistic post-partum regime in which the mother typically remains indoors, resting mostly in bed, restricts strenuous activity and bathing, and follows a specific diet (Cheung, Mander, Cheng, Chen, Yang, Qian, and Qian, 2006). In addition to facilitating the ‘rite of passage for women in their vulnerable transitional period from woman to mother’ (Cheung et al. (2006), p.194), nurturing infant and the new dyad, older female figures – usually mother and/or mother in law – oversee the process reinforcing their status as overall matriarch.

2.3.2. Household Structure

By extension, childrearing almost invariably involves multiple-caregiver networks, often living in 3-generation households (Hu & Meng, 1996; Zhang, 2004). In recent years this arrangement has been the subject of concern, with some research finding better ‘personality’ outcomes for infants in 2-generation households (reported in Miao & Wang (2003), citing Chen (1994, 2001)). It is common practice for mothers to return to work

¹⁴ Sexual inequality is central to Study 2, and this complex element of Chinese society, clearly manifest in the sex ratio imbalance (approximately 12:10) has numerous general culture specific characteristics (e.g. prostitution, discrimination in the workplace) and implications (e.g. trafficking of women, e.g. Zhao, 2003)

within 3 months of giving birth and for grandparents to assume primary caregiving responsibility. In urban areas there is also an increased use of non-relative day-care, partially a counter to feared consequences of only-infancy and intended to increase social exposure and competence with age-peers. Day-care has been the focus of much contention in the west (e.g. Belsky, 2001; Belsky et al., 2007) and may prove equally controversial in China. The traumas of the Maoist era, experienced by those now mostly retired or reaching retirement age, are barely imaginable to the younger generation, particularly those growing up in more affluent urban settings (e.g. Stanat, 2006). These transformations are thus accompanied by generation gaps elongated and contradicted by grandparent childrearing which inevitably exerts a conservative drag.

2.3.3. Urban-Rural Divide

According to census data, between 1953 and 1982 China's urban population almost doubled as a percentage of total from 13.3% to 20.6%. At the end of 2009 Mainland China's population of 1.334 billion is reported to be divided into 53.4% rural and 46.6% urban with urbanisation increasing rapidly (National Population and Family Planning Commission of P.R.C, 2010). In addition, it is estimated that 211 million of those registered as rural dwellers form a third 'floating population' of migrant workers who travel to the cities, predominately on the most developed east coast, providing labour in turn for relatively high wages. Thus, the majority of the population are already situated in urban settings (approximately 47% urban residents, plus 16% floating workers) with a minority of 37% remaining in rural settings. The family structure for these 3 distinct subsets of the population, and the developmental niches of their children, are likely to differ considerably (further details on rural-urban inequality are considered in Chapter 5). The present study focuses on the expanding urban population, the household

characteristics of which are becoming increasingly representative of the population at large.

2.3.4. Overlap of Home-Workplace Orbits

A further characteristic of Chinese social organization is the somewhat less well defined boundary between the private and the work realm. At the level of individual experience, the ‘danwei’ (work unit) structuring of socialist work organisations that blurred the line between private and public life persists to the present day not only in state/government departments/enterprises but – as a re-invention of feudalistic patriarchy – is recognisable throughout most sectors (Bray, 2006). Thus, by contrast to the relatively limited authority (obligations and benefits) structure operating within the developmental niche of a ‘Western’ infant, with the parents, teachers, and other community figures acting as immediate and secondary figures of authority, it is arguably the case that these dynamics are in more fluid interaction with work unit leaders and peers, which itself extends, with bi-directional influence, into the political network. A core area in which the social-political-workplace representation is able to monitor and enforce central policy is that of marriage and reproductive regulation (Bray, 2005; Lu & Perry, 1996). As both a political and economic nexus the workplace is a highly efficient policer of household need and household composition. These mechanisms are far less strict than for recent generations and the degree to which they operate formally or through more lateral social coercion deserve attention (Bray, 2005).

2.3.5. Family Planning

China’s notorious reproductive control strategy, known as the ‘One Child Policy’ (1CP), is doubtless the most explicit imposition of state influence on household structure. In

what has been variously hailed as a successful effort to curb catastrophic population expansion and a draconian abuse of human rights, national family planning programmes have been in operation since the early 1970s (Hesketh & Zhu, 1997). The most restrictive form, the 1CP which applies mainly to urban residents, was launched in 1980. The various phenomena that this policy has produced, or contributed toward, include large scale infant abandonment and subsequent institutionalisation (covered in Part 2 of this thesis). Most relevant to Study 1 is the near complete prevalence of only children among urban families. Influential studies reported early on in the 1CP's operation found only children to be relatively uncooperative with peers, timid and 'wilful' (Shanghai Pre-School Education Study Group, 1980, cited in Jiao, Ji, & Jing, 1986). There are also reports suggesting that, for so called 'intellectual youth' who became parents in the 1980s, the only-child focus combined with a desire to compensate for the losses experienced during the Cultural Revolution led to a disproportionate emphasis on intellectual over 'moral' development, which raised concerns for social behaviour (e.g. Zhong, 2005). The current reproductive generation (including the parents in our sample), whose childhoods began for the most part amidst 'opening up and reform', are themselves products of the 1CP. Such couples, typically having no siblings, are responsible for the post-retirement welfare of two sets of aging parents. Known as the '4-2-1' problem, this family structure also means that a single infant for the most recent generation are the sole progeny of 6 adults (Hesketh et al., 2005; Wang & Fong, 2009). Concerns over 'little emperor syndrome' for the first generation of only-children (e.g. Wu, 1996), are thus amplified by an even higher density caregiver to infant ratio, along with rapid increases in buying power and burgeoning materialism (Podoshen, Li, & Zhang, 2010), and materialism specific to children, particularly in urban settings (Xu, 2007).

2.3.6. Parenting Styles, Parental Ethnotheories/Ideas

Kagitcibasi (1998) has demonstrated that the Value of Children (VOC) can be crudely split along economic and psychological lines, with the balance in either direction determined largely by fertility levels and socio-economic development. These two-dimensions can be gridded to illustrate the re-enforcing relationships between VOC and Socio-economic Development/Fertility (e.g. Increased socio-economic development gives rise to increasingly psychological VOC and reduced fertility, which reduces son preference, associated with economic VOC). Recognising the narrowness of an assumed transition from a ‘family model of interdependence’ to one of ‘family model of independence’, Kagitcibasi has outlined an intermediary where:

‘...a complex change takes place, associated with socio-economic development and especially with urbanisation, which involves changes in lifestyle from traditional agrarian ones to urban ones. Especially in collectivistic cultural contexts with closely knit human/family relations, connectedness appears to continue in the realm of emotional interdependencies, while material interdependencies weaken due to increased affluence and alternative old-age security resources. A third pattern, the family model of psychological interdependence, is proposed to characterise this change (Kagitcibasi, 1990, 1996). This produces socialised outcomes that differ from both the traditional (rural) family of total interdependence and the individualistic urban (Western middle-class) family of independence.’ (Smith, Bond, & Kagitcibasi, 2006, p.89)

Reports from a multi-country value of children study found that, while urban Chinese mothers resembled those from Western-urban populations, those from rural and floating

samples were markedly different (Zheng & Shi, 2004). China's upwardly mobile rapidly expanding urban middle-class, the vast majority of whose parents do not have 'alternative old-age security resources', are perhaps best positioned between the pole of traditional 'total interdependence' and this 3rd model of psychological interdependence. Trends in welfare reform (covered in Chapter 5) would suggest that a full transition to this 3rd model is likely but will involve a lengthy and complex process.

2.3.7. Proximal and Distal Parenting Strategies

Keller (2009) identifies two different parenting strategies: proximal parenting, characterised by more physical contact (warmth), and believed to be more prevalent in interdependent cultures, and distal parenting, characterised by more visual communication (contingency), and believed to be more prevalent in independent cultures. Chinese mothers of 3-month-olds, for example, used less autonomy promoting verbal discourse during play. These observable behaviours were reflected in conscious ideas of parenting ('parental ethnotheory') elicited during interview, with Chinese mothers endorsing family allocentricism more strongly, making greater mention of body-contact behaviours (associated with relatedness promotion) and less mention of object-stimulation (associated with autonomy promotion,) than did US mothers (Keller, Abels, Borke, Lamm, Su, & Wang, 2007). These data are consistent with that of Wang and Tamis-LeMonda's (2003) finding that US mothers of 3-4 year olds placed significantly more importance on environmental curiosity and exploration than did Taiwanese mothers. During interviews, Taiwanese mothers also used relatedness-related categories more and autonomy—related categories less (consistent with finding that Taiwanese mothers emphasised 'following social rules').

2.3.8. Inhibition

Chen, Hastings, Rubin, Chan, Cen, and Stewart (1998) found that 2-year-olds in China were significantly more inhibited than a comparison Canadian sample, and that inhibition among the Chinese infants was associated positively with a warm and accepting maternal attitude whilst the opposite was the case among the Canadian sample, interpreted by the authors as culture-specific adaptational meanings of inhibition. Among samples of 2-year-olds in Canada and the PRC, Liu, Jin, Zhang, Cui, Li, Chen, and Wang (2005) found that not only were Chinese mothers significantly more involved in mother-child interactions (encouraging *both* more connected and autonomous behaviours) during a 10-minute free play episode, but that Chinese infants also displayed significantly more connectedness and significantly less autonomy than did the North American infants. Importantly, and in contrast to these cultural differences, there was greater encouragement of autonomy over connectedness with 2-year-olds in both cultures (Liu et al., 2005), which supports the principle that autonomy and connectedness should be treated as orthogonal dimensions.

2.3.9. Discipline

Wu (1996) pointed out that despite local differences of modernization in Mainland China, Taiwan, and Singapore, there remains a common and pervasive emphasis on *training* to develop a 'moral character' ('ren') capable of remaining in harmony with society. This training, which commences once a child can 'understand things' ('dong shi') and exercise impulse control, between the ages of approximately 2 and 6 years (Ho, 1986), is argued to be context dependent and ensure disciplined conduct in wider society whilst indulgence may be continued within the family environment, and extended to certain non-kin

relationships (Brewer & Chen, 2007). Lin and Fu (1990) made such an interpretation of their finding that Taiwanese and Chinese-American parents of kindergarten and pre-school age children rated the encouragement of independence more highly than European-American parents. Similarly, Hoffman (1988) found that urban mothers in Taiwan considered independence more important than obedience in school-age children, and ratings of obedience did not differ from those of US mothers. In relation, the seemingly counter-intuitive finding of greater emphasis on connectedness (rated more strongly, and ranked higher) by mothers of 3-4 year olds in the US than in Taiwan (Wang & Tamis-LeMonda, 2003) might also be informed by age-related shifts in socialization practices, as well as location (private-public) specific behaviour. That 'Individualism' (in Wang and Tamis-LeMonda's study the Individualism category included *emotional independence* content such as 'creativity', 'curiosity') received significantly stronger endorsement from US mothers, and 'Proper demeanour' and 'Decency' (content such as 'ability to cooperate', 'obedience', 'following social rules', 'integrity') were more strongly emphasised by Taiwanese mothers, as was 'Achievement' (including *instrumental independence* content such as 'self-reliance', 'potential for future achievement'), might also be interpreted in terms of such in-group/out-group specific orientations. Wang and Tamis-LeMonda (2003) also referred to Peng, Nisbett, and Wang's (1997) 'deprivation-based preferences' bias, suggesting that the US mothers' emphasis on connectedness might result from a tendency to focus on a perceived lack/need, and the Taiwanese mothers' under-emphasis might reflect a relative assumption of 'connectedness'. This assumption of connectedness is consistent with Doi's (1971) *amae* conceptualisation of hierarchical relationships, and contrasts to the emphasis on independence discernable among samples in which insecure-avoidant attachment is prevalent (notably the North German, Bielefeld, study, Grossman et al.,

1985). It is interesting to note that in the area of toilet training, which is strongly associated with the infant-parent bond and individualisation, Chinese caregivers employ a radically different approach which may be an important index of overall patterns of interaction. For example, whereas in the West experts advise toilet training begin around 18-24 months, at which point there is a transition from soiling nappies/cleaning to gradual bowel control and the introduction of a potty (Brazelton Christophersen, Frauman , et al., 1999), parent-assisted toilet training in China (as in most of the world) begins within the first few months of infancy, with parents anticipating infant cues and holding infant appropriately to urinate or defecate whilst making encouraging ‘shhh’ sounds (Min & Rugolotto, 2004). This degree of maternal attunement, which is the assumed norm across a large proportion of the world and arguably reduces both physical and psychological discomfort, as well as removing problematic toilet training at a much later stage of development of the attachment, warrants consideration, perhaps in relation to affect regulation, shame, and post-Freudian theories of psychosexual development (Sroufe, 1984; Fonagy, 2008).

It would also seem that toilet training is assumed to occur smoothly, largely a result of caregiver rather than infant diligence, and well in advance of other expectations for child self-conduct. David Ho (1986), who has condensed and translated much on Chinese socialization practices, summarizes the general attitude toward younger infants in the following way: *‘It is thought that training cannot be expected to accomplish much for infants or young children; they are viewed as passive dependent creatures who are to be cared for, and whose needs are to be met with little delay or interference. / Little or no emphasis is put on training for independence./ ...the period of infancy and early childhood can be said to be one of great lenience and indulgence. / It should be added*

that active or exploratory demands tend to be thwarted even during the period of infancy and early childhood, although oral passive needs are typically met without hesitation' (p.4). Ho also cites Levy's (1949) observation that almost no attempt is made to train or discipline during the first two years, but that Kvan (1969) suggested this is introduced by the age of 2 years at which point the infant is expected to behave like a 'miniature adult'. Irrespective of the specific age at which the changes are implemented, Ho stresses that these are 'radical' and 'very real' and 'stem from a fundamental contrast in expectations'; once the child is capable of understanding, she/he 'must be prepared for the fulfilment of social, especially filial, obligations in adulthood'. In a shame and 'face' society, where the external world is regarded as relatively cold and potentially threatening, the infant must be prepared to avoid jeopardising self or the family. Wu's (1996) finding that in a comparative study of different Chinese communities (conducted between 1991-93) the traditional attitude of '*if a child fails in school, the entire family is shamed*' (p.151) was endorsed by the majority of Mainland (Shanghai) parents but not the majority of Taiwanese parents, highlights the need to be sensitive to regional variations. This difference may also be considered in terms of Kagicitabi's models of family, with shifts in psychological and material interdependence expected with increasing material security. Rapid economic advances in mainland China, and their uneven influence across sub-populations, add a further and complex dimension.

2.4. Attachment Across Cultures

Attachment theory, as a product and proponent of the Western empirical psychological tradition, has proven powerfully accommodative in remarkably varied cultural contexts (van IJzendoorn & Sagi-Schwartz, 2008). This is hardly surprising given attachment theory's evolutionary and ethological underpinnings (Bowlby, 1969; Suomi, 2008).

Culture, at the level of the family and society, and as shaping attitudes across life-stages, is an integral part of the modelling of the attachment system, and was instrumental in the formulation of the SSP (Ainsworth, 1964; Bowlby, 1979). Researchers building upon Bowlby and Ainsworth's foundation, working within the received tradition of the SSP, have scrutinized the role of culture as a possible influence on attachment behaviours observed during the procedure and distributions of classifications derived from it (for example, Grossman et al., 1985, as described in Chapter 1). Meta-analyses of 32 samples ($n = 1990$) drawn from 8 different countries found greater 'within-culture' than 'between-culture' variation in distribution of attachment classifications, suggesting that categorically defined 'culture' (typically nationality) is not a coherent predictor of attachment behaviour patterns (van IJzendoorn & Kroonenberg, 1988). Indeed, a sample of infants from the south of Germany did not demonstrate the markedly high proportions of insecure-avoidance found among their northern counterparts (Escher-Graeb & Grossmann, 1983, cited in Grossman et al., 1985). Such evidence contributes to the recognition that national boundaries cannot be equated with cultural boundaries, that the geographic location of relatively coherent cultural groups is increasingly problematic, and thus alternative forms of analysis must be applied.

2.5. Attachment Theory and Research in Chinese Contexts

That there has been only minimal utilization and integration of attachment theory in Chinese contexts can in part be explained by the quite recent renaissance of academic psychology following Mao's death in 1976 (Zhang, 2007), a bias for the investigation of cognitive and educational aspects of development (Miao & Wang, 2003), a tendency toward non-critical importation of foreign theory and methodology over indigenous ideas, language barriers, and lack of international collaborations on research and training

(Blowers, in press). The majority of attachment research is only available in Chinese language (consequently absent from van IJzendoorn and Sagi-Schwartz's (2008) review of attachment across cultures in *The Handbook of Attachment*) and, whilst including several interesting findings, has a somewhat scattered focus¹⁵.

2.6. Strange Situation Procedure Studies in China

As far as I am aware, there are 9 previously reported SSP-based studies conducted with Mainland Chinese infant-mother dyads, only one of which has been published in an English language journal (Trnavsky, 1998). All have been conducted in one of 4 major Eastern cities. None has yet utilised standardised methods including classifications by reliability-tested coders. However, these studies provide a foundation for increasingly systematic work and their findings demand attention. Distribution of attachment classifications for these studies, and comparisons to distributions in the USA, Europe, and Japan, are provided in Table 2.1. As several studies do not provide 4-way classifications (usually published prior to the development of the disorganised category), or standard coding procedures, comparability is limited and inferences must be made with caution.

The earliest and best known of the previous reports, presented as an English-language poster (Hu & Meng, 1996), constitutes the only Chinese sample included in the Handbook of Attachment (van IJzendoorn, 2008). In what was designed as a pilot study for subsequent work (see Hu & Meng, 2003 below), this pioneering assessment of 31 12-

¹⁵ Those conducted include an examination of risk factors and suggested interventions for disorganised attachment in infancy (Zhang, 2006). Child and adolescent attachment research includes an AQS-based study that found 4-6 year old positive sociometric measures to be positively associated with maternal attachment (Wang Wen-Zhong et al., 2007), the finding of good reliability and construct validity of Chinese version of the Inventory of Parents and Peers Attachment (Liang, Hou, & Tian, 2006), and lower levels of attachment among Chinese (Han) adolescents in Mainland China and Malaysia compared to the Malay ethnicity group (Bao & Xu, 2006). Several summaries of attachment theory, comments on its growing popularity, and questions for further discussion and future research have also been published (e.g. Zhu, 2007; Wang & Wang, 2006).

month-olds in Beijing found a distribution comparable to western norms: 68% secure, 16% insecure-avoidant, and 16% insecure-resistant (disorganisation was not coded for).

The next known study assessed 52 toddlers (21-27 months old) with their mothers randomly selected from a Shanghai residential district (Gu, Cen, Li, Gao, Li, & Chen, 1997). The non-standardised SSPs found 67% of the children to be securely attached, 23% insecure-resistant, 6% insecure-avoidant, and 4% disorganised. However, the authors indicated that those 3 infants classified as 'avoidant' showed no pointedly avoidant behaviours, and would be better described as 'indifferent'.

Polly Trnavsky (1998) conducted a study in Shenyang with 29 12-16 month-olds recruited from a day-care centre. Through a comparison with behavioural descriptions of samples with which the classifications were devised (Ainsworth et al, 1978; Main & Solomon, 1986), several interesting differences among the Chinese infants were identified. For example, the Chinese infants displayed significantly more resistant behaviours, with 66% displaying some resistant behaviour in 1 or both of the re-union episodes (5 & 8). In an attempt to replicate the A, B, C & D classifications, a cluster analysis of behaviours was conducted. This did yield a main cluster of 19 infants who demonstrated behaviour patterns very similar to the secure category, and a small cluster of 3 infants with behaviours very similar to the insecure-resistant classification. However, the remaining 7 infants were in a cluster that partially corresponded to, yet significantly differed from the avoidant category (minimal physical contact with mother, but high-level communication-at-a-distance). The finding of this distinct group, for which Trnavsky suggested the classification 'calm and independent', indicates that conventional coding of the SSP

might not capture all infant-caregiver attachment strategies. It is also interesting to note that this study found no infants fitting a 'disorganised' classification.

A second Beijing study assessed 122 randomly selected 2 years old (aged 21 to 27 months) with their mothers, adapting the SSP to include 3 strangers (the second with a noisy toy, and the third wearing a mask) to provide age-appropriately increased distress (Liang, Chen, & Chen, 2000). The authors also utilized an alternative coding system, noting the difficulty of achieving standardised reliability training. Seventy-three percent (73%) of the sample were classified as securely attached, with 11% demonstrating a behavioural pattern very similar to insecure-avoidant, 7% similar to insecure-resistant, and 9% similar to disorganised. The authors indicate that those not classified as secure demonstrated what may have been culture-specific patterns. For example, as in Gu et al.'s (1997) Shanghai study, 'indifferent' was used rather than 'avoidant' as these children were more focused on exploration but did not markedly avoid mother, and the 'resistant' children, for whom they coined the term 'pestering', tended not to be angry. However, as with Trnavsky's (1998) study, and indeed any whose procedures have not been coded by trained and reliability-tested judges, it is also possible that more experienced observers may have recognised subtle differences in behaviour.

Following on from their 1996 work, Hu and Meng (2003) conducted a more comprehensive study including 2 samples ($n = 30$ and $n = 34$) of 12-month-olds, this time coding for disorganisation, finding the following distributions: secure 53% (both samples), avoidant 13% and 15%, resistant 27% and 21%, and disorganised 7% and 12%. Though the prevalence of secure attachments is somewhat lower, and the prevalence of resistant attachments higher, these distributions are comparable to 4-way norms which include

Table 2.1.

Distribution of Attachment Classifications in Chinese, Japanese, and Western Studies

	n	Age	A	B	C	D*
China						
Hu & Meng, 1996	31	12	16 (5)	68 (21)	16 (5)	<i>n/a</i>
Gu et al., 1997	52	21-27	6 (3)	67 (35)	23 (12)	4 (2)
Trnavsky, 1998	29	12-16	25 (7)	65 (19)	10 (3)	<i>n/a</i>
Liang et al., 2000	122	21-27	11 (13)	73 (89)	7 (9)	9 (11)
Hu & Meng, 2003 (1)	30	12	13 (4)	53 (16)	27 (8)	7(2)
Hu & Meng, 2003 (2)	34	12	15 (5)	53 (18)	21 (7)	12 (4)
Li et al., 2004	75	8-14	17 (13)	65 (49)	13 (10)	4(3)
Ding et al., 2008	62	12-18	6 (4)	68 (42)	26 (16)	-
Yue et al., 2010	178	24	10 (18)	72 (128)	9.5 (17)	8.5(15)
TOTAL	613	8-27	11.8	68.0	14.2	6.0
Japan						
Durrett et al., 1984)	39	12	13 (5)	61 (24)	18 (7)	8 (3)**
Takahashi, 1986)	60	12	-	67 (41)	33 (19)	<i>n/a</i>
Behrens et al., (2007)	41	61-81	22 (9)	68 (28)	10 (4)	-
TOTAL	140		10	66.5	21.4	2.1
NON-WESTERN***	198		7.6	53.0	18.2	21.2
N America	2, 104	12-24	15 (311)	62 (1, 299)	9 (182)	15(312)
Other Western	920		20 (186)	51(469)	10 (95)	19 (170)
WESTERN	3, 024		16.4	58.5	9.2	15.9

*Includes disorganised, non-conventionally coded, **unclassifiable cases, ***van IJzendoorn et al., 1999.

an average of 62% secure, 15% avoidant, 9% resistant, and 15% disorganised (derived from meta-analysis, van IJzendoorn et al., 1999). A follow-up at 24 months with all 64 infants, utilizing the attachment Q-sort, determined high test-retest stability and agreement between the 2 measures finding 48% secure. Hu and Meng (2003) suggested that non-maternal childcare (by relation or non-relation) might account for the finding of

relatively low secure attachment as mothers are typically required to return to work within 3 months.

Li, Jing, Yang, Cai, Chen, and Su (2004), working in the southern coastal province of Guangdong, assessed seventy-five 8-to-14 month-olds with their mothers utilising a SSP-based procedure. Though the sample was younger than the age-range for which the procedure is validated, a distribution of 65% secure, 17% avoidant, 13% resistant, and 4% disorganised was found (once again classifications completed by non-trained/reliability tested judges, though agreement of 90% among 6 independent coders). It was also found that younger infants were less likely to demonstrate secure patterns of attachment.

The largest known Chinese sample to have been assessed in a SSP-based study, also in Guangdong, was composed of 187 14-30 month-old autistic infants (Deng, Zou, Jin, Tang, Li, Cen, & Zou, 2007). Though the classification was not completed by reliability-tested coders, 3 independent coders achieved an inter-judge agreement of 96%, finding less than 8% secure, 23% disorganised, and 67% insecure-avoidant. Insecure attachment was found to be significantly associated with severity of autism, and none of several maternal socio-economic characteristics examined (this sample is omitted from the comparison and collation in Table 2.1).

Ding, Wang, Li, Chi, and Xu (2008) conducted a study during the same period (summer 2007) as Study 1 in this thesis, with an almost identical sample size and overlapping age-range. Sixty-two 12-18-month-olds and their mothers were recruited from 6 different residential districts across Shanghai. As with Hu and Meng's (1996)

study, 68% of infants were found to be securely attached, but in this more recent sample a large proportion of infants were classified as insecure resistant (26%) compared to only 6% insecure-avoidant. None of the infants was judged to demonstrate disorganised behaviour toward mother during the SSP.

Yue, Zhang, Chen, Liang, and Zhang (2010) assessed 172 two-year-olds and their mothers selected from 2 residential districts in Beijing, utilising the same 10-episode procedure as Liang et al. (2000), with 3 strangers each posing increasingly high challenge to sense of security. Agreement of classification between 2 judges is reported as 87%. As with all of the other studies with normal functioning children the majority were found to be securely attached, with a distribution of: 10% A, 72% B, 9.5% C, and 8.5% D.

Across all 8 studies assessing 'normal' children (i.e excluding Deng et al.'s (2007) study with autistic children; total n = 613) 68% were found to be securely attached (see Table 2.1. above); though this collation is imprecise, including 1 study which did not include disorganised classifications, and several which did not apply conventional coding, it is broadly consistent with findings from other countries including the USA and Europe. On average there were no marked differences in distributions of insecure-classification, but several authors noted that infants in their samples tended not to demonstrate typical 'avoidant' behaviour patterns. Gu et al., (1997) and Liang et al., (2000) described these children as 'indifferent', and Trnavsky (1998) described them as 'calm and independent'. Overall there was a marginally greater proportion of insecure-resistant infants, and markedly more among several samples.

It is interesting to note that there are no consistent patterns in distribution characterising northern (Beijing and Shenyang) and southern (Shanghai and Guangdong) samples. As noted in Chapter 2, northerners are generally regarded as more robust and independent, which might lead one to anticipate higher levels of insecure-avoidance, paralleling the striking difference in distributions among northern and southern German samples reported by Grossman et al. (1985). The present study from the north-western city of Xi'an is the first to have been conducted inland, away from the relatively developed and prosperous coastal East, constituting an additional step in examining possible cultural variations across China's vast territory.

2.7. Attachment Research and Findings in Comparable Cultures

While attachment research has only recently and slowly begun to gain momentum within China, two early SSPs with Japanese infants published in English (Durett et al., 1984; Takahashi, 1986) found relatively high levels of insecure-resistant attachment which stimulated ideas of cultural-specificity (e.g. Rothbaum et al., 2000; Gjerde, 2001). There were however a number of procedural complications, including the suggestion that infants had been left alone in distress for too long, which may have elevated the apparent resistant behaviour patterns. Unfortunately very little subsequent empirical work has been conducted and so the issue has largely been one of theoretical conjecture. Behrens, Maine, and Hesse (2007), who suggest that the controversy surrounding the early studies may have deterred further work, recently conducted a study with 41 6-year-olds classifying only 10% of the sample as insecure-resistant, and 22% insecure-avoidant, with the remaining 68% secure. Although this study utilised an age-appropriate reunion assessment, comparability to infant-mother attachment is limited; in addition, there is the possibility of cultural shift (notably Westernisation) between the early and more recent

studies. Nonetheless, as Japan shares China's Confucian heritage, suggestions stemming from this area of research should be considered. Certainly the previous studies conducted in China and reviewed above suggest that there may be a culturally-specific lack of markedly avoidant behaviour among Chinese infants, which may be congruent with the early Japanese studies, and non-Western studies in general. As is shown in Table 2.1., meta-analyses have tended to find avoidant classifications to be approximately twice as prevalent among Western samples.

In addition to the proportions of avoidant and resistant classifications, there has long been debate over what attachment *security* means, how *sensitive parenting* is characterised, and how later socio-emotional *competence* is recognised and appraised across cultures (e.g. Wang et al., 2005; Weisner, 2005; Rothbaum et al., 2000; Harwood et al., 1995). The general contention is summarised by Harwood and colleagues (1995) in the following way: '*...the construct of security versus insecurity has become equated in U.S. psychology with a host of culturally valued qualities that are specific to the socialization goals of our highly individualistic society, thus limiting their cross-cultural meaningfulness*' (p.114).

It has been suggested that behaviours associated with an insecure-resistant classification, such as excessive clinging, proximity seeking, passivity and expressions of helpless dependency, are more favourably appraised and adaptive in a Japanese social context (e.g. Morelli & Rothbaum, 2007). There has been considerable debate over the comparability, and overlap, of the indigenous concept of *amae* – a form of submissive dependence, assumption of indulgence - which was formulated by Takeo Doi, a psychoanalytically informed psychiatrist whose ideas on interdependence in Japanese

culture benefitted from his experiences living and working in the relatively independent culture of America (Doi, 1971, 1992). The concept of *amae* is argued to provide a more nuanced understanding of interpersonal relations in infancy, the tone and dynamics of which are replicated pervasively in most all adult relationships within Japanese culture (Doi, 1971). Whereas paradigmatic secure-base behaviours are characterised by a balance of attachment and exploratory systems, it has been suggested that the model child in the Japanese dyad, resulting from sensitive and responsive (or even predictive, proactive) mothering, balances attachment behaviours with dependent behaviours. In a study to distinguish *amae* and attachment related attitudes, Japanese mothers recognised and favoured secure infants similarly to American mothers, but they associated security less with exploratory behaviours and with fewer positive attributes (Rothbaum, Kakinuma, Nagaoka, & Azuma, 2007). What might be regarded in Western terms as an inappropriately immature phenomenon has been characterised by Mizuta (1996) in the following terms:

Both the Japanese child and the mother actually realise that *amae* behaviour is in a sense “immature”. But they do not see any negative aspect in this “immaturity”, enjoy it, and want to relate to each other at this “immature” level whenever situations permit. For example, we often hear a Japanese mother saying to the *amae*-ing young child, perhaps patting him on the back, “You are *amae*-ing. You know you shouldn’t be behaving like that (at your age), huh?” in a tender, non-criticising voice. Non-verbal message here is something like “It’s OK that you are *amae*-ing to me (behaving like a baby) now. I am enjoying this moment that I feel I am in one with you, too. How I wish we could have this moment forever. But the outer world won’t let us, because you are not a baby any more (How sad)”.} The

behavior “seems to be motivated by the child’s desire to be unconditionally accepted and loved by the mother. (p.147)

Thus, whereas Bowlby posited that a terminating stimulus such as the presence of mother would inhibit attachment behaviours and likely initiate exploratory behaviours, the interdependent model might see the presence of the mother, facilitated through the attachment system, as initiating dependent behaviours nurtured through maternal indulgence. Within the private sphere at least, this might even result in regressive infantilism among older infants who in a public environment display independent behaviours. The degree to which the public and private spheres are distinct from one another has parallel culture-specific implications both theoretically and in terms of suitability of measures (in which the SSP, invariably occurring outside of the ‘private’ environment, might evoke ‘public’ conduct among older East Asian infants). In a comparative study of separation-reunion behaviours among Japanese and US 4-5 year olds, while there was no culture-specific behavioural difference in terms of attachment ‘security’ the Japanese dyads demonstrated significantly more *amae* (Mizuta, 1996). Furthermore, where such behaviour was present in US infants it was positively correlated with maternal report of internalising behaviours possibly indicating a negative appraisal of such gestures of ‘immature dependence’ that was not found with the Japanese dyads.

Support for attachment theory’s hypothesis that secure attachment is the norm numerically and preferred by caregivers is provided by a 6 country study (China, Columbia, Germany, Israel, Japan, Norway, United States) in which mothers and developmental experts provided their individual profile for both own and an ‘ideal’ child through a Q-sort methodology (Posada, Gao, Wu, Posada, Tascon, et al., 1995). In all

countries the overall profiles for ideal child, and the majority of profiles for own child, were highly similar to a securely attached infant who uses mother as a secure-base (as defined by criterion-sort, Waters & Deane, 1985). However, the authors noted considerable within and between cultural variations in the Q-sort profiles suggesting important variations in how infants organise their secure-base behaviours. Only in the case of Japanese mother's ratings of an 'ideal' child was within country variation lower than comparisons to other national sample profiles, suggesting that for other national groups, including China, variations are as likely to be individual as culture-specific.

2.8. The Present Study and Hypotheses

Study 1 is designed to provide a standardised SSP-derived distribution of attachment classifications among a sample of urban Mainland Chinese infants. It is the first to have been conducted by a team of experienced attachment researchers utilising standard procedures and trained reliability-tested coders. This necessary step will allow more confident comparisons to other populations, and also promote further application and integration of attachment theory with Chinese populations. Utilising an eco-cultural framework, this chapter has provided an outline of the background culture from which the present study's sample is drawn. On the basis of the previous SSP studies in various cultural settings reviewed here, it is hypothesised that (a) the majority of infants will be found to be securely attached, (b) the proportion of infants classified as disorganised will be comparable to norms for low-risk samples elsewhere, and (c) relatively more infants will be found to be insecure-resistant than insecure-avoidant. Demographic characteristics will also be examined for association with attachment classifications, and so that the generalisability of findings from this sample may be ascertained.

-Chapter Three

STUDY ONE

Infant-Caregiver Attachment in a Chinese Community Sample

Although study one commenced after and stemmed from study two, it is presented first as it makes sense to initially consider culture-specific findings from use of the Strange Situation Procedure with a low-risk community sample.

3.1. Method

As explained in the Introduction, this study was designed primarily to provide a community comparison group to the institutionalised sample of infants and caregivers in Study 2. A collaboration was initiated with the Psychology Department at the Teacher Training University of the provincial capital. This department was chosen as they had experience working with international groups and had recently hosted a major international conference. The head of the department enthusiastically welcomed the idea and arranged for a professor of developmental psychology (LLJ) to work with us. LLJ enlisted 3 psychology graduate student research assistants, whose training in conducting SSPs was based on that used for previously hired research assistants (outlined in the Methods section of Study 2; section 6.1., p.171).

3.1.2. Sampling and Recruitment

Sampling was governed by the need to provide a suitable comparison group to the institutional sample that is presented in Study 2, with infants matched on age and gender. The lead Chinese researcher on the study (LLJ) utilised an existent contact, the director of an urban kindergarten, who made an initial introduction and request for invitation to participate to a group of families who attended a weekend pre-K programme. A member of kindergarten staff assigned to organise recruitment then used a list of target gender and age infants (calculated to coincide with specific data collection dates) to identify matching infants and requested their participation. As anticipated, given the cultural norm of conformity to requests from figures of authority, all parents agreed to participate, though two dyads were unavailable on assessment date and so did not take part.

3.1.3. Participants

Participants were 61 Han Chinese infants (57% female) aged between 12 and 38 months (average 20.84 months) and their mothers (average age of 30.72 years, range 24-38 years). For purposes of consistency in all but one case infants were accompanied by mother in assessments and details of child and other caregiver(s) interactions were recorded (see Table 3.1). An information and consent form was drafted and translated into Chinese and checked by a professional translator with expertise in the social sciences before being submitted for inspection and approval in accordance with the local University's ethics procedures (original and Chinese versions in Appendix 3.1.)

3.1.4. Measures

Attachment was assessed using the Strange Situation Procedure (Ainsworth et al., 1978), a widely used and well-validated 20-minute sequence of infant-caregiver exposure to a novel room, an unfamiliar adult, play, separations, and re-unions (described in detail in Chapter 1).

A *Caregiver Questionnaire*, implemented in the form of a structured interview (to remove written comprehension differences among participants, particularly relevant for the Institution caregivers in Study 2), collected demographic details about members of the dyad. This included indicators of socio-economic status, household structure, caregiving routines, and childrearing history including whether or not the mother had ‘done the month’, a month-long post-birth regime which typically involves rest (mostly remaining in bed), diet (eating/avoiding specific foods), and being cared for by older generation maternal figures (see Table 3.1).

3.1.5. Procedure

All assessments were conducted on the second floor of a 3-storey kindergarten building in areas previously not visited by participants, over 9 consecutive Sundays, morning and afternoon, when the pre-K groups were running. Each mother-infant dyad was assigned a 1-hour slot for testing at which time a female Chinese research assistant met with and guided them to the testing area. Care was taken to ensure that infants were calm and comfortable in an office adjacent to the testing room. The testing room itself was furnished with chairs for mother and stranger, toys for play, and concealed video camera to record the SSP. During this time the research assistant instructed the caregiver on the SSP and answered any questions before consent forms were signed. The research assistant then introduced the dyad to the unfamiliar room and served as timekeeper,

informing stranger and mother when to enter, and when to leave with gentle knocks on a partitioning window. A second female Chinese research assistant acted as stranger. Questionnaires were administered verbally in brief interview format and answers noted; following the interview these were translated into English by the Chinese interviewing research assistant and myself.

3.1.6. Coding of Strange Situation Procedures

Strange Situation coding and categorisation into 3-way (secure, insecure-resistant, and insecure-avoidant) and 4-way (with the additional disorganised category) was performed according to detailed criteria by a trained coder unaware of the status of the sample. For purposes of confirming inter-reliability 16/62 (25%; note 1 procedure incomplete thus excluded from analyses) of the SSP tapes were coded by a second reliable coder (Professor Howard Steele) with 88% agreement 4-way, and the 2 remaining cases were easily conferenced with the primary reliable rater (a graduate student at The New School).

3.1.7. Data Analysis

Attachment, SSP Data: Contingency tables were generated displaying distributions of attachment classifications, and also to check for associations with other categorical variables. Chi Square tests were conducted to identify any significant associations before binary logistical regression models were generated to identify any predicting variables and interactions.

3.2. Results

Demographic, household structure and caregiving practice variables (associated with culture-specific childrearing characteristics) are first presented, followed by the main results addressing the 3 research questions, followed by tests for association between attachment classification and demographic variables. Finally logistical regression models including several key predictor variables and interactions are presented.

3.2.2. Child, Mother-Child Closeness, Mother, and Household Characteristics

As anticipated, while 71.2% of mothers indicated that their child was closest to them, because most families operated a multiple caregiver system (only 35.6% of children were reported to spend most time with mother) it was often unclear who – if anyone - would be deemed ‘primary’ caregiver. As noted above, for purposes of consistency, all infants were assessed with mother. Half of all infants (49.2%, $n = 29$) lived with parents in 2-generational households, with the rest living in 3-generation households. Thirty-two percent of infants ($n = 19$) lived with 4 adults, 17% ($n = 10$) lived with 3 adults, and 1 infant lived with 6 adults. Number of adults in household is not a definite indicator of caregiver-to-infant ratio as in 43% ($n = 13$) of 2-generation households a grandparent was identified as spending most time with infant (compared to 86%, $n = 25$, in 3-generation households). Overall, 64% ($n = 38$) of infants were reported to *spend most time* with someone other than mother, and 29% ($n = 17$) of infants were reported to be *closer* to someone other than mother (usually grandmother in both cases). Only 14% ($n = 8$) of infants had experienced *time in day-care*. Mothers in this middle-class urban sample

were all married, and most (85%) were university graduates. 95% of infants ($n = 56$) were *only children*, and 13.5% ($n = 8$) had neither cousins nor siblings.

Table 3.1.

Characteristics of Community Sample (N = 61)

Characteristic	%	(n)
<i>Child</i>		
Female	57.4	(35)
Experience of Day Care	13.6	(8)
History of Serious Medical Problem	16.9	(10)
Pregnancy/Birth Complications	18.6	(11)
Mother 'did the month'	100	(61)
<i>Mother-child closeness</i>		
Most time with Mother	35.6	(21)
Closest to Mother	71.2	(42)
<i>Household</i>		
Siblings	5.1	(3)
3-Generations	49.2	(29)
<i>Mother</i>		
Married	100	(61)
University Educated	85.0	(51)
Homeowner	81.4	(48)
Employed outside home	71.7	(43)

3.2.3. Attachment Classifications

Tripartite classification of the 61 infants found the following distribution: 62.2% secure, 14.8% insecure-avoidant, and 23% insecure-resistant. These figures are presented in Table 3.2, and graphically in Figure 3.1, with a comparison to the norms utilised by van IJzendoorn and Sagi-Schwartz (2008) in their examination of distributions across cultures. Insecure-avoidant classifications are relatively less prevalent, and insecure-resistant classifications are relatively more prevalent, than in either US or European norms as predicted.

Table 3.2.

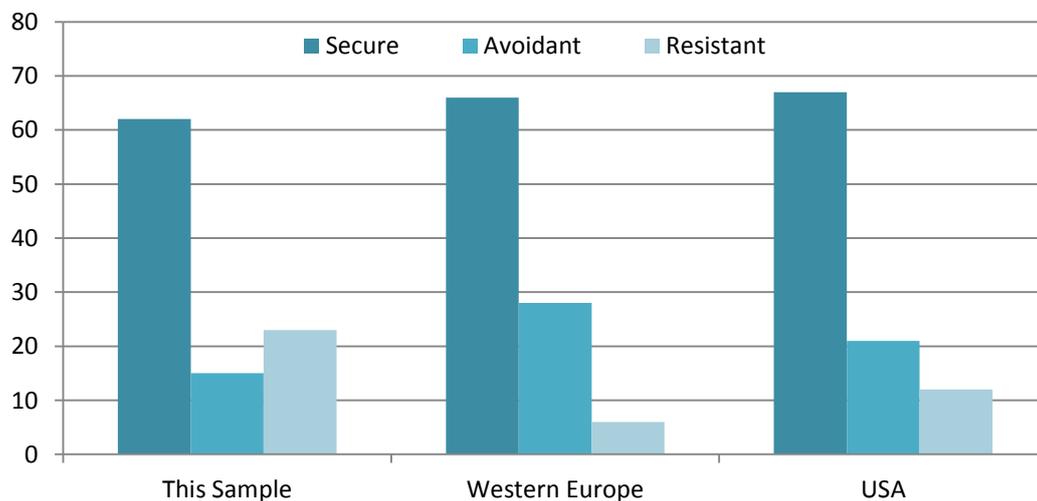
Distribution of Attachment Classifications (% 3-way) with comparison to Norms.

Grouping	n	B	A	C
This Sample	61	62.2	14.8	23.0
<i>Norms</i>				
Western Europe	510	66	28	6
USA	1,584	67	21	12

Note: Western Europe and USA norms are taken from van IJzendoorn & Sagi-Schwartz, 2008.

Figure 3.1.

Graph of Table 3.2.



With the inclusion of disorganised attachment this same pattern of insecure classifications was maintained (57.4% secure, 13.1% insecure-avoidant, 16.4% insecure-resistant), with prevalence of disorganisation (13.1%) comparable to established norms. Distributions for this sample are compared to those from van IJzendoorn et al.'s (1999) meta-analysis, which includes figures for Western and Non-Western Norms, displayed in Table 3.3. and Figure 3.2

Table 3.3.

Distribution of Attachment Classifications (% 4-way) with comparison to van IJzendoorn et al.'s (1999) meta-analysis with Western and Non-Western Norms.

Sample	n	B	A	C	ABC	D
This Sample	61	57.4	13.1	16.4	86.9	13.1
<i>Norms</i>						
Non-Western	198	53	8	18	79	21
Western	920	51	20	10	81	19

Figure 3.2.

Graph of Table 3.3.

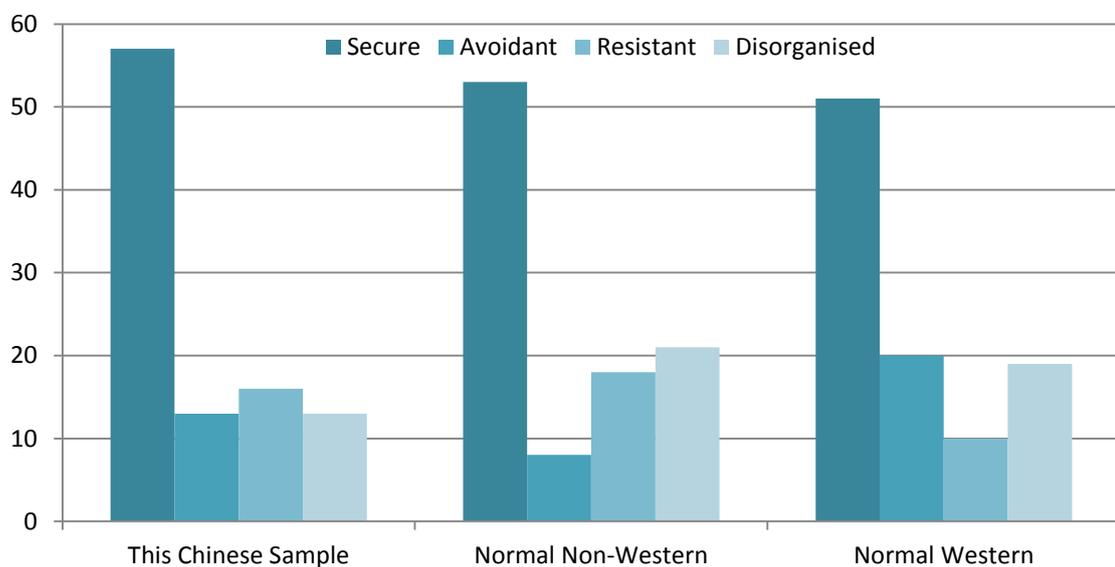


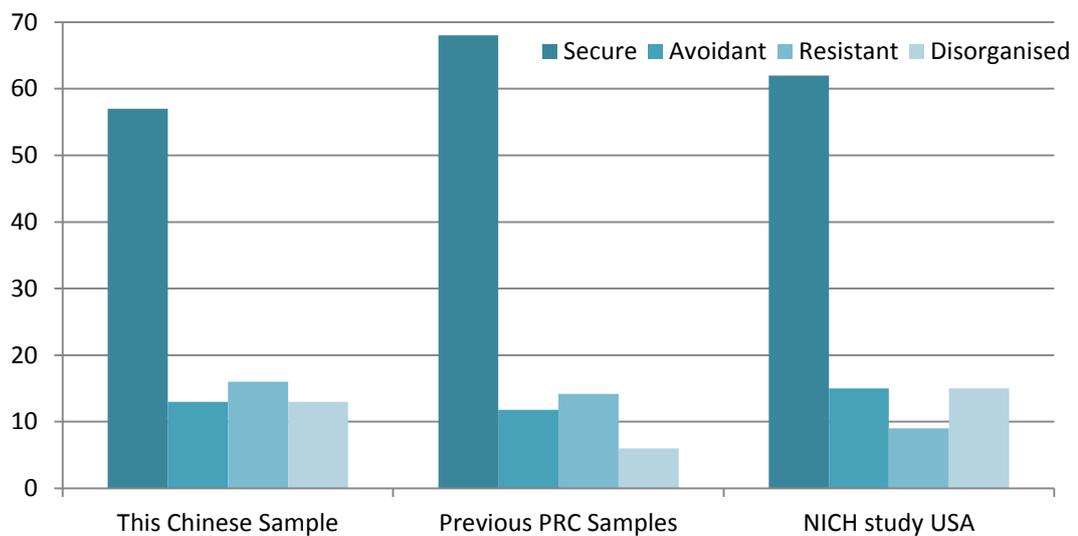
Table 3.4.

Distribution of Attachment Classifications (% 4-way) and Comparison to US NICHD study and collation of previous Chinese SSP-based study distributions.

Sample	n	B	A	C	ABC	D
This Sample	61	57	13.1	16	86.9	13.1
Prev. Chinese	613	68	11.8	14.2	94.0	6.0
US Norms	2104	62	15	9	85	15

Figure 3.3.

Graph of Table 3.4.



A second comparison is made to the more recent and larger NICHD US sample and the collated distributions from previous Chinese SSP studies presented in Chapter 2 and Table 2.1. By contrast to the markedly low proportion of infants identified as disorganised in previous studies with Chinese samples (average of 6%), prevalence in the present study (13.1%) is very close to that from the established US norm of 15% (see Table 3.4 and Figure 3.3 above).

The primary classifications of the 8 children found to be disorganised were examined, finding that only 1 of these (1.6% of sample) was ‘forced’ avoidant, 3 (4.9%) secure, and 4 (6.6%) resistant. As noted in Chapter 1, there is some suggestion that disorganised classifications with a forced classification of avoidant are associated with greatest disturbance and most commonly found in high-risk samples.

As noted in the introductory chapter, particularly since the addition of the disorganised classification, there are variations in which classifications are reported. Clearly the ‘forcing’ of an otherwise D categorised attachment into A, B, or C necessitates diminished consideration of between case differences. At the same time, it has been suggested that the highest risk is associated with insecure-D classifications. Accordingly, having made comparisons to norms including 3-way distributions, presentation of further analyses focus on 4-way (and binary disorganised/organised) and secure-insecure (derived from 3-way) classifications. It should be stressed that results reported for binary secure-insecure comparisons are based on the 3-way classification, therefore the proportion of secure (B) classifications in tables displaying 4-way distributions will differ to reports of security when considered as a binary variable.

3.2.4. Associations between Attachment Classifications and Demographic Variables

Child Age

As this sample is composed of children with an unusually wide age-range for standard SSP assessments, associations with age were tested for, and none found to be significant. As the SSP is most well validated for the 12-18 month age range, and to allow better comparability to previous findings, distributions were calculated for this group and the

19-38 month range separately. In 4-way distribution, among infants in the younger (12-18 month) age range there were fewer avoidant (10.3%) and secure (51.7%), and more resistant (20.7%) and disorganised (17.2%) classifications than among the older age range (which included 68.8% B, 15.6% A, 12.5% C, and 9.4% D; see Table 3.5. below).

Differences in 4-way and dichotomous (organised-disorganised) classifications between the two age-range groups were found to be statistically non-significant (χ^2 (3, N = 61) = 1.97, $p = 0.58$, Cramér's $V = 0.18$; χ^2 (1, N = 61) = 0.83, $p = 0.36$, Cramér's $V = 0.12$) and so tests of association with other variables utilise the sample as a whole.

Table 3.5.

Distribution of Attachment Classifications (% 4-way) for 12-18 month old age-range

Age Range	n	B	A	C	D	χ^2 4-way	χ^2 org/dis
12-18 months	29	51.7	10.3	20.7	17.2		
19-40 months	32	62.5	15.6	12.5	9.4	1.97	0.83

Child Gender

Though not a statistically significant association, more females than males were classified as disorganised (17.1% compared to 7.7% (χ^2 (1, N = 61) = 1.17, $p = 0.25$, Cramér's $V = -0.14$). Closer inspection found that markedly fewer females were classified as insecure-resistant (8.6%) than males (26.9%), though a 4-way χ^2 test did not detect a significant association overall (χ^2 (3, N = 61) = 4.69, $p = 0.19$, Cramér's $V = 0.28$). These results are summarised in Table 3.6.

Table 3.6.

Distribution of Attachment Classifications (% 4-way) for gender

Gender	n	B	A	C	D	χ^2 4-way	χ^2 org/dis
Male	26	50.0	15.4	26.9	7.7		
Female	35	62.9	11.4	8.6	17.1	4.69	1.17

An additional 2-way chi-square test found a near-significant association with a small effect size between attachment security (based on 3-way classification) and gender, with half of boys and just 28.6% of girls classified as insecurely attached to mother (χ^2 (1, N = 61) = 2.92, $p = 0.09$, Cramér's $V = 0.22$).

3.2.5. Childrearing Characteristics

As shown in Tables 3.7. and 3.8, chi-square tests revealed no significant associations between attachment classification and *child characteristics* (above/below 18 months of age, gender, pregnancy/birth problems, history of serious illness, experience of day care), *child-mother closeness* (closest to mother, most time with mother), *mother characteristics* (age, university graduate, home owner, employed outside of home), and *household* (siblings/cousins, 3-generation household).

Table 3.7.

Tests for Association between Child and Mother-Child Characteristics and Secure and Disorganised Attachment.

		n	% Secure	χ^2	% Organised	χ^2
<i>Child</i>						
Experience	Yes	8	75.0		75.0	
of Day-care	No	51	60.8	0.59	88.2	1.03
History of	Yes	10	60.0		90.0	
Serious Medical	No	50	62.0	0.14	86.0	0.12
Problem						
Pregnancy/Birth	Yes	11	63.6		72.7	
Complications	No	48	62.5	0.05	27.3	2.17
<i>Mother-child</i>						
closeness						
Closest to	Mother	42	61.9		88.1	
	Not-mother	17	64.7	0.04	82.4	0.34
Most time with	Mother	21	57.1		85.7	
	Not-mother	38	65.8	0.43	86.8	0.02

Table 3.8.

Tests for Association between Mother and Household Characteristics and Secure and Disorganised Attachment.

		n	% Secure	χ^2	% Organised	χ^2
<i>Mother</i>						
Mother Age (years)	<31	30	60.0		83.3	
	=>31	31	64.5	0.13	90.3	0.65
University Graduate	Yes	51	60.8		86.3	
	No	9	66.7	0.11	88.9	0.05
Homeowner	Yes	48	62.5		85.4	
	No	10	70.0	0.20	90.0	0.15
Employed outside home	Yes	43	67.4		83.7	
	No	17	47.1	2.12	94.1	1.15
<i>Household</i>						
Cousins/ Siblings	Yes	51	62.7		88.2	
	No	8	62.7	0.01	75.0	1.03
Generations in Household	3	28	64.3		82.1	
	2	30	63.3	0.01	90.0	0.66

A logistical regression was conducted to identify success in predicting attachment security among 4 independent variables; these were selected as they demonstrated association with attachment security in chi-square tests (gender), have been identified as having potential impact on methodology (age above rather than below 18 months), or were direct indications of infant-mother closeness (closest to mother or not-mother, most time with mother or not-mother). Given the small proportion of disorganised

classifications, and the complete lack of associations found with chi-square tests, such a regression analysis was not suitable for prediction of infant-caregiver attachment organisation. As gender was the only variable found to have an association approaching significance through chi-square tests, each of the other 3 variables were also included with gender as interactions. The results are summarised in Table 3.9. below.

Table 3.9.

Logistic Regression on whether a Child is Classified as Securely Attached to Mother (n = 61)

Predictor variable/ <i>interaction</i>	<i>B</i>	<i>SE B</i>	<i>(β)</i>
Gender	-1.03	1.16	.36
Age (above/below 18 months)	-0.71	0.90	.49
Most time with mother	1.83	1.18	1.88
Closest to mother	-1.97	1.24	.66
<i>Gender × Age</i>	0.59	1.23	1.81
<i>Gender × Most time with mother</i>	-2.14	1.52	.12
<i>Gender × Closest to mother</i>	2.96	1.65	19.28*

**p* = 0.07

Model $\chi^2 = 8.89$, *p* = .26

69.5% of cases correctly predicted (62.7% intercept-only)

The regression model with secure attachment as the outcome demonstrated a small and non-significant improvement on the intercept-only (null) model, predicting 69.5% of cases successfully, compared to 62.7% ($\chi^2 = 8.89$, *df* = 7, *p* = .26). The only term in the regression model which approaches significance is the *Gender × Closest to Mother* interaction ($\beta = 19.279$, *p* = 0.07). Interestingly, this regression model suggests that the previously noted near-significant association between gender and security of attachment

alone is not a useful predictor of classification success, rather an interaction between gender and maternal report of closeness to her child is. Specifically, as girls, closest to mother, and secure attachment were all coded as ‘1’ in this model we can infer that girls to whom mother reports being closest are more likely to be securely attached. For illustrative purposes a cross-tabulation including detailing distributions in relation to this interaction is provided in Table 3.10.

Table 3.10.

Percentage of Secure Classifications (derived from 3-way classifications) per Gender × Closest to Mother Grouping.

Gender	Closest to	n	% Secure	χ^2	p
Female	Mother	22	77.3		
Female	Not-Mother	11	63.6		
Male	Mother	20	45.0		
Male	Not-Mother	6	66.7	4.72	0.19

Of the four groupings for *Gender × Closest to* it is among the *female & closest to mother* group (n = 22) that secure attachments are most prevalent (77.3%), whilst it is among the *male & closest to mother* group (n = 20) that they are lowest (45%). When mother indicated that someone else was closest to her child, there was no notable difference in proportion of secure attachments (63.6% of 11 girls, compared to 66.7% of 6 boys).

3.3. Discussion

The distributions of attachment classifications found among this Chinese sample are consistent with the hypotheses, namely: the majority of infants were found to be securely attached, insecure-resistant attachments are relatively more prevalent than insecure-avoidant attachments, and prevalence of disorganised attachment classifications is within established normal low-risk ranges. This discussion will consider the composition of the sample, various other findings, implications, and indications for future research.

Firstly, I would like to examine the characteristics of the sample based on the data gathered through brief interviews. We can see that this sample is both representative of the broad-brushstroke outline of ‘Chinese Culture’ from the introductory chapter, and also representative of a specific and expanding urban middle-class sub-population. To what extent does this sample fit within the generalised depiction of ‘Chinese Culture’ outlined using Dasen’s (2003) ‘Integrated Framework of Human Development’? As all mothers were Han Chinese it can be assumed with relative confidence that major Macrosystem influences (such as Confucian values, central government policies) are relatively homogenous. All mothers are married, a clear indication of conformity to traditional values. All of these mothers reported that they had completed the traditional post-partum rituals (‘doing the month’), typically involving dietary restrictions, bed rest, and remaining indoors. In line with family planning policy 95% of the infants are only-children.

What specific characteristics of this sample should be considered in assessing generalisability to other ‘Chinese Culture’ samples? As is the case with all previously

reported SSP-based studies with Chinese dyads (reviewed in Chapter 2 and outlined in Table 2.1.), this sample is distinguished from the majority of the Chinese population along several lines, not least of which are urban residence (including 80% homeowners), and high educational attainment (85% of mothers graduated from university). The present sample, the first composed of families in China's northwest, does not suggest a variation in attachment between coastal and inland regions. Maternal age range (24-38 years, mean = 31), with 20% over 33 years, is consistent with increasingly delayed motherhood in urban areas among professional women (Zuo, 2010). We would expect mothers in a rural sample to be several years younger. It is also possible that this relative maturity is linked to the sample's being drawn from a pre-K group, with older mothers more inclined to engage their children in such activities. While this set of characteristics, recognisable as an urban middle-class lifestyle and trajectory, limits the generalisability to other Chinese samples it does not diminish the value of the study. As has been noted in Chapter 2, this demographic set is expanding rapidly and thus merits attention. At the same time, it is also worth considering the extent to which this sample shares a 'culture' with urban middle-class families across diverse developed nations in, for example, the US and Europe. This commonality is facilitated through both a similar physical lifestyle, and the dissemination of cultural values through diverse media channels. In addition, this educated and aspiring class is also more likely to successfully seek outside influences (through for example childrearing guidebooks, the internet), and have direct exposure to foreigners through work, travel, and social circles. Accordingly, it could be argued that global factors should be added to the eco-cultural framework which would act in specific ways on different groups across China's highly unequal socio-economic strata.

The household structure and caregiving practices of this sample are indicative of a transition from physical interdependence to relative independence, with half (49%) living in 3-generation households, and 64% of infants spending most time with someone other than mother. By comparison, approximately 10 years earlier Hu and Meng (1996) reported that all participants in their urban (Beijing) sample lived in 3-generation households. In addition only 14% of the present sample had any experience of daycare, 72% of mothers are employed outside of the home, and almost 30% of mothers indicated that her child was closest to someone other than herself. Taken as a whole, this set of data suggest that while the multiple-caregiver network continues as the norm, increasing prosperity and urban lifestyles have ushered in alternative household structures with grandparents remaining highly involved, no doubt often serving as primary caregiver, but living in a separate residence.

The prevalence of secure attachments (57% 4-way, 62 % 3-way) is somewhat lower than the average (68%) found among the previous mainland Chinese SSP-based studies reviewed in Chapter 2. As detailed there, the majority of studies across nations have demonstrated greater *intracultural* than *intercultural* variation in distributions (van IJzendoorn & Sagi-Schwartz, 2008), and so we would expect such between samples differences. It is also quite possible that non-standard coding procedures conducted by untrained researchers may have contributed to this difference. In relation, disorganised attachment had a prevalence of just 6% on average across the 7 previous studies which accounted for it, and was judged to be entirely absent in 2 studies (Trnavsky, 1998; Deng et al., 2008). Given the subtlety of many indices of disorganisation it is certainly possible that this was underscored which may have contributed to elevated secure attachment classifications.

Such differences are of particular interest if a direct comparison is made between the 12-18 month sub-sample of the present study and that by Ding et al. (2008) which, assessing 62 12-18-month-olds, was conducted at the same time (summer 2007) but in the southern coastal city of Shanghai. While there is concordance to the extent that both classified a relatively larger proportion of infants as insecure-resistant than insecure-avoidant, 17.2% of the present sample were judged to demonstrate disorganised attachment toward mother, whereas none of the Shanghai sample were so classified. It is interesting to note that the distribution among the 12-18-month-old group in the present sample is remarkably close to that for non-Western samples presented in van IJzendoorn et al.'s (1999) meta-analysis, with around half of infants classified as securely attached, 20% disorganised, and relatively few demonstrating avoidant patterns of behaviour (outlined in Table 2.1., p.49).

As noted in Chapter 1, an extremely high proportion of insecure-avoidant classifications were found among a north German sample; this, and the contrasting high proportions of insecure-resistance among Japanese infants, has been subject to much speculation and debate. Rather than consider both aligned polarities of independence-avoidance contrasted to interdependence-resistance, I will first focus on the prevalence of insecure-avoidant behavioural patterns. There are 3 main reasons for this: 1. As reviewed in Chapter 2, a number of researchers have noted the absence of pronounced avoidant behaviours among Chinese samples, 2. Several of the non-attachment studies reviewed in the introduction suggest that Chinese mothers both encourage closeness *and* independence, but that these are both context and age dependent, and 3. Insecure-avoidance has been shown to be more robustly associated with problematic outcomes in

later childhood. Thus, I suggest that a valuable line of inquiry would consist of examining culture-specific modes of independence training, with the aim of determining how these are related to affective infant-caregiver bonding and separation. Given that infants demonstrating an insecure-avoidant strategy in the SSP are peculiar among the classifications in behaving differently in the home environment (specifically being less inhibited in proximity seeking), it would seem essential that naturalistic observations are conducted with Chinese samples.

It is imperative to bear in mind the challenge of creating an age-appropriate ‘press’ for toddlers and pre-schoolers which has equivalence to the experience of the SSP separations on 12-18 month olds (Rutter, 2008). The procedure developed by Liang et al. (2000), and also utilised by Yue et al. (2010), may be worth consideration for a longitudinal study. In addition, the coding system used for classifications is specifically developed for infants and younger toddlers, making application to those above 18 months of age problematic. Accordingly, and without such an adjustment, attachment classifications based on behavioural patterns among children older than 18-months in the SSP – including those in the present study – must be interpreted with caution. The difference in prevalence of insecure-resistant attachments among those in the 12-18 month age-range compared to those in the 19-38 month age-range in the present study, whilst not statistically significant, certainly warrants further attention. A longitudinal design might be employed to elucidate possible age-appropriate shifts in behaviour. However, as noted in Chapter 1, there are several methodological complications in setting out to determine the possible complex influences of infant’s individual maturation, the mutually dynamic adjustments in caregiver behaviour (e.g. support, expectations), and attachment behavioural responses to distress in the SSP. Not

least among these is the problem of conducting longitudinal studies to track possible culture-specific unfolding of age-appropriate attachment behaviours given that test–retest stability of SSP classifications has been found to be low or inconsistent. Further investigation of this possible age-related difference, which may be related to the shift to ‘training’ and reduced indulgence as infants are judged able to ‘understand things’, would do well to combine laboratory and naturalistic observations.

Gender, as the only variable demonstrating even a near significant association with attachment classification, is arguably the most interesting category within the present study. This picture becomes more interesting and curious when the result of the logistic regression is considered: gender alone does not seem to contribute to improved predictive success, rather gender in interaction with mother’s indication of who is closest to her child. How might we interpret the indication that, while girls to whom mothers indicate they themselves are closest demonstrate a secure pattern of attachment, boys who are identified as also being closest to mother are least likely to demonstrate a secure pattern of attachment behaviour? Moreover, it was found that a disproportionately large proportion of boys were found to demonstrate insecure-resistant patterns of behaviour. In their discussion of the lack of gender-specific differences among their sample, Hu and Meng (1996) suggested that this relative equivalence may reflect a diminished preferential treatment of boys, which may be attributed to the One Child Policy’s insistence that a considerable proportion of families have no sons. This inference is limited by the lack of an available comparison group. However, it might be reasonable to suggest that the emerging *Gender × Closeness to Mother* difference in quality of attachment is indicative of differential treatment of boys and girls. Assuming the parenting qualities associated with secure attachment, both highly valued within Western

cultures, a superficial inference would be that girls receive more sensitive and responsive caregiving than boys. A more critical interpretation might suggest that the tendency toward fostering dependency and maternal indulgence (concentrated into the conceptualisation of *amae* described in the previous chapter), a parenting style highly endorsed in Japan and arguably in traditional as well as contemporary Chinese cultures, is more widely activated among mother-son dyads. This suggestion requires further examination with assessments of attachments between infants and multiple caregivers as further elaborated below.

Though not statistically significant, it is noteworthy that among our sample insecure-resistant attachments were markedly more prevalent among boys than girls. Moreover, this gender distinction is more pronounced within the 12-18 month age-range infants, among whom we would predict generally higher levels of indulgent caregiving. A full 43% of the 13 boys in this age-range were classified as insecure-resistant, compared to 19% of 16 girls. The small sample size means that the inference of possible gender-specific variations in caregiving of boys and girls is necessarily tentative, but this intriguing finding invites further investigation. This gender difference may also be contrasted to previous explanations of high proportions of insecure-resistant classifications among Japanese samples which suggested that the SSP is more than mildly distressing to infants of such interdependent cultures (e.g. Takahashi et al., 1986), particularly with younger infants, and point instead to the possibility that the SSP accurately evokes a greater tendency toward behavioural patterns identified with a resistant attachment.

In relation, it is worth noting that it is unlikely that the experience of exposure to the unfamiliar room presents more than mild distress to infants in the current sample. Perhaps unlike in Japanese contexts, or traditional Chinese contexts, the parents of these children are clearly pro-active in exposing their offspring – who are mostly without siblings – to varied social and physical environments. Their participation in the pre-K group from which the sample was drawn is a clear indication of this.

For a society undergoing rapid change, including restructuring of caregiving practices and households, the findings of no significant association between attachment security and related caregiving variables are of particular interest. While being distinctly urban middle-class, as noted above, this sample includes a range of household and family structures. That neither 3-generation/2-generation household, nor infant spending more time with or being closest to someone other than mother, is associated with infant-mother attachment is important given concerns over rapid social change in China.

The assumption of the nuclear family as normative, or preferable, is made explicit in Lavers and Sonuga-Barke's (1997) paper on grandparent involvement in childrearing, where it is acknowledged that multi-generation childrearing has only recently been attended to in mainstream Western research. While it has been suggested that just a few decades ago researchers failed to move beyond a narrow view of grandparents as playing a peripheral and homogeneous role, perhaps as a result of increasing longevity and research with diverse ethnic groups, there is now considerable appreciation of widespread and critical involvement in childrearing (Soliz, Lin, Anderson, & Harwood, 2005). A recent attachment study across 3-generations in Finland has identified both continuity (A and B classifications consistent across 3 generations in approximately 40% of families)

and reversal (C to A and back to C, and vice-versa: A-C-A, across approximately 20% of families) as patterns of attachment among 3 year-old-children, their primiparous mothers, and grandmothers (Hautamäki, Hautamäki, Neuvonen, & Maliniemi-Piispanen, 2010). An assessment of attachments to multiple caregivers within the multi-generation family structure in China, and implications of changes related to economic prosperity and urban dwelling, would surely provide richer and culturally valid insight.

Whilst the expanding middle-class and related changes to traditional caregiving practices provide a valuable focus, at present the majority of the population are either rural peasants or floating migrant workers. As noted in Chapter 2, Zheng and Shi (2004) found that, whilst urban Chinese mothers showed 'Value of Children' profiles similar to western urban mothers, those from rural and floating populations were markedly different with the more traditional economic valuation of interdependent necessity. On the basis of this we might anticipate an even more pronounced emphasis on interdependency in socialisation with implications for attachment behaviours. Before conclusions concerning the applicability of attachment theory concepts and methodologies can be drawn with regard to Mainland Chinese infants, it is necessary to extend research to cover diverse and majority populations. Specific questions for rural infants would centre on the impact of more traditional rearing-practices, such as the tendency toward proximal over distal parenting identified by Keller et al. (2009). Additional considerations for infants of migrant worker parents might include the impact of 1. extremely limited contact with parents, perhaps annual visits of days or weeks, 2. being raised almost exclusively by grandparents, and 3. having on average at least one sibling. In relation, among rural populations where couples usually have more than one child, it will be possible to detect gender related differences in attachment quality which may stem from preferential

treatment of sons. As has been previously suggested, investigations of infant development across cultures require a specific focus on parenting, particularly in those where rapid changes are likely to result in as great within as between cultural differences (Stevenson-Hinde, 1998).

In conclusion, the findings of this study constitute an important contribution to the foundation of attachment research in China. This is the first SSP study of Mainland Chinese infants to utilise trained and independent coders. However, it is clear that this single sample represents only one specific Chinese ‘culture’ and, in many ways, it may be more aligned to other middle-class groups in other nations. As has been made clear, culture is an emergent property that transcends national boundaries and, in an increasingly globalised world may be as much delineated by factors such as education, urban residence, and the ubiquitous element of material security, as it is by more abstract components of a shared heritage. The following are suggested as possible directions for future research:

1. Larger samples SSP studies of infants in validated age-range (12-18-months)
2. Parallel coding of caregiver sensitivity and responsiveness
3. Longitudinal study to detect possible age-related shifts in infant and caregiver behaviour
4. Assessment of attachments to multiple caregivers
5. Samples from rural and ‘floating’ (migrant worker) communities which together constitute the majority of the population. The floating populations largely come from rural areas, and their children are typically left in the care of grandparents. Among both of these groups it is likely that more traditional childrearing practices are continued

6. Inclusion of more open-ended methods, such as gathering and integrating parental ‘ethnotheories’, and naturalistic observation studies directly related to attachment behaviours

And, in relation to all of these, an effort to pursue:

7. Collaborative research, preferably led by local researchers (following principles of indigenous psychology, Hwang, 2004), with publications in English and Chinese to facilitate more ‘emic’ exploitation of attachment theory’s indisputable strengths in Chinese contexts.

This study has provided a necessary foundation upon which such subsequent efforts may find a firm footing. For the purposes of the present work, it provides both a degree of cultural insight and a critical point of reference for the second part of the thesis, the investigation of attachment formation among infants in Chinese Child Welfare Institutions.

-Chapter Four

Infant Abandonment and Alternative Rearing

4.0. Introduction

It is estimated that there are presently more than 700, 000 orphaned or abandoned children under the age of 18 in China, a figure which has increased markedly since the 2005 estimate of around 500, 000 (Ministry of Civil Affairs, PRC, 2010¹⁶). It has been estimated that approximately 10% of these, most with health problems ranging from aesthetic disfigurement to life-threatening, are cared for in one of over 100 Child Welfare Institutions (CWIs), or child divisions of over 400 Social Welfare Institutions (SWIs), funded and managed by the Ministry of Civil Affairs (Jing & Hu, 2007). A large proportion of children are also cared for in independent charitably-run homes and units (Wang, 2010). However, the vast majority of infants are adopted informally and remain within the mainstream, though unregistered and thus without official status (Johnson, Huang, & Wang, 1998; Zhang, 2006). Accurate statistics on infant abandonment in China are notoriously difficult to obtain, partially as a result of careful control of sensitive information and partially as concealed childbirth and unofficial adoptions are a not

¹⁶ These figures, with the more precise current estimate of 712, 000, were widely cited in the Chinese press following their report by the Ministry of Civil Affairs. Professor Xiaoyuan Shang of Beijing Normal University, who has contributed to several related surveys (e.g. Shang et al., 2001), has confirmed this administrative figure through personal correspondence.

uncommon result of strict family planning laws (Johnson 1996; Johnson, Huang, & Wang, 1998). Before considering the situation of abandoned and institutionalized infants in China, this chapter provides a context within which the practices of infant abandonment and the provision of care for abandoned infants, as well as the psychological correlates of involved parties, might be better understood. Examples of abandonment and non-maternal childrearing are given to illustrate commonality and variation within and between cultural groups across historical and geographical space.

4.1. Infant Abandonment as Adaptive – an Evolutionary Perspective

It is generally agreed that within primitive social groupings through the Mesolithic (Middle Stone Age) period, offspring who threatened to over-extend scarce resources routinely perished through deliberate exposure (Birdsell, 1968). The advent of agriculture (with the Neolithic Revolution, approximately 10, 000 BC) marked a massive shift in man's control over the environment, his capacity to survive unpredictable food shortages, and so his ability to invest in childrearing (Childe, 1958). With increasing social complexity successive civilisations developed prohibitions against infanticide, though these are likely to have remained luxuries of wealth with considerable cultural variation in the degree to which the rearing of all newborns was considered a moral duty rather than a resource governed option (Boswell, 1988).

In an evolutionary analysis Hrdy (1992) identifies 7 separate forms of '*retrenchment*' – the reduction/withdrawal of maternal investment – in which abandonment and infanticide are characterised as resulting from '*a highly facultative maternal response system that varies in line with life-history stage and socio-environmental conditions.*' (p.428). Hrdy suggests that in both modern industrialised and

traditional primitive societies the same pressures are likely to apply to mothers, and that infanticide is highest among women at the beginning of their reproductive careers. From this perspective, preservation of the overall reproductive potential of the mother is judged of greater value than that of an individual, resource draining, infant. Similarly in other contexts it is lower parity women who are more likely to send infants into alternative care, which is interpreted as leaving reproductive options open.

Comparative study of infant abandonment – termed ‘*maternal divestment*’ - in other primate species provides a partial evolutionary framework for similar phenomena in humans. Schino and Troisi (2005) studied infant abandonment over a 20 year period among a group of captive macaques, finding an overall abandonment rate of 7%. Logistic regression analysis indicated that primiparous birth carried by far the highest risk of abandonment, with about 40% of firstborns being abandoned. Interestingly this was not related to age. Low rank was only marginally associated with elevated risk of abandonment. The investigators also stressed that previous experience of caregiving, holding an infant for example, served as a protective function against subsequent abandoning of infants. Importantly, sustained contact over the first few hours of the infant’s life reduced risk of abandonment to almost zero, possibly suggesting a critical phase of bonding. This last finding is consistent with the findings from a human intervention study in which early contact, suckling, and rooming-in between birth and hospital discharge were associated with significant reductions in abandonment (Lvoff, Lvoff, & Klaus, 2000).

Risk of rejection is also tied to infant ill-health and physical deformity. For example, in her study of Israeli families, Weiss (2007) reported that 68.4% of the infants

with an external defect (including aesthetic deformities, such as cleft lip), but who were otherwise healthy, were abandoned at hospital following birth. The author notes that rejection of infants was more strongly associated with visibility of the deformity than severity of the disease (indeed only 7% of infants suffering internal defects were rejected), that infants with deformity corrected were subsequently accepted irrespective of the severity of the disease, and that deformed infants who are taken into the family remain at risk of other forms of rejection. These patterns suggest a powerful innate aversion to nurturing deformed infants, which may well have served an adaptive function in the EEA. The extent to which such an aversion is mediated by other cultural and social currents is likely to influence risk of abandonment. Various trends in China, where there are for example an estimated 430, 000 new cases of cleft palate alone each year (Tollefson, Wong, Sykes, & Larrabee, 2006), are likely to conspire toward high levels of infant abandonment.

4.2. Abandonment and Affluence

The very concept of ‘childhood’ in a contemporary western context is inextricably tied to shifts in lifestyle – an integral element of ‘culture’ – which is in turn linked to the need to work to enhance survival probability (Jenks, 1996). Edward Shorter (1975) argues that *‘Good mothering is an invention of modernization. In traditional society, mothers viewed the development and happiness of infants younger than two with indifference.’* (p.3). Similarly, and by extension, anthropologists point out that an ethnocentric perspective on ‘child abandonment’ fails to recognize the diverse realities of other cultures (Panter-Brick, 2000). In an effort to situate the present study on abandoned infants in cultural context, and highlight common underlying factors contributing to trends in prevalence of

abandonment, I will first provide an overview of infant abandonment in Europe and then compare this to the historical and contemporary situation in China.

Within affluent industrialized democratic societies the separation of infants from their biological mother is more likely to result from the intervention of child protection services than the mother's explicit rejection (Mulheir & Browne, 2007¹⁷). By contrast, in China, according to Huang (2001): '*It is almost unimaginable that the child will be removed from birth family due to child abuse and neglect by his or her birthparent(s)*' (p.529). In the UK for example, there were between 22 and 65 (average of 47) abandonments recorded per year between 1986 and 1996. Perhaps partially because of its rarity, infant abandonment evokes strong reactions from the wider public, and is generally associated with moral corruption, deviance, economic or social marginalization and/or psychological dysfunction (e.g. Cesario, 2003). Researchers have sympathetically characterized contemporary abandoning mothers as '*themselves abandoned, by the father in the first instance, and by society subsequently*' (Sherr & Hackman, 2002, p.7). In this regard, whereby the act of abandonment is recognised as a systemic issue and not one occurring within the compartmentalised realm of an individual or dyad, there is an understanding of the fundamental commonality with the contexts of poverty, war, or extreme disease associated with developing nations.

The past decade has seen an increasing focus on infant abandonment across Europe and the USA, with many new practices to ensure survival of abandoned infants, and protect the abandoning mothers from legal penalties or other consequences which might lead to high-risk anonymous abandonment (Bradley, 2003; Mueller & Sherr, 2009).

¹⁷ In their report covering over 30 European countries, Mulheir & Browne note that while 69% of those in care in Western Europe have been removed from parents due to abuse/neglect, this is the case for just 32% of cases in Eastern Europe.

As of 2009 forty-seven US States had enacted 'Safe Haven' laws providing mothers with specific locations to deposit infants anonymously and without threat of persecution, and similar systems are in place in Germany, France, and the Netherlands. For the most part, the causes of abandonment in these most affluent nations, whilst having contemporary detail, are at root comparable to those across geographic and historical space: pressures within the mothers' social group necessitating maternal divestment.

4.3. State Regulation of Reproduction

Kertzer (1993) has suggested that in industrializing Europe waves of abandonment were effectively instigated by the church as one facet of state regulation of reproduction. The spread of Christianity, which forbade infanticide, led to a system of formalized abandonment by the High Middle Ages (1000-1300AD) with responsibility for infants passed to the church. Though orphanages (called *orphanotrophia*, derived from the Greek *trophe*, nourishment) are reported to have been in operation as early as the 4th century AD (Schmidt, 2005), institutional care was massively expanded in the 18th and 19th centuries. Kertzer (1993) suggests that in Italy specifically the state aimed to control reproduction to conform to church ideology, ensuring that all babies were registered (baptized), abortion and infanticide were eradicated, family honour preserved, and only married couples allowed to raise children. Exceptionally kept records from *ospizi* (Italian foundling hospitals) suggest marked differences across cultural regions, with more than one third of all infants abandoned in some areas as an accepted form of birth control (largely stemming from illegitimate births, but including the infants of married couples), whilst in other areas this would have been inconceivable (Kertzer, 1993). That there was no such explosion of abandonment in northern Europe, where shifts in the demographic landscape were even more seismic, is taken as further evidence that explicit reproductive

control strategies, and not rapid industrialization/urbanization per se, were the most significant contributors to abandonment. This interpretation is supported by the records of The Foundling Hospital in London, which, when in 1756 it did open its doors in a way comparable to the institutions of Italy, such a volume of abandoned infants poured in that the policy of 'General Reception' was reversed in 1760 (Outhwaite, 1999).

4.4. Historical Picture of Infant Abandonment in China

"As to children, a father and mother when they produce a boy congratulate one another, but when they produce a girl they put it to death."

Han Fei Zi, 3rd century BC

Historically, infant abandonment seems to have been practiced in China no less so than in Europe, and with definite gender discrimination as expressed in legalist philosopher Han Fei Zi's proclamation above. In a study of extremely distorted sex-ratios during the 18th and 19th century (most distorted 576 boys for every 100 girls recorded in single child families, records of Da Yi), Lee, Campbell, and Tan (1992) point to the traditional notion that children are not fully human until approximately 1-year of age, remaining '*just young animals*' (citing Qiu Jun, *Daxue yanyi bu* (The Supplement to the exposition of the Great Learning, 1792), 13.14). Evidence suggests that such practices continued well into the 19th century; missionary Adele Fielde reported that: '*The decision whether any more girls are wanted is usually made in the family before the child's birth, and an undesired girl is stifled by the mother, father, or grandmother, as soon as her sex is known.*' (cited in Wolf & Huang, 1980). The traditional pressure on women to bare sons is dramatically conveyed in the following account:

A neighbor of one of my Bible-women bore six daughters successively, and smothered five of them. When the sixth came, she said it was always the same girl coming back, and she would no longer endure her. She wanted boys, and would see whether the girl could be deterred from again presenting herself. She cut the child into minute particles, and scattered them over the rice-fields. (Ibid. p. 174)

Fielder conducted a more formal survey of 40 women over the age of 50, finding that they had given birth to a total of 183 sons and 175 daughters. One-hundred and twenty-six of the sons, but only 53 of the daughters, had lived past the age of 10 years, and the women reported that they had destroyed 78 of their daughters. To make a comparison to Europe during the same period it is interesting to note that the historical male preference (girls twice as likely to be abandoned in the 14th century) appears to have greatly diminished, with a balanced sex ratio among infants abandoned to welfare institutions in Italy (Kertzer, 1991).

Regional variations in attitude toward infant abandonment, as in pre-twentieth century Europe, have been reported upon for historical China (Johnson, 1996; Johnson et al., 1998). Kay Johnson, who with Chinese colleagues has conducted extensive studies on abandonment, reports that during a visit to an orphanage in central Hubei province in 1991 a municipal official informed her that there was a long tradition of ‘throwing away babies’ in that region, and as a result northerners would travel there to adopt (Johnson et al., 1998). Johnson also reports historical evidence that abandonment in neighboring Hunan province had become such a problem during the 17th century that the act was criminalized (Johnson, 2004).

Post-Imperial China passed through at least 3 distinct and tumultuous phases during the 20th Century – Nationalist (up to 1949), Maoist (1949-76), Post-Maoist (after 1976) – all of which involved considerable family restructuring, influenced childrearing practices, and led to increased infanticide or infant abandonment, usually discriminating against girls (outlined in Chapter 2). In their analysis of consensus data spanning 50 years (1930s to 1980s), Coale and Banister (1994) identify severe spikes in ‘missing females’ at times of unusual constraint, such as during the Japanese Occupation (1930s), the Civil War (1940s), and massive famine coinciding with the disastrous Great Leap Forward (1959-61), for which female infanticide is suggested as a likely cause.

4.5. Imbalance of Development in China

Following the end of the political isolation and controlled economy of the Mao Period (1949 to 1976, illustrated graphically in Figure 2.2.), explicit priority given to economic development has resulted in several institutional regressions, such as the demise of universal healthcare, and a pervasive concern that traditional values are eroding (Luo, 2008; Gilboy and Heginbotham, 2010). While there are considerable variations in estimates of national income/wealth inequality, as formulated in the Gini Coefficient, calculations routinely place the figure above the 0.4 ‘danger level’ for societal instability (Chen, Dai, Pu, Hou, & Feng, 2010). However, comprehensive investigations suggest that, perhaps as a result of positive compensations such as the abolition of grain tax and rapid material improvement, the poorest members of society are not those most outraged by inequality (Whyte & Maocan, 2009). Phenomena stemming from material inequality, manifest as various forms of corruption, privilege/exploitation, and alienation are, however, a focus of mainstream media and internet forums. Recent scandals, including

the deaths of lower-class citizens through hit-and-run accidents in which wealthy perpetrators have sought immunity through status and connections (e.g. Coonan, 2010), the lethal contamination of baby formula by manufacturers to increase profits (e.g. Xin & Stone, 2008), and the disproportionate collapse of school buildings during the Sichuan earthquake in 2008, which has been linked to use of cheap materials and skimming-off of profits, are indicative of what many consider a disdain for universal equality (e.g. Bergsten, Freeman, Lardy, & Mitchell, 2009). Perhaps the most startling among these, starkly countering the Chinese valuation of children and the Confucian importance of the family, is the recent string of killing sprees in kindergartens during 2010¹⁸. These patterns are symptomatic of social disintegration, or a lack of social cohesion, which has been linked to what Durkheim (1893) called *anomie* where there is a breakdown of social norms and values stemming from a discord between traditional standards and a rapidly transforming reality (Turzi, 2008). There are innumerable specific and general causes for such a trend, several outlined already, which are likely to reinforce the emphasis on maintaining in-group solidarity at the expense of wider societal consideration.

Conversely, the physical opening-up of China's borders exposes its citizens directly to Western culture, and the influx of digital media is flooding even the most impoverished and otherwise isolated regions. The younger generations are disproportionately exposed and impressionable which inevitably widens the ideological generation gap. However, perhaps as a result of the strength of Confucian culture (as outlined in Chapter 2) combined with the economic and social reality, traditional

¹⁸ *Man kills nine in Chinese nursery rampage*: 'Since March there have been at least six attacks on nurseries and schools resulting in 18 murders, two suicides, an execution and more than 40 children being injured by cleavers, knives and hammers. / They strike an especially deep chord in a country where most urban families are allowed to have only one child, said Yang Dongping, an expert on education at the Beijing Institute of Technology.' Tania Branigan and Jonathon Watts, The Guardian, May 12th, 2010: <http://www.guardian.co.uk/world/2010/may/12/man-kills-eight-china-nursery>

practices are widely maintained. The lack of a welfare system to provide support in times of unemployment or inadequate income, to provide expensive medical treatment in the event of illness, or to cover educational costs from infant school onward, creates an intergenerational dependency in which a delicate economic balance must resist the constant threat of crippling poverty. Children are bound to honour their filial role, and core life choices such as education, occupation, and marital partner must make consideration of the family's welfare. Accordingly, parents - and grandparents - are bound to consider the family's welfare in the selection of children they choose to rear.

4.6. Infant Abandonment in Present Era China

Family Planning Regulations

As previously outlined in Chapter 2, the so called 'One-child Policy' is in fact a set of regulations restricting family size, age of marriage and childbearing, and spacing of births (Hesketh et al., 2005). Johnson's (2004) investigations have highlighted how trends in strictness of application across geographic regions and time periods are associated with increased infant abandonment: when local officials increase stringency, abandonments rise. Childbirth outside of marriage remains illegal (often subject to extremely high fines) and socially unacceptable. Couples in rural areas, couples who are themselves only-children, couples who both work in high risk occupations, or couples who give birth to a disabled child, are generally allowed to have a second child (Hesketh et al., 2005). The policy is upheld at a local government level, and extra-quota births are punishable by substantial fines, confiscation of property, and dismissal from work. By contrast economic incentives are provided for compliance. Compliance is also supported through

widespread use of contraception, with reports of controversial practices such as forced implanting of contraceptive devices and forced sterilizations (Littlejohn, 2009).

Abandoning Parents

Among urban dwellers, whose life choices – including the tendency to have smaller families and a diminishing son preference – are reported to be in keeping with those of the populace in economically developed nations, the rationale for the One Child Policy is widely understood and embraced (Qu & Hesketh, 2006). However, the vastness of China and the local implementation of the policy result in regional variations, and naturally it is the least well off who are caught between their own need for a male heir to support the family, the serendipity of infant gender¹⁹, and the unbearable costs of over quota births. As Johnson et al. (2004) put it: *‘Now that the state has forced peasants to conceptualise their fertility in strictly limited numerate terms, the ‘traditional’ desire for sons has for some become a near obsession.’* (p. 82). In their study of 237 families who had abandoned an infant between the 1950s and the year 2000, Johnson and colleagues found that the majority of abandoning families were from rural areas, possessing agricultural *hukous* (the identity card held by each citizen that is associated with place of origin and restricts urban immigration), but not particularly poor relative to the surrounding social group. In accordance with the patriarchal family structure, in about half of cases the decision to abandon was made by the father alone, while in about 40% made by both father and mother together. The decision was reported to have been made by grandparents in only a few cases, but further probing revealed that they had exerted greater influence in most cases. The factors most influencing the decision to abandon were gender, birth order, and gender composition of the infant’s siblings.

¹⁹ Measures to prevent sex-selective abortion are in place but widely flouted (Zhu, Lu, & Hesketh, 2009).

In 18th and 19th century Italy, Donzelot (1979) argues, the function of foundling homes ‘*was to reconcile the interests of families and the interests of the state.*’ Applying this mode of understanding to Chinese Child Welfare Institutes, the comparable function as depository for the products of the conflict between the interests of these two parties suggests itself. One challenge then facing the authorities is that of treading the fine line between implicit condoning of illegal abandonment through the provision of CWIs, and the provision of optimal conditions for those who are abandoned. In socio-political terms an understanding of the mechanisms imposing the pressures to abandon, and the degree of psychological agency of the abandoning mother, should include a consideration of the vertically (hierarchical/authoritarian) collectivistic social organization. This structure recurs at multiple re-enforcing levels that both compel conformity and exonerate individual responsibility (as outlined in Chapter 2). Just as the wife is subservient to the husband, the couple is subservient to the grandparents, who are in turn subservient to patriarchal figures within their work/private social group, who are subservient to local patriarchal cadres, upward to the engineers of the family planning policy. The lack of scope for the individual to exercise individual rights removes the burden of moral duty beyond that of adherence to collective will, as in a feudalistic patriarchy. Family Planning policy imposes limitations upon the family’s freedom to rear all infants, without satisfying the preference for male offspring which is shared at a deep structure level.

Infants who are Abandoned

The most telling finding of Johnson et al.’s (2004) study was that of the 196 girls (accounting for almost 90% of their sample) abandoned, only 15 did not have older sisters. Thus, gender in of itself does not constitute the most marked risk of abandonment, rather

being a second or higher order daughter does. Among this sample, 92% of girls had no known disability or serious illness at the time of abandonment, compared to only 40% of the 25 abandoned boys. A UNICEF published report of abandoned infants also indicated gender and disability as main causes, as well as finding that age at abandonment was earlier with more severe disability (Shang, Liu, & Cheng, 2001).

4.7. Non-Parental Childrearing

In human communities with adequate material resources it is not unusual for abandoned infants to be reared by surrogate caregivers; for example in feudal England, parentless children would be provided for within, and assume a duty toward, the community (Frost & Stein, 2004). As with maternal divestment, surrogate investment in the offspring of others is likely to involve evolutionarily adapted mechanisms to enhance inclusive fitness, maximization of community fitness, and minimization of threats (Daly & Wilson, 1983). At the individual or family level, adopting or fostering a child is likely to involve material and emotional rewards, and at the societal level providing for abandoned or orphaned infants is also a protective measure against the heightened risk of negative outcomes (such as social and psychological maladjustment and criminality; Hendrick, 2003). The quality of the motivation, embedded in cultural values, religious beliefs, and political systems, is bound to shape the quality of the care provided. The present section considers the interaction of broader societal development and culture on the provision of institutional care for abandoned infants.

4.8. Historical Context of Care for Abandoned Infants in Europe

4.8.1. Institutional Care

The provision of care for children in difficult circumstances can be understood in historical social terms: the attitude toward any element of a complex society cannot be disentangled from the state of that society as a whole (Holman, 1996, Hendrick, 2003). Such a diversity is reflected in the current prevalence of institutional care for abandoned infants in countries across Europe (ranging from zero in the UK to almost 100% in Latvia; Browne et al., 2005), and how patterns of de-institutionalisation stem from international pressures and domestic motivations (Muelher & Browne, 2007). The UN's CRC, ratified by 191 of 193 countries (only the USA and Somalia not ratifying²⁰), stipulates that institutional care should be a last resort, and overlapping requirements for admission to the EU have promoted rapid de-institutionalisation in former Eastern Bloc countries (Muehler & Browne, 2007). The evolution of the Child Act in the UK provides an historical example of how social, industrial, religious, political, scientific, and other factors coalesced domestically, over a period of 150 or so years, to transform the place of the most vulnerable children in society. The contemporary child welfare service in the UK, which assumes guardianship of newly abandoned infants, is traceable to a series of social currents many of which stemmed from the rise in abandonments associated with urbanisation and industrialisation across Europe (Holman, 1996). High density populations, coupled with disease (for example the London Cholera outbreak of 1866), in rapidly expanding industrial cities generated a new form of urban poverty, with all family members working but struggling to subsist (De Vries, 1994). It has been suggested that the pressures upon the traditional household economy at the turn of the 18th century

²⁰ As of 2010 Somalia had announced plans to ratify the UNCRC.

challenged the formality of courtship and marriage, resulting in a significant rise in prenuptial pregnancies, illegitimate births, and subsequent abandonment of infants (see De Vries, 1994; Citing Laslett's *Family Life*). Rapid transformation during this period necessitated the overhauling of the Old Poor Laws which, introduced during a period of prolonged inadequate harvests during the late 16th century, prevented the social ills of vagrancy and begging through a basic welfare provision (Slack, 1995). The New Poor Laws of 1834 (in place until 1949) complimented and catered to the industrializing social structure, providing shelter and food for all within workhouses which pooled labour for production but fragmented the family unit (Hendrick, 2003). Friedrich Engels (1845), who visited and researched the booming industrial cities of the period, was among early critics of this exploitative arrangement whereby resisting the workhouse increased risk of destitution, and submission to the workhouse stigmatised children as paupers (Roof, 1957/2003). Philanthropic movements during the mid to late 19th century gave rise to a complimentary non-governmental system, with child welfare organisations such as Barnados, Action for Children, and the Children's Society all originating as Christian Voluntary Societies providing homes to tens of thousands of abandoned children, complimenting institutional settings with favoured foster placements, as well as provided relief to families to prevent separation, in the mid to late 19th century. By the turn of the 20th century there were over 50 philanthropic institutions for children in London (Hendrick, 2003), and at start of the Second World War such organisations ran over 1000 residential facilities across the nation, a number matching those provided by the state (Holman, 1996).

4.8.2. De-institutionalisation

Following the Second World War the move away from institutional care gained rapid momentum and an increasing emphasis was placed on providing a family setting for abandoned children. This transformation involved an increasing role of public debate and guidance from the social sciences (Holman, 1996), particularly psychology, which had advanced markedly since its late 19th century origins influenced by Malthusian concerns for population expansion, threats of degeneracy, and Utilitarian solutions guided by discriminatory notions of ‘Social Darwinism’ (Rose, 1985). The Child Guidance Movement (initiated after the First World War, and bolstered by the clinical advances of the Child Guidance Clinics from 1927) refocused humanitarian interventions, with the emergence of an empirical developmental psychology, into a provision for emotional as well as physical well-being (Hendrick, 2003). Evacuations, family disintegration, and emergency fostering programs, which forcefully blurred established class divisions, reconfigured the national view on welfare (Winnicott, 1957). The Curtis Report (1946), the *‘first enquiry in this country directed specifically to the care of children deprived of a normal home life’* (p. 3), determined that there were over 30 thousand children living in Public Assistance buildings ruled by the Poor Law legislation, plus at least that number again housed by voluntary societies, and concluded:

How then is the family to be recreated for the child who is rendered homeless? /

Undoubtedly the solution to the problem is the good foster parent.

The Children Act (1948) which followed drew upon this recommendation and, over the following decades, institutional care became a last resort as a ‘golden age’ of child welfare transformed the treatment of children as individuals in families, and families as

best social environments (Holman, 1996). This reforming ethos is congruent with the WHO report composed by John Bowlby which, based on psychologically informed observations and research, identified developmental risks associated with institutional rearing (outlined in Chapter 1). As is clear from this brief outline, the path toward de-institutionalisation in the UK is inextricably associated with the evolving cultural and economic milieu.

4.9. Provision for Abandoned Infants in China

Huang (2001) suggests that provision of alternative care for abandoned infants is highly congruent with Chinese society and traditional practices:

Kinship care is an effective and traditional protection for homeless children.

Chinese society emphasizes the importance of family life. Children are thought of as a seed of the family and the society. Adult neighbours naturally share in caring for nonblood-related children. Children learn to understand the community and society as a big family. (p.534)

Despite painting a somewhat less benevolent historical picture in his graphic 1886 paper on the prevalence of infanticide, D J MacGowan states that:

Happily this lurid survey is relieved by glimmering rays which serve to mitigate the sadness which it occasions; for there seem never to have been any periods in

Chinese history when there were wanting humane men aiming to ameliorate the condition of helpless infants. (p.207).

MacGowan cites 'credible records' of provision of aid for orphans by the ruler of the first dynasty (2205 B.C.), notes that Emperors have always wished to curb infanticide to expand the population, indicates that '*P'u T'ung (523A.D.) established orphanages; former institutions having probably fallen into decay*' (p.208), and that foundling homes similar to those of the 19th century were instituted. The emergence of both state organized relief and increasing contributions from philanthropic groups (a 'bourgeois public sphere') described above for Europe also occurred in China as early as the late 17th century (Rankin, 1990). This adjustment, wherein the new mercantile class assumed greater responsibility for a variety of welfare provisions previously overseen by the scholarly elite, ushered in more sustained and effective care and interventions (Smith, 1998). Smith (1987) has described a significant movement not only in charitable action, but also a cultural examination of the meanings of charity, an evolving ideology with the promotion of aid to the needy and the establishment of a range of benevolent societies which led to the opening of foundling homes in 1655. By 1740, Smith (1987) reports (citing Leung, 1985), there were over 40 in the Jiangnan region (a Southern area of approximately 4 contemporary provinces) alone. In Hunan province, where abandonment was particularly prevalent, 68 homes had been established by 1849 (Johnson, 1996). However, perhaps the most impressive element of the early 19th century welfare movement in China is the recognition that prevention of abandonment through the channeling of funds and support to impoverished families is preferable to the burdens of institutional care:

The wet nurses [of the foundling home of our city] all had their own children whom they nursed with their own milk. They therefore secretly fed the children under their charge with rice soup... Soon these children died. Thus the method should be changed: all those who send their baby girls should be given an identity card with which one could receive a monthly stipend of 600 cash as well as clothing. The baby would be nursed by her own mother. After having nourished the baby for some time, the mother would acquire a deeper sentiment toward her offspring and the child would no longer risk being drowned. After a year or two, the identity card could be withdrawn. Ouyang Zhaoxing (1837, cited in Leung, 1995)

The following decades, during which foreign domination over Chinese resources involved increasing humiliation, led to massive upheavals before the end of Imperial rule in the early 20th century. These social and political currents were accompanied by unprecedented ideological overhaul, including significant changes in the conceptualization of children following the failed Taiping Rebellion (1850-64, the world's largest civil war of the 19th century, in part a reaction to imperial corruption, traditional folk beliefs, and practices such as infanticide). Leung (1995) notes how these changes led to a progression from keeping foundlings alive to preparing them for life in society:

...it was the reduction of the state's moral lead in providing social assistance to children that allowed the final takeover of the child by the community. Late Qing society after the Taiping Rebellion was in desperate need of reconstruction; the charitable institutions had as their goal not just the spiritual gratification of philanthropy but the satisfaction of working for objective social needs. (p.269)

Though this Chinese philanthropic movement was indigenous, it was no doubt influenced by, and to some degree reacted to, the culturally alien and religiously motivated work of the foreign missionaries. Indeed, the very presence of the missionaries, which necessarily suggested native incompetence in caring for their own children, engendered embarrassment and resentment²¹. The historic role of foreign missionaries in influencing and supplementing humanitarian practices in China, with aid to children and the elderly, and disaster relief dating back to the 16th century (Mao, 2010), should be considered and carefully studied in relation to the contemporary global context of political and ideological sovereignty. It has recently been observed that tensions between foreign volunteers working as parts of religious NGOs in the care of abandoned infants in Chinese CWIs likely stem from culture-specific understandings of childrearing, as well as class-based differences in access to resources (Wang, 2010). Outside observations and interventions must be careful not to impose unwelcome and unconstructive models and practices.

Twentieth century history, following the end of over 2000 years of dynastic rule in 1911, involved continued foreign occupation and increasing internal strife leading to the founding of the People's Republic of China in 1949. The Japanese occupation (1931-45) and Civil War (1927-1949) led to the collapse of the foundling homes system (Coale & Banister, 1994), and the demographic and social restructuring of the Maoist era (1949-1976) gave rise to the state run Child Welfare Institutions (CWIs). The aforementioned regression of universal welfare provision that followed liberalisation of markets, a

²¹ For example, an 1863 memorandum of the governor of Hunan Province stresses that: ‘.. the babies belong to our land (*neidi*), so why should they need the nourishment of people from overseas (*waiyang*)? After all, the nourishment of foreigners’ babies is not a concern of our people. Moreover, there are already foundling homes in every place in Yuezhou – all the more reason why one must not exploit the foreigners’ good intentions.’ (Fan Yangjiao, p.289; cited in Lueng (1995) p.273).

flourishing private sector, coupled with the increase in abandonment resulting from the One-Child Policy, led to an overburdened and under-regulated system. In the early-to-mid 1990s a number of damning reports by foreign agencies indicated that mortality rates at China's CWIs were not only extremely high (up to 90%), but resulted from systematic neglect and adherence to a policy of 'zero population growth' (Human Rights Watch Asia, 1996). A British film documenting such alleged atrocities ('The Dying Rooms') gained widespread attention after airing on Channel 4 and TV networks in other countries (Woods and Blewett, 1995). Though Chinese officials, and foreign China experts (e.g. Hesketh, 1996), insisted that the reports were highly distorted and largely unsubstantiated, the scandal led to the opening of a number of institutions to foreign NGOs who were invited to contribute resources and expertise. Increasing attention and involvement led to a rapid increase in overseas adoptions which had begun in 1991; for example, 115 infants were adopted to the USA in 1991, rising to 2,153 in 1995, and 5,081 by 2000²². Despite the reported increase in infant abandonments, adoptions to the USA peaked at 7,903 in 2005 and have since fallen steadily, a pattern consistent with increasing dependence on the domestic sector.

Almost a decade ago, in her review of practices of and challenges to foster and adoptive care, Huang (2001) noted that: '*Recent child welfare reform is rooted in the essential cultural impetus of family-centred practice*'. In 1999 new domestic adoption laws were passed and a number of family-placement programmes began to flourish (Huang, 2001). Prior to these laws, formal domestic adoptions and fostering had tended to occur on a small scale which has been partially attributed to a cultural prohibition against the assimilation of non-kin individuals. Research suggests that this perspective is

²² Figures derived from US immediate relative visa issues, cited on The Adoption Institute website: www.theadoptioninstitute.org Accessed 12.12.2010

quite mistaken. Johnson et al. (1998) complimented their study of abandoning families with one of adopting families and found that, contrary to notions prohibiting adoption outside of bloodlines and fear of penalties, unofficial adoptions occur on a large scale. In fact, many adoptive parents prefer an adoptee to which they are not related as it reduces risk of later interference from biological parents. The authors refer to traditional practices, continued into the early 20th century in some parts of China, of families adopting a girl to raise as a wife for a son and thus avoid hefty marriage costs, or adopting a girl as a servant (see Wolf & Huang, 1980). These considerations seemed not to be primary among the sample of families interviewed. Reasons given for adopting boys tended to be more practical, related to economic and family lineage factors, whereas for girls tended to be more emotional and abstract which reflects differences among Value of Children survey respondent groups (outlined in Chapter 2). However, by far the most common reason given was to bring a child of the ‘missing’ gender into the family. These findings were replicated in a study conducted across several provinces in 2001 (Zhang, 2006).

A vast array of domestic and international NGOs²³ have also been active in Chinese CWIs for almost 2 decades, which has transformed the care provided to abandoned infants (e.g. Half the Sky, Chinese Children Adoption International, Care for Children). However, it has been reported that two-thirds of CWIs remain closed to foreigners (Zhang, 2006). Efforts to better integrate the capacity of various specialist NGO sectors with the state control of CWIs are progressing (Shang, 2002). An outstanding example of cooperative success is the foster programme initiated in 1998 by Care for Children, modelled on a UK format, and adapted by and to the needs of Chinese communities in 28 of 34 provinces, providing training at nearly 300 CWIs (including

²³ China Development Brief provide a database of over 200 INGOs operating in China: <http://www.chinadevelopmentbrief.com/dingo/> (Accessed 30.01.2011)

child units in SWIs). As of 2010 approximately 250, 000 children had been placed. Shang, Liu, & Cheng (2001) found that among 3, 857 children in the custody of 8 different CWIs across several provinces, 63.8% (and up to 78.5% in specific CWIs) were cared for in foster families or small residential foster homes. However, while family placement is the stated first-choice, and foster programmes are being cultivated, there continues an increasing investment in institutional care (Shang, 2001; Zhang, 2006).

At the turn of the millennium there were estimated to be more than 50, 000 infants in Chinese CWIs (Shang, 2002). The majority of these were reported to have some disability, with additional reasons for being in care including parental HIV/AIDS, parental incarceration, and parental death. Shang et al. (2001) found that 82.1% of the 380 children they surveyed (10% randomly sampled from 8 CWIs) had some form of handicap, and only 2 of these had entered the institution as a result of parental death rather than abandonment. As noted at the opening of this chapter, it is estimated that the vast majority of abandoned infants are adopted informally and thus never enter the institutional system. Johnson and her colleagues' survey of abandoning and adopting families found a disparity in the proportion of infants with disabilities and illness, suggesting that the healthier children are 'skimmed off the top' through the informal adoption process, and congruent with reports of high proportions of unhealthy children in welfare institutions (Johnson et al., 1998). While funding, interventions, and rehabilitation programmes within many institutions are increasingly abundant, reports suggest that resources are disproportionately channelled into 'hardware' rather than adequate numbers of trained and rewarded caregivers (Zhong, 2006). Shang, Liu, and Cheng (2001)'s UNICEF funded survey of alternative provision for abandoned infants found that caregiver-to-infant ratios varied considerably across geographic regions,

tending to be more favourable in wealthier urban areas. For example whilst in Shanghai there were approximately 3 children for every caregiver within a CWI, the figure was over 6 for Datong in the poorer province of Shanxi. Shang et al.'s (2001) report did highlight the increasing use of foster programmes, which alleviates pressures on CWI staff - who on average indicated they could properly care for 4.6 infants – and provides a family environment for the children. At that time, the authors stated that, on the basis of feedback from interviews with 96 caregivers across 8 CWIs, *'it is clear that in fact all nurses were undertaking more work than they could handle.'* (p.6). The most commonly endorsed problem was 'shortage of labour', indicated by 88% of caregivers, followed by 'lack of related knowledge' (64%) and 'psychological and behavioural abnormalities of children' (58%). By comparison only 24% of caregivers endorsed 'health problems of children' as a problem encountered in their work.

In light of the varied evidence presented and examined in this chapter it is clear that the circumstances of abandoned infants in contemporary China are in some regards the same as those for abandoned infants across historical and geographical settings. However, certain details surrounding their abandonment and the related provision of alternative care are specific to the evolving cultural and political context. Given the extremely high number of young children in institutional care, and the probability of a continued and potentially growing trend, there is an urgent need for systematic assessment of socio-emotional development with a consideration of early infancy and the quality of care provision.

-Chapter Five

Strange Situation Procedure Research with Institutionalised Children

5.0. Introduction

As detailed in Chapter 1, with the influence of Ainsworth's empirical focus on infant-mother attachment in intact families, and the development of a measure of attachment quality, the research field was greatly expanded. However, Bowlby's core legacy of inquiry into the effects of disruptions to the infant-mother relationship continues as a major strand of attachment research, with syndromes such as 'anaclitic depression' (Spitz & Wolf, 1946), 'hospitalism' (Spitz, 1945), and 'apathetic personality' (Goldfarb, 1943) evolving through further study into diagnostic categories of Reactive Attachment Disorder (Zeanah & Smyke, 2009), and disturbed SSP based classifications such as A/C (Crittendon, 1988), insecure-other (Cassidy & Marvin, 1992), and Disorganised (Main &

Solomon, 1990). This chapter presents a review of the current understanding of distortions in the formation of infant-caregiver attachment among orphaned and abandoned infants being reared in institutions, and those institutionalised during infancy that are subsequently placed in family settings.

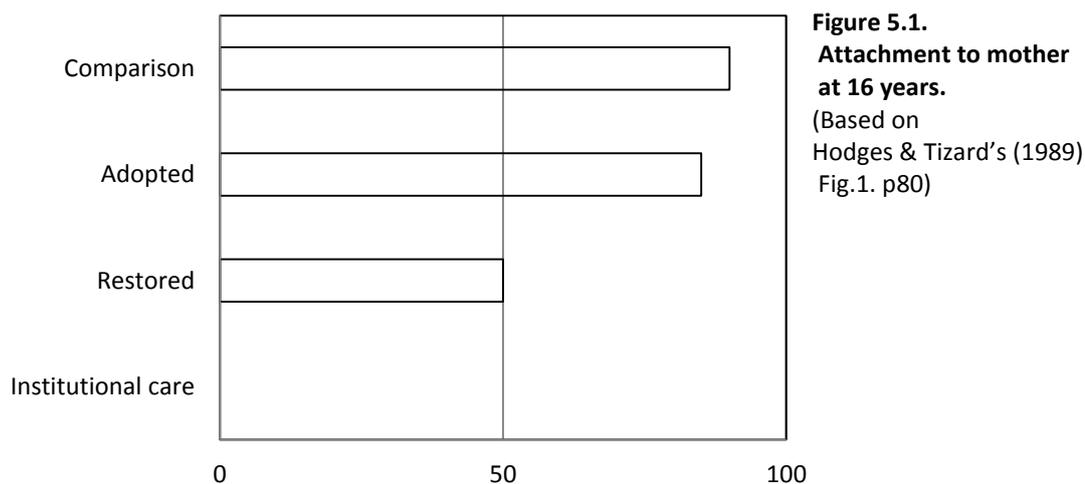
Attachment research with institutionalised children, building on the foundations of the pre-war Western European and US studies compiled in 'Maternal Deprivation and Mental Health' (Bowlby, 1951), tended to concentrate on these geographical/cultural regions through to the late 1980s (e.g. Rutter, 1972; Tizard & Rees, 1975; Hodges & Tizard, 1989; Dontas, Maratos, Fafoutis, & Karangelis, 1985). The collapse of Communist regimes across Eastern Europe and the former Soviet Union revealed masses of children crammed into severely depriving institutions leading to a new wave of studies (e.g. Chisholm, 1998; Rutter, Sonuga-Barke, & Castle, 2010; Zeanah, Nelson, Fox, Smyke, Marshall, Parker, & Koga, 2003; Vorria, Papaligoura, Dunn, van IJzendoorn, Steele, Kontopoulou, & Sarafidou, 2003; Smyke, Zeanah, Fox, Nelson, & Guthrie, 2010). In providing a background to Study 2, this chapter first considers the interaction between theoretical progress and improvements in provision of care for abandoned infants in two Western European countries (England and Greece), followed by a review of the rapidly accumulating data from the 'natural experiments' that resulted from distorting population controls in former authoritarian states (Romania, Russia, Bulgaria). This examination will provide a comparative framework of the effects of institutionalisation, and also a comparison and contrast to China's unique and evolving politico-socio-economic and cultural fabric. Despite the controversies surrounding China's CWIs outlined in the previous chapter, during almost 2 decades of opening up to Western involvement and tens of thousands of overseas adoptions, there has been little systematic research into the

psychological adjustment of Chinese institutionalised infants. Possible reasons for this omission, paralleled in many ways by the apparent lack of anxiety surrounding the maladjustment of a previous large wave of internationally adopted infants from another Confucian Heritage culture (Korea), are considered.

5.1. Major Advances on Bowlby's WHO Report (1951) through the 1980s

Rutter's (1972) thorough and systematic re-examination of Bowlby's seminal work on 'Maternal Deprivation' confirmed the deleterious impact of inadequate or inappropriate caregiving but underlined that multiple attachments could be formed, that the exclusive focus on the mother was misleading, that a variety of disturbed rearing-environment factors (such as parental disharmony) contributed variously to the syndromes attributed to institutionalisation, and that long-term effects were also dependent upon experiences post-infancy. This insight is exemplified by the finding that parental death – the most absolute form of physical separation – is less psychologically problematic than parental divorce. Tizard and colleagues' work in London institutions, following the varied placement paths (adopted, restored, remained in residential care) of children with different family backgrounds through to adulthood, provided further empirical support for these revisions and delineated the prevalent and persistent nature of 'overly friendly' social tendencies resulting from the experience of large numbers of relatively indifferent and transient caregivers (e.g. Tizard & Rees, 1975; Hodges & Tizard, 1989). As depicted in Figure 5.1., below, this longitudinal study highlighted the profound and lasting effects on the capacity to form healthy attachments to significant others associated with institutional care provision lacking dedicated caregivers. By contrast the majority of adopting mothers interviewed when their child was 4, 8, and 16 years of age indicated that their child was closely attached to them. Although this rather simple and optimistic

picture of adoption as an effective means to enable the formation of attachments post-institutional care has, in broad brushstrokes, been confirmed, the untangling of complex elements of attachment disturbance associated with severe early deprivation has highlighted several related problems.



Perhaps the earliest such research to utilise systematic observations, and classifications based on the SSP, comes from a study of infants cared for in a Warsaw institution during Poland's totalitarian communist period (Lis, 2000, reporting data collected between 1965-75). Though laboratory procedures were not conducted, Lis reports that among 20 infants (selected from 285, inclusion criteria being: spent all of first 18 months of life in institution, and have stable care of dedicated caregiver), 10 of whom had CNS damage, none showed secure attachment to a dedicated caregiver between 8 and 36 months of age and the majority (16 of 20) were classified as insecure-resistant. Though these findings cannot be compared reliably with distributions derived from the SSP, their worth is not least in the fact that the sample only included infants who had been cared for by a dedicated caregiver to whom a preferential attachment had certainly been formed. In fact, the researchers note that, while 6 infants had 1 attachment figure, 14 infants had between

2 and 5 attachment figures. In all cases dedicated caregiver, assigned by the institution was primary attachment figure²⁴.

The Metera Babies' Centre in Greece, a country which remains unusual in the context of Western Europe in the continued widespread use of institutional care (Vorria et al., 2003), provided a peculiarly positive set of findings from a residential childrearing programme well informed by attachment principles (Dontas et al., 1985). The authors describe the Metera Babies' Centre at that time as aiming to '*create a system within which children born without families and whose care must be undertaken by some institution or organization might enjoy full, normal development*' (citing a 1975 publication from the centre). In what was perhaps the first (modified) SSP-based study with infants residing in an institution, 15 somewhat young (7-9 month old) infants were assessed first with their assigned caregiver, and then again with adoptive mother following a 2-week adaptation period. The authors report that the infants:

...showed none of the possible devastating results of institutionalization: depression, marasmus, detachment, or indiscriminate attention seeking. Even young infants of 7-9 months of age were attached to adults and seemed capable of becoming attached to a new figure. (Dontas et al., 1985, p.145)

Unfortunately, as will be detailed, the majority of subsequent studies – including a more rigorous study in the Metera Baby Centre (Vorria et al., 2003) - have failed to support this optimistic appraisal of carefully managed institutional childrearing. It is of note that as far back as the 1970s, already 20 years after the publication of the WHO report, there was

²⁴ The institution assigned a dedicated caregiver ('substitute mother') managerially only if during a set period the infant had not developed a preference for one of the caregivers.

a clear highlighting of what seemed a fundamental failure to adopt the key element of Bowlby's urged reforms (Tizard & Rees, 1975). While the material conditions had been transformed, caregiver to infant ratios and group sizes adequate, activities and stimulation plentiful, it remained regrettably the case that '*large numbers of different staff cared for the children and close personal relationships are discouraged*' (Tizard & Rees, 1975, p.61).

5.2. Research Subsequent to 1989 and the Collapse of Communist States

The majority of post-1989 research has involved infants in or adopted from Romanian and Russian institutions conducted by teams led from Canada, the UK, and the USA (the main destination countries for the adopted children). The coerced fertility boom that occurred in Maoist China is similar to that under the Ceauşescu regime which, by the time it fell in 1989, had contributed to a population of over 170, 000 infants struggling in severely under-resourced institutions (see Rosapepe, 2001 cited in Zeanah et al., 2003). Thousands of these infants have subsequently been adopted overseas and their development is the focus of a number of studies (reviewed below). Interventions aimed at mitigating the deleterious effects of institutionalisation have been implemented (for example, Sparling, Dragomir, Ramey, & Florescu (2005) report a US-Romanian programme to improve caregiver consistency and reduce group sizes), but it is only in recent years that attachment-oriented research teams have begun to conduct standardised assessments with the tens of thousands of infants who remain in institutions.

The conditions of institutional care certainly differ between countries and have undergone varying degrees of transformation during the past two decades. Popivanova (2009) provides an enlightening 'In Context' treatment of the conditions for

institutionalised infants in communist and post-communist Bulgaria, and points to the binding commonalities of ‘*ideologies, economics, and theories about development and disability*’ throughout Eastern Bloc states. Childrearing in Bulgarian institutions has been described as having a strong ‘medical care’ orientation (Dawes, 2006), comparable to Romania where institutions are led by paediatricians (Zeanah et al., 2003). At the fall of the Zhivkov regime in 1989 there were 27, 400 children (almost 1% of all children) residing in Bulgarian institutions (Popivanova, 2009). As in Romania, and unlike in Russia, the figures have since dropped with 8, 019 children (around 0.5% of all children) being reared in institutionalised settings by 2007 though, according to Markova, Shilkret, and Djalev (2008), available statistics are questionable. While the Romanian population was swollen from pronatal policy as occurred in China, in addition to the common themes of collectivisation, abandonment in Bulgaria has been tied to ill-health with approximately half of current institutionalised infants suffering disability. There is also an intergenerational pattern of institutionalisation of infants (Markova et al., 2008). Improved policy and practice include an integration of attachment theory concepts, and a more nuanced treatment of disability (contrasting with a ‘normal-abnormal’ dichotomy approach), but emphasis on family responsibility and diminished funding for institutions has led to a deterioration in quality of care (Popivanova, 2009). This situation has been complicated by economic factors which have motivated local officials to perpetuate the viability of institutions which in many places are major employers. In contrast to the centralised regulation of state run institutions in Russia, which have been described as highly homogeneous (Groark, Muhamedrahimov, Palmov, Nikiforova, & McCall, 2005), there is evidently a vast range of quality among Bulgarian institutions.

5.3. Attachment Quality of Children in Institutional Care

This review of attachment within institutional settings is limited to the 5 known studies which utilised standard SSPs providing 4-way classifications. These studies are composed of 10 distinct samples (only 2 included community comparison groups) representing 448 infants aged 11-32 months in 5 countries (Romania (Zeanah et al., 2005), Russia (The St Petersburg-USA Orphanage Research Team, 2008), Greece (Vorriah et al., 2003), Bulgaria (Steele & Steele, 2008), and Chile (Herrerros, 2009)). Given the established importance of the experience of one (or more) relatively exclusive infant-caregiver relationships for the formation of secure and organised attachments, samples are separated into two groups: those in which infants have been provided with a Dedicated Caregiver (DCG) and those in which no such provision is made (NoDCG).

5.3.1. Institutional Care Without a Dedicated Caregiver

The first published distribution of attachment classifications from a sample of infants residing in a 'typical' (no intervention) Eastern Bloc state institution, provided by the Bucharest Early Intervention Program (BEIP) Core Group, found only 22% of the infants (n = 95) to have formed organised attachments to the caregiver judged by the staff to be closest to child (usual practice where no specific caregiver is assigned, Zeanah et al., 2005). Sixty-five percent were classified as disorganised, and a further 13% were judged unclassifiable as they were deemed not to show adequate attachment to warrant a classification. For the purposes of comparison to other studies, which arguably had less stringent exclusion criteria in coding of the SSP, these 13% are added to the 65% to give an overall 78% disorganised classifications (see Table 5.3.1.).

The control group of an intervention study conducted in Russia by the Petersburg-USA Orphanage Team (SPUOT, 2008) found even higher levels of disorganised attachment (86%) among a sample of 56 12-18 month olds. Surprisingly, a second sample of 54 infants in a matched institution who had experienced at least 4 months of a caregiver Training-Only (TO, i.e. no assigned dedicated caregiver) intervention did not show more favourable prevalence of organised attachments (85% disorganised).

This highly consistent set of figures (disorganisation between 78%-86%) for 3 samples is not remotely adhered to by a pair of samples of infants cared for in Bulgarian institutions (Steele & Steele, 2008). Detailed environmental (facilities and caregiving) conditions for the participants of these unpublished studies is unknown and, as noted above (Popivanova, 2009), unlike in the Russian system, conditions in Bulgarian state institutions are known to be highly variable. Control group samples (i.e. no intervention in caregiving provision) at sites in two first-tier cities included the relatively low levels of 44% (of $n = 24$) and 35% (of $n = 20$) disorganisation.

5.3.2. Institutional Care With a Dedicated Caregiver

The Metera Baby Centre, whose infants had previously been described as showing no disturbances of attachment in an earlier SSP-based study (Dontas et al., 1985), was the source of the first systematically conducted assessment of institutionalised infants to provide standardised classifications (Vorria et al., 2003). This sample differs to those from Romania, Russia, and Bulgaria in several critical ways: 1. the institution is well-funded and has a decades-long track record of attachment-informed caregiver management, 2. infants are usually relinquished and taken into care very soon after birth, thus there is greater confidence that distortions in attachment result from

institutionalization and not prior traumatic or depriving experiences, and 3. each infant is assigned a Dedicated-Caregiver (DCG). Despite these favourable conditions a full 65% of 86 infants were classified as disorganised (average age 13 months).

A second intervention in the SPUO Team study, introduced above, supplemented the training of caregivers in ‘sensitive relating’ with several structural changes to the institutional environment: reductions in infant group sizes, restrictions on the number of caregivers to whom each infant was exposed, and dedicated caregivers for each infant (St Petersburg-USA Orphanage Team, 2008). In addition, a ‘family hours’ activity was introduced during which infant and primary caregiver enjoyed 2 hours of uninterrupted time together each day. The team explains how this intervention was designed to shift from an environment ‘...characterized by aloof, perfunctory caregiving conducted impersonally in large groups by many changing caregivers to an atmosphere that was more typical of warm, sensitive, responsive "parent-child" interactions conducted in a more "family-like" set of circumstances.’ (Ibid. p.31-32). After a minimum of 4 months experience of these intervention conditions, 62% of infants were classified as disorganized which, though high, compares favourably to the 86% and 85% among samples without a DCG (see Table 5.3.1).

As in the case of the 4 samples of infants derived from no-DCG conditions above, it is examples from Bulgarian institutions which unbalance the rather comparable prevalence of disorganised attachment in the Greek (65%) and Russian (62%) conditions with DCG. In both interventions additional caregivers (‘aunties’) were recruited to act as DCG to infants, but the programmes differed at the two institutions. At one, ‘aunties’ visited infants and provided care within the institution for a couple of hours each day

(‘Within Institution’ (WI) Group), while in the other a ‘quasi-fostering’ system was implemented whereby ‘aunties’ took infants out of the institution and provided one-to-one care for the full day (‘Out of Institution’ (OI) Group). Assessed with the SSP at an average of 29 months, 50% of infants in WI Group ($n = 24$) were found to be disorganised, compared to 44% of controls ($n = 25$) in the same institution (reported above). Strikingly, of the 18 infants in the OI Group assessed at an average age of 18-months, only 17% were found to be disorganised and 56% were securely attached to caregiver, a distribution within the normal low-risk range. This compared to only 15% secure classifications among a control group ($n = 20$) which demonstrated very high levels of insecure-avoidant attachment (50%), though, surprisingly, only moderately elevated levels of disorganised attachment (35%). The strength of endorsement for this ‘quasi-fostering’ intervention is however moderated by a short-term retest in which the difference to control became marginal (outlined below).

Herreros’s (2009) study of 17 infants in a small Chilean institution, housing only 23 infants, builds on the premise that the effects of deprivation are highly variable and dependent on specific conditions of care. Disorganised attachment among this sample (average age 18 months), in which quality of care was judged to be of high quality (4 rotating caregivers assigned specific infants, caregivers average service 4 years), though far lower than the levels in other severely depriving institutions, occurred at a moderately high 41%.

Table 5.3.1.

Distributions (%) of Attachment Classifications for Infants in Institutional Care

Sample	N	Age (m)	B	A	C	ABC	D
No DC							
Romania (institution)	95	12-31	18.9	3.2	-	22.1	77.9*
Russia (NoI)	64	12-18	-	1.6	12.5	14.1	85.9
Russia (TO)	54	12-18	1.9	1.9	11.1	14.8	85.2
Bulgaria (WI) T1	24	29	32.0	25.0	-	52.0	44.0
T2	24	32	35.0	35.0	-	70.0	30.0
Bulgaria (OI) T1	20	18	15.0	50.0	-	65.0	35.0
T2	21	21	48.0	33.0	-	81.0	19.0
DC/Family							
Russia (T-SC)	52	12-18	5.8	3.8	28.8	38.5	61.5
Greece (institution)	79	11-17	24.1	2.5	7.6	34.2	65.8
Chile (Institution)	17	13-26	52.9	5.9	-	58.8	41.2
Bulgaria (WI) T1	25	29	33.0	8.0	8.0	50.0	50.0
T2	20	32	33.0	13.0	8.0	54.0	46.0
Bulgaria (OI) T1	18	18	56.0	22.0	6.0	83.0	17.0
T2	13	31	77.0	8.0	-	85.0	15.0
<i>Greece (family)</i>	41	11-18	40.6	9.4	25.0	75.0	25.0
<i>Romania (family)</i>	50	12-31	74.0	4.0	-	78.0	22.0

Key: DC = Dedicated Caregiver; *For the Romania sample 12.6% of cases 'had so little attachment behaviour that it could not even be classified disorganized and instead received a designation of unclassifiable.' (p.1020); these are combined here with the 65.3% D classifications

5.3.3. Further Consideration and Comparison of Classification Distributions

The range of reported prevalence of disorganised (range 17% to 85%) and secure (range 2% to 56%) attachments between these 10 samples highlights the need for further research with a focus on specific conditions of institutionalisation. The inconsistency also necessitates further scrutiny of the assessment/coding procedures employed and the comparability of attachment patterns of institutionalised infants to non-deprived samples.

A high proportion of institutionalised infants demonstrate such a lack of attachment behaviours during the strange situation that they are judged ‘unclassifiable’. Given that the conventional coding measures of the SSP assess the quality of attachment which is assumed to exist (Ainsworth et al., 1978; Main & Solomon, 1990), Zeanah et al., (2005) developed the Attachment Formation Rating (AFR, citing Carlson (2002) for the measure, which is included, though without full reference details provided²⁵). A score of 5 on this 5-point scale is attributed to all attachments, including disorganisation, which are clearly formed in relation to the caregiver taking part in the SSP. A rating of 4 is given when normal patterns can be discerned, but these are interspersed with atypical behaviours that are pronounced (e.g. vigorous and prolonged rocking when distressed) but distinguishable from disorganised behaviours which are recognisably linked to the attachment figure (detailed in Chapter 1). An AFR of 2-3 indicates that any attachment to caregiver is not sufficiently pronounced, with behaviours differentially directed, and that meaningful interpretations in terms of A, B, C, D categories are not possible. A score of 1 indicates that no signs of attachment are visible, affect is flat, separations and re-unions are experienced passively, and attention is focused exclusively on toys and other objects.

²⁵ Full reference, from another source is: Carlson EA. Attachment Formation Rating. Institute of Child Development, University of Minnesota; Minneapolis, MN: 2002. Unpublished coding system.

Remarkably, among the 96 infants in the BEIP study, only one-third (34.8%) were judged to have formed a selective attachment (rating above 3) to the participating caregiver (who is selected on the basis of having the closest relationship to the caregiver by institution staff). Of the 95 infants rated only 3 (3.2%) were assigned a score of 5 on the AFR, compared to all 100 infants in a comparison ('never institutionalised') sample. Of the 3 institutionalised infants rated as 5, only 1 also had a secure classification, the other 2 being disorganised. Of the 30 infants (31.6%) rated '4', 3 were secure and 27 disorganised. Thus the authors stress that differences in meanings of 'secure' and 'disorganised' attachments, between community and institutionalised groups, need careful consideration. Herreros (2009) found that among the 17 infants in the smaller Chilean institution, with dedicated caregivers, 65% had formed distinguishable attachments. Similarly, applying the AFR to 29 institution-reared children in the Ukraine, Dobrova-Krol et al., (2010) classified 58% as having a score of 4 and above²⁶.

As already noted, for the purposes of comparison to other samples, the 12 unclassifiable cases from Zeanah et al.'s (2005) study have been counted as disorganised (see Table 5.1.1). The rationale for this rests on the inference that this set of procedures has been subject to more stringent filtering than that in the other samples to which it is being compared. For example, it seems improbable that of 162 cases from the combined Russian samples, 56 of which experienced no intervention, and of which 85% were classified as disorganised in the absence of 'structural change' to care provided, not one was deemed unclassifiable. Though this inference may be mistaken, this non-arbitrary

²⁶ This Ukrainian study is excluded from the main review as the age range is high (3 to 6 years) and insufficient details of institutional conditions are reported for purposes of comparison (Dobrova-Krol et al., 2010). Nonetheless, distribution of classifications was comparable (including approximately 25% secure, 45% disorganised, and 15% unclassifiable). Interestingly HIV status among this sample was not associated with attachment classification.

liberty is taken here in an effort to even-out coding discrepancies and allow useful comparisons. It is noted that the unclassifiable group were qualitatively distinguished by Zeanah et al (2005), and it is telling that the application of the Attachment Formation Rating found all 12 of these infants to be in the lowest 2 groups, with 9 of them constituting all infants in the lowest rating group of 'No Attachment Behaviour'. This distinction is not overlooked and considered in later discussion.

The somewhat wild variation in reported distribution of disorganised classification extends to prevalence of other attachment classifications. For example, the proportion of securely attached children in the Greek sample (24.1%) is also surprisingly low, in light of previous reports from the Metera Baby Centre (Dontas et al., 1985), being just marginally higher than that reported in the otherwise very depriving Romanian institution (18.9%). The authors were unable to identify the cause of the high levels of disorganised and low levels of secure attachment, but suggest that having to attend to a large number of infants interferes with caregivers ability to provide sensitive caregiving, and the rather chaotic environment results in occasional disciplining behaviour that might be experienced as frightening (Vorria et al., 2003). It is also worth noting that upon admission, and before being given a place in a 'pavilion' of 12 infants, each assigned a dedicated caregiver, children are first housed in a newborn unit where social contact is very limited. This transitioning period, during which deprivation might be judged markedly higher, may contribute to unfavourable attachment outcomes.

Among the Russian samples, where prevalence of secure attachment is extremely low (none above 6%), interventions seem to have affected no noticeable improvement, and the reduction in disorganised attachments in the T-SC sample appears to have

resulted from an increase in insecure-resistant classifications. Only 13 of the T-SC sample were tested prior to intervention at which point all 13 were classified as disorganised; however, as data on change by specific case is not available, the inference that shifts tended to be toward insecure-resistant is tentative. However, most generally, it would appear that reported improvements in emotional expression and happiness observed among this set of infants, and the reduction in disorganised attachments, has occurred in tandem with the formation of somewhat resistant attachment relationships with caregivers. This high proportion (28.8%) of resistant attachments is more striking when compared to the extremely low prevalence in non-Russian institutional samples (none in Romanian sample, 7.6% in Greek sample). It is possible that the low prevalence of secure attachments among the Russian samples is another reflection of less stringent screening criteria, whereby infants with lower cognitive capacity were included in the sample. The sample was also somewhat younger than the Romanian sample, and so they were less able to engage in the kinds of approach and seeking behaviours that might have led to a secure attachment classification.

Consistent across all but the Bulgarian samples is an extremely low prevalence of avoidant classifications, ranging between 1.6-5.9%, accounting for just 10 (2.8%) of 361 children overall. For Bulgaria, there was considerable between-institutional variation, but in both cases infants with a dedicated caregiver were markedly less likely to be classified as insecure-avoidant (25% and 50% for non-dedicated caregiver controls compared to 8% and 22% for groups with dedicated caregiver). Thus, the prevalence of insecure-avoidant attachments constitutes another source of extreme variance and inconsistency.

The studies in the Bulgarian institutions involved an additional and significant element, the assessment of test-retest stability. As the interventions were implemented shortly before the evaluation study, SSPs were conducted a second time (T2) approximately 3 months after initial assessment (T1) to detect any improvements over the short-term. While at initial assessment the provision of a DCG who visited and cared for a specific infant each day in the institution (WI) had little impact on disorganisation, by T2, and contrary to expectation, 46% of WI Group infants ($n = 24$) were disorganised compared to only 30% of control infants ($n = 20$). Similarly, the endorsement of the ‘quasi-fostering’ intervention, for which ‘aunties’ take a child out of the institution everyday day, is curbed by the distribution of classifications at T2 (see Table 5.1.1). While, after several more months of the intervention, the OI Group ($n = 13$) now included an astonishing 77% securely attached infants, and only 15% disorganised, in the control group ($n = 21$) secure attachments now accounted for 48% of infants, and disorganised attachment only 19%. While there were changes in sample participants (both infants and accompanying caregivers), details of which are not available and so inferences must consider the possibility of specificity of attachment to caregiver, these findings certainly question test-retest stability of attachment, and the possible influence of environmental variables other than the assignment of a dedicated caregiver.

Given the high levels of ‘non-attachment’ identified when the AFR has been applied, and the extreme between sample variations in distributions of classification, it is critical that attention be paid to the BEIP research team’s emphasis that inferences based on conventional classifications risk not detecting qualitative differences between institutionalized and comparison children (Zeanah et al., 2005). Among their sample, even infants rated as securely attached displayed quite atypical variations of secure

attachment, likewise the disorganization demonstrated by institutionalised children is reported to be of a different type to that seen among non-deprived children (Ibid.).

On balance the findings from institutional samples present a perplexing and sobering picture. A surface inspection suggests that whilst sustained and well-structured efforts to enhance attachment formation enjoy considerable relative success, they struggle against the severe limitations of this childrearing environment. Finer examination indicates that the specificity of institutional settings, and the added complexity of infant characteristics and placement history, means the clumping of samples by the categorical ‘institutionalised’ variable is misguided and unavoidably misleading. Overall, though the data may provoke puzzlement, distributions from multiple studies enrich understanding and provide a more accurate depiction of the reality of heterogeneous conditions of institutional childrearing.

Collation of the distributions from these 10 samples (total $n = 448$) generates an overall prevalence of disorganised attachment of 67%, and secure attachment of 18% (see Table 5.4.2. below). For the 5 samples without a dedicated caregiver ($n = 258$) disorganisation is higher at 75%, and security lower at 12%. By contrast, for the 5 samples with a dedicated caregiver ($n = 190$) disorganisation is markedly lower at 56%, and security markedly higher at 26%.

5.4. Attachment Quality of Children Following Institutionalisation

There is an abundance of evidence to suggest that institutionalised infants who are subsequently adopted have an extremely good chance of developing healthy attachments to their new caregivers, with early adoption increasing likelihood of forming secure

attachments (e.g. Tizard & Rees, 1975; Hodges & Tizard, 1989; Chisholm, 1998; van den Dries et al., 2009). While placement in adoptive families is shown to be a protective factor, the risks for disorganisation, unequivocally identified among the samples of infants remaining in institutional care, are less clear (e.g. O'Connor et al., 2003). A recent and systematic meta-analysis found that, among a subset of 11 samples (n = 468) which had used the SSP, 47% of post-institutionalised children were classified as securely attached, and 31% disorganised (Van den Dries et al., 2009). This meta-analysis included two key findings: 1. Adoption within the first year of life significantly increases chances, of a secure attachment forming (set of 12 homogeneous studies, n = 524 adoptees, $d = 0.08$, $CI = -0.09-0.25$) and 2. Adoption significantly reduces the risk of disorganized attachment formation, but catch-up is limited, and early adoption does not reduce risk. Of the 11 SSP-assessed samples in the Van den Dries et al. (2009) study 3 are excluded from this review as data have only been disseminated in poster presentations or unpublished theses (Ongari & Tomasi, 2006; Tessier et al, 2006; Sabbagh, 1995 – cited in Van den Dries, 2009). The findings from 2 others (Juffer, Bakermans-Kranenburg, & van IJzendoorn, 2005; van Londen et al., 2007) are discussed below but not included in a collation of classification distributions (see Table 5.4.2. and Figure 5.4.1.) as severity of background deprivation is questionable. Importantly, distributions for the alternately composed multi-sample group (10 samples, n = 342) included in the present analysis – 45% secure and 30% disorganised - are remarkably similar.

The 3 known studies following infants who have likely experienced an extremely depriving pre-adoption caregiver environment are based on samples from Romanian institutions (Marcovitch, Goldberg, Gold, Washington, Wason, et al., 1997; Chisholm, 1998; O'Connor et al., 2003). Adding to these is a recently published study of infants

who have been placed in domestic foster families (Smyke et al., 2010). As assessments for older children utilise age-adapted forms of the SSP and somewhat different classification schemes for attachment disturbance, atypical categories (insecure-other, atypical) are grouped with disorganised (controlling) and contrasted to organised (secure, insecure-avoidant, insecure-resistant) classifications. Full detailed distributions are provided by sample in Table 5.4.1 below. Though this approach doubtless diminishes the nuance of attachment disturbance in pre-school children it allows easier comparability to the institutionalised samples which are the focus of the present study.

The first two reports of SSP-derived attachment classifications among Romanian adoptees both came from Canada in the late 1990s (Marcovitch et al., 1997; Chisholm, 1998). The earliest of these was derived from 56 dyads selected from among 150 families (part of SPARK, Support for Parents Adopting Romanian Kids) by proximity to testing centre and willingness to participate (Marcovitch et al., 1997). Of these, 30% were classified as secure and 42% controlling (which, due to small sample size included disorganised-controlling and insecure-other classifications). A second report provided a sample of 46 infants who had experienced relatively prolonged institutional deprivation (adopted after 8 months, range up to 53), and a sample of 30 infants who were adopted before 4 months (average of just 2 months; Chisholm et al., 1998). Assessed at an age between 50 and 64 months using the Preschool Assessment of Attachment (PAA, home-based version of SSP, see Crittenden, 1992), the late adopted sample includes 37% securely attached and 21% non-ABC classifications (classified as atypical or insecure-other with the PAA). By comparison, the early adopted infants demonstrated a distribution well within the normal range with 66% of infants judged to be securely attached, and none disorganised.

The English Romanian Adoption (ERA) Study is the most comprehensive longitudinal study of infants transferred from extreme deprivation in early infancy and placed in middle-class families in the UK (e.g. Rutter et al., 2010). Distributions included higher levels of disturbance than previous studies, with 59% of infants who had been adopted after at least 6 months of institutional deprivation classified as insecure-other/disorganised at 48 months. Those adopted before 6 months showed somewhat lower levels of disturbance (48%), though far higher than the 20% found among a comparison group of domestically adopted children. Selected from all 324 infants who entered the UK from Romania between February 1990 and September 1992, and utilising a stratified random strategy, the sample of 111 Romanian infants is not troubled by inclusion biases (such as family motivation, geographical convenience) which cloud previous findings (Rutter et al., 2007). The actual circumstances of the source institutions, such as material conditions and caregiver-to-infant ratios are not available and so inferred from other sources (citing Ames, 1997) with little doubt that '*...most and likely all children failed to develop discriminating attachments*' prior to adoption. These assumptions are given added confidence in light of the empirical findings from Zeanah et al. (2005) in Romanian institutions a decade later when we might have expected any changes to be toward improvements in care provision.

The Budapest Early Intervention (BEI) Study extends on the 'natural experiment' conditions of the ERA, by implementing an ethically permissible randomised controlled trial with 136 institutionalised infants who were included in the previously covered study by Zeanah et al. (2005). On the basis that funding was only available to provide a comprehensive intervention for half of the infants, random assignment placed 68 in Foster Care (FC) and the other 68 in Care as Usual (CAU) (Smyke et al., 2010). SSP

assessments at 42 months (length of placement between 11 and 36 months) found highly significant between groups differences: 45% of those who had remained in institutional care demonstrated disturbed attachments, compared to only 23% of those who had been placed in foster families. Similarly, while only 18% of those in institutional care were now securely attached, 49% of those placed in families demonstrated secure attachments to foster parent. In more detailed analysis, the BEIP study found that among those placed into foster care between the ages of 18 and 28 months, earlier placement consistently resulted in greater likelihood of organised attachment formation. For security of attachment a 'deflection point' was identified, suggesting that foster placements before 24 months led to equally high chances of secure attachment at 42 months, but after age 24 months increasingly late placement was associated with increasingly low likelihood of forming a secure attachment (Smyke et al., 2010). Male gender has been associated with heightened risk of disorganisation and insecurity when institutionalisation is prolonged (up to 42 months in Smyke et al., 2010). As this sample has demonstrated the most favourable outcomes, and this programme is of particular interest to the present study, an outline of the foster care intervention is provided below:

5.4.1. The BEIP Foster Care Programme: This intervention was selected and designed to benefit from and enhance a shift away from institutionalisation toward foster placement that had started to be developed in 1998 (Zeanah et al., 2003). Fifty-six families (25% single parent; mother aged 30-66 years) were recruited and trained according to US standards (see Smyke et al., 2010), being treated as full-time employees receiving salary and benefits (in accordance with the European model (Zeanah et al., 2003)). Almost half were already licensed as foster parents with experience in the role. BEIP social workers provided ongoing support, regular visits and a support group,

reinforcing training with an emphasis on ‘child centred’ care in which caregivers were encouraged to become ‘psychological parents’ to the children. US clinicians provided consultation through regular phone/video conference and quarterly site visits. Emphasis in the FC intervention was on the development of attachment relationships, as well as language development and providing foster parents with the skills to deal with difficult children.

The protective quality of a family environment, particularly against risk of disorganised attachment, is also suggested by a somewhat accidental facet of the ERA study (O’Connor et al., 2003). It was found that a small proportion (16.2%) of the Romanian adopted infants had previously lived in a family home (birth or other). An initial analysis found that this small home-reared group displayed significantly lower levels of insecure and disorganised attachment (see Table 5.4.1. below). As a result these infants were not included in further tests. Interestingly, whether these 18 infants were included in analyses or not, there were no significant between group differences for secure versus insecure classifications. However, there were significant group differences for organised (secure, avoidant, dependent) versus disorganised (insecure-disorganised/controlling, insecure-other). As is shown clearly in Table 5.4.1., of these 18 infants with early life experiences in a family, only 19% are disorganised and 50% are secure, a normal distribution differing only marginally from that among the domestically (UK) adopted comparison group (20% disorganised, 55% secure).

As with the various reports on attachment classifications among infants remaining in institutional care, methodological differences between samples might have contributed to apparent inconsistencies. For example, it is striking that in addition to including

normative levels of secure attachment (66%), Chisholm's (1998) sample of 30 infants adopted before 4 months of age all demonstrated organised/typical patterns of attachment. The findings from the ERA Team's deprived adoptees present a starkly less optimistic

Table 5.4.1.

Distributions of Attachment Classifications for Romanian Infants Previously in Institutional Care

Subsamples	N	Age (m)	B	A	C	ABC	D*
UK ERA							
DA <6 months	49	48	55.1	14.3	10.2	79.6	20.4
IA <6 months	41	48	41.5	7.7	7.3	56.5	48.3
IA >6 months	39	48	33.3	7.7	0	41.0	59.0
Institution-reared	93	48	37.5	7.5	3.8	48.8	51.3
Home-reared	18	48	50.0	12.5	18.8	81.3	18.8
CANADA SFU							
IA >8 months	46	53-55	37	28	14	79	21
IA <4 months	30	50-64	66	22	11	100	-
Comparison	46	50-109	58	26	16	100	-
CANADA SPARK							
0-48 months	56	36-60	30	-	25	58	42
DOMESTIC BEIP							
Foster care	61	42	49.2	19.7	8.2	77.0	23.0
Institutionalised	57	42	17.5	24.6	12.3	54.4	45.9
Never inst	51	42	64.3	11.8	13.7	90.2	9.8

*'Disorganised' here includes: disorganised, insecure-other, and atypical classifications

picture (O'Connor et al., 2003). Rutter, Colvert, Kreppner, Beckett, Castle, et al. (2007) have suggested that this extremely positive outcome may in part be the result of a bias in early adoption of less disturbed infants which was avoided with their sampling strategy. Regardless, the complete absence of disorganised/atypical attachments remains peculiar given that most low-risk populations tend to contain 10-15% (outlined in Chapter 1), which may stem from coding practices at the time when these data were compiled and atypical attachment patterns were only beginning to be systematically recognised. Length of prior deprivation was related to unusual forms of secure (secure-other, Chisholm et al., 1998) and atypical (O'Connor et al., 2003) attachment patterns. Congruently, an additional 'strength of security' measure indicated that secure infants in a never institutionalised comparison group were 'more secure' than secure infants in the foster care group (BEIP study, Smyke et al., 2010). Moreover, a similar rating scale which scored organised versus atypical attachment found the same pattern.

In light of the international adoption studies as a whole, which invariably find high levels of disturbed attachment associated with prolonged institutional care (i.e. more than 8 months) during infancy, the apparent impact of the BEIP foster intervention – in which infant pre-placement institutional care lasted between 6 and 31 months – is even more remarkable (Smyke et al., 2010). This also provides an interesting, and not necessarily contradictory counterpoint, to the finding that placement with a domestic family prior to international adoption appears powerfully protective (O'Connor et al., 2003). The authors interpret the relatively low prevalence of problematic attachments among those placed in foster care as indicative of degree of strategic plasticity, whereby even late placement in a more 'species typical caregiving environment' effectively triggers the attachment system (Smyke et al., 2010). A decrease in plasticity with age is

in keeping with previous findings that early placement in a family environment enhances prospects.

The question remains as to why domestic placement seems to confer greater benefit than international placement. The authors suggest that this might in part stem from significant improvements in Romanian institutions since the early 1990s when the ERA sample were adopted to the UK. This suggestion is questionable given the high levels of disturbance shown in both Zeanah et al.'s (2005) previous studies, and the 'care as usual' group in this more recent study (Smyke et al., 2010). A second suggestion is that the domestic fostering placements do not involve a cultural shift. However, this suggestion is rather countered by the normative attachment outcomes for the 18 Romanian adoptees previously reared in a family setting. Perhaps the comprehensive training of foster parents and the ongoing support system of the BEIP study can at least partially explain this difference. The BEIP foster families may have been fine-tuned to provide attachment-oriented parenting with awareness of the specific vulnerabilities of previously institutionalised infants whereas the UK families did not have such a support system.

One aspect of the BEIP study warrants further consideration, namely the markedly lower levels of disturbed attachment (40.4% insecure-other plus 5.3% disorganised) among the Care as Usual group in the 2010 study, compared to those (77.9% disorganised) of the younger institutionalised sample in the 2005 study. Though data on change in classification for specific cases is not available, comparison of the two samples shows that the percentage of securely attached classification changes only marginally, and the increases are in the insecure-organised classifications with one quarter (24.6%) of

children at age 42 months classified as avoidant and 12.3% classified as resistant.

Without the full data inferences are cautiously speculative, but it is interesting to bear this difference in mind. Does this change suggest a shift toward organization as a natural maturational process, and does this have a greater tendency to be manifest with an avoidant strategy?

On balance these 4 studies provide a rich and valuable insight into the risks, and possible resiliencies, for infants who have experienced early institutional deprivation as they are given a chance at family life. Childhood attachment findings for the internationally adopted samples confirm the significant advantage of early placement, but suggest quite pervasive problems irrespective of length of deprivation. The most positive findings come from the experiment in foster placement. While these are robust and utilised the most valid possible methods, the findings of this single study demand replication.

Collating distributions from the 10 institutionalised samples ($n = 448$) and 8 adopted/foster care samples ($n = 342$) reviewed here shows that overall 66.7% of the Institutionalised and 30.4% of the adopted/foster care children demonstrated non-Organised (i.e. not A, B or C) patterns of attachment behaviour toward caregiver in the SSP. These figures are outlined for comparison in Table 5.4.2. below, and also by sample and separately for Institutionalised and Adopted/Fostered samples in Tables 5.4.3 and 5.4.4. Within these two broad groupings, as noted above, the provision of a dedicated caregiver and early adoption are associated with a higher prevalence of organised attachments. This pattern is illustrated graphically in Figure 5.4.1. below.

Figure 5.4.1.

Attachment to Caregiver at 12-48 months (Based on 18 samples, see Table 5.4.2 below)

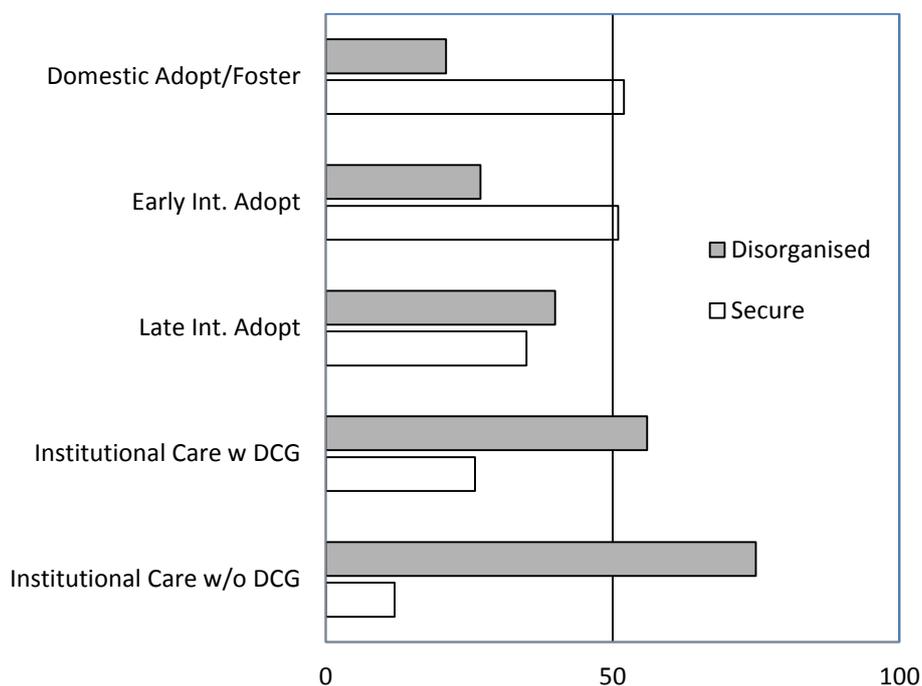


Table 5.4.2.

Collation of Attachment Classification Distributions from multiple Institutionalised and Adopted/Fostered Samples

Institution	NS	N	Age (m)	B	A	C	ABC	D*
INSTITUTIONALISED	10	448		17.6	7.1	8.4	33.3	66.7
No Dedicated CG	5	258	12-31	11.6	8.1	5.4	25.2	74.8
Dedicated CG	5	190	12-29	25.8	5.8	12.6	44.2	55.8
ADOPTED/FOSTERED	8	342		44.2	13.5	11.7	69.6	30.4
Late IA (>6months)	3	141	36-48	34.0	10.6	14.9	59.6	40.4
Early IA(<6months)	2	73	48-64	50.7	13.7	8.2	72.6	27.4
Mix DA (0+ months)	3	128	42-48	51.6	16.4	10.2	78.9	21.1

*'Disorganised' here includes: disorganised, insecure-other, and atypical classifications

Table 5.4.3.

Collation of Distributions from Multiple Institutionalised Samples

Institution	N	Age (m)	B	A	C	ABC	D
No Dedicated CG							
Romania (inst.)	95	12-31	18	3	-	21	74
Russia (NoI)	64	12-18	-	1	8	9	55
Russia (TO)	54	12-18	1	1	6	8	46
Bulgaria (WI) T1	25	29	8	6	-	14	11
Bulgaria (OI) T1	20	18	3	10	-	13	7
	258		30	21	14	65	193
			11.6%	8.1%	5.4%	25.2%	74.8%
Dedicated CG							
Russia (T-SC)	52	12-18	3	2	15	20	32
Greece (institution)	79	11-17	19	2	6	27	52
Chile (Institution)	17	13-26	9	1	-	10	7
Bulgaria (WI) T1	24	29	8	2	2	12	12
Bulgaria (OI) T1	18	18	10	4	1	15	3
	190		49	11	24	84	106
			25.8%	5.8%	12.6%	44.2%	55.8%
INSTITUTIONAL	448		79	32	38	149	299
TOTAL			17.6%	7.1%	8.4%	33.3%	66.7%

Table 5.4.4.

Collation of distributions from multiple Adopted Samples

Adoption Details	N	Age (m)	B	A	C	ABC	D
Late IA							
ERA (>6 months)	39	48	13	3	-	16	23
Chis (>8months)	46	53-55	17	12	7	36	10
SPARK(0-48)	56	36-60	18	-	14	32	24
	141		48	15	21	84	57
			34.0%	10.6%	14.9%	59.6%	40.4%
Early IA							
IA<6 months	43	48	17	3	3	23	20
IA<4months	30	50-64	20	7	3	30	-
	73		37	10	6	53	20
			50.7%	13.7%	8.2%	72.6%	27.4%
Domestic Adoptions							
ERA (<6months)	49	48	27	7	5	39	10
BEIP (>20months?)	61	42	30	12	5	47	14
ERA (HOME-adopt)	18	48	9	2	3	15	3
	128		66	21	13	101	27
			51.6%	16.4%	10.2%	78.9%	21.1%
OVERALL							
	342		151	46	40	238	104
			44.2%	13.5%	11.7%	69.6%	30.4%

5.5. Other Diverse Studies of Adopted Infants

Two additional published SSP-based studies of internationally adopted infants, both adopted into Dutch families and included in the van den Dries (2009) meta-analysis, were not included in the collation above as source countries were mixed and background institutional deprivation was uncertain (Juffer et al., 2005; van Londen et al., 2007). In addition, in one study possible early deprivation was ameliorated by intervention within the critical 6-12 month age period post-adoption (Juffer et al., 2005). However, distributions of attachment classifications in these two studies – with due consideration of the heterogeneously composed samples - is instructive.

The Juffer et al., (2005) study included two samples of families with infants adopted before 6 months whose mothers participated in caregiver sensitivity training during the second half of the infant's first year (Juffer, Hoksbergen, Riksen-Walraven, & Kohnstamm, 1997; Rosenboom, 1994). Initial coding of SSPs at 12 months (i.e. post-intervention) did not include disorganised classifications and 3-way classifications were unusual: secure attachments were remarkably prevalent among intervention and control infants in one sample (70% in control, >80% for interventions), and contrary to expectations, significantly higher in controls (80%) than in intervention infants (53%) in the other. This peculiar finding had disappeared when SSP was conducted again at 18 months (secure attachments now at 75% among controls and 79% among intervention group). Besides these somewhat puzzling findings for security, which suggest that even without interventions prevalence is within upper-normal range, subsequent recoding of the tapes for disorganisation found no significant effect for interventions with overall prevalence at 15.6% and that for the 49 no-intervention group infants at just 22.4% (Juffer

et al., 2005). It is also noted that the high proportion of secure classifications meant that 75% of those classified as disorganised had a secondary classification of secure. The distinction between disorganised-secure and disorganised-insecure behaviour patterns, mentioned in Chapter 1, will be considered in relation to the present study.

The van Londen et al. (2007) sample was similarly diverse ($n = 70$: Taiwan, 36; PRC, 14; Korea, 6; Columbia, 10; Ethiopia, 4) with relatively early placements (mean = 5.5 months). In addition, pre-adoption conditions for these infants are likely to have been particularly favourable as 74% had been relinquished at birth (minimising pre-institutional deprivation) and a quarter (26%) had experienced prior placement in a foster home. This is reflected in the high prevalence (61%) of secure attachments as assessed at 14 months. Disorganisation classifications among this sample were, however, elevated (36%). Contrary to the key finding in the ERA study, while pre-adoption placement with a foster-family was associated with improved outcomes on mental and physical development scales, it was not directly associated with attachment.

In relation to the present study it is of particular interest that the source of adopted infants has been related to relatively positive outcomes, and specifically that this is associated to the relatively less depriving pre-adoption conditions for Asian adoptees by comparison to those from Eastern European institutions. This suggestion was lent some support by the von den Dries (2008) meta-analysis which found Eastern European adoptees less often securely attached than Asian adoptees, with the latter showing the same level of attachment security as non-adopted children ($d = -0.13, -0.36, n = 36, n = 227$ adoptees). The continent of origin could not, however, be disentangled from age of placement and all Asian infants were adopted before 12 months of age. These findings

are of relevance to the present study as our Asian sample constitutes a significant pool for later adoption, and, as will be shown, the institutional conditions covered vary considerably between sub-samples.

In relation, earlier findings implicating inter-ethnic pairings of infants with adoptive parents with negative outcomes do not receive support from the van den Dries (2009) meta-analysis. Though ethnicity ('race') was an explicit focus in several early studies (Tizard & Rees, 1975; Singer et al., 1985) concerning domestic adoptions, with some significant associations reported, perhaps these reflected the social and cultural climate of that period. Ethnicity certainly remains an important element of international adoptions where placement across ethnic groups is extremely common, and there is a degree of debate over the possible implications this has for the developing child and adult (e.g. Volkman, 2003; McGinnis, Livingston Smith, Ryan, & Howard, 2009).

The von den Dries (2008) meta-analysis highlights the dearth of data from infants adopted from the PRC (seems only 14 of 2914 total sample) where, as outlined in Chapter 4, institutional conditions have long been reported to be severely depriving, and from which tens of thousands of children have been adopted overseas. One of the only published studies on the adjustment of Chinese adoptees made no consideration of attachment and noted that early deprivation had most marked impact on physical, rather than mental, development (Cohen et al., 2008). The sample of Chinese children in Study 2, reared in institutional conditions, provides an opportunity to examine this 'Continent of Origin' hypothesis.

5.6. Quality of Caregiving

Among the various studies reviewed here, the only significant association detected between quality of caregiving (observed and coded in naturalistic settings, during assessments or free play session) and attachment came from the initial assessments in severely depriving Romanian institutions of the BEIP study (Zeanah et al., 2005). Moreover, differences were only significant at the extreme edges of disturbance with ‘unclassifiable’ infants observed to receive markedly lower quality care than organised or disorganised infants. Regression analyses found that quality of caregiving was the only variable that significantly predicted scores on the continuous attachment rating (controlling for cognitive-development, competence, and quantitative aspects of caregiver-child interactions), and quality of caregiving and the continuous attachment rating were the only two variables that significantly predicted attachment organisation. In addition, lower quality care was associated with the emotionally withdrawn/inhibited variant of Reactive Attachment Disorder. This widely reported lack of association is reflected in the findings from the two samples in the Juffer et al., (2007) study, and the ‘Training Only’ condition of the SPUOC Team (2008) study, in which interventions designed specifically to improve maternal sensitivity had no impact on attachment classifications.

5.7. Methodological Issues

Several methodological issues highlighted by the studies reviewed here will be inspected in order that the findings are considered in light of these limitations, and also that they might inform the method and interpretation of findings of the current research.

Coding of Strange Situation Procedures

The BEIP Team point out that comparison across studies ought to take into consideration the fact that not only is there variation in the form of the SSP used, but that coding systems vary between research teams (Smyke et al., 2009). For example, whereas in their study the MacArthur system (Cassidy & Marvin et al., 1992) was used, as was also used in the SPARK adoption (Marcovitch et al., 1997) and the ERA (O'Connor et al., 2003) studies, Chisholm (1998) utilised the Preschool Assessment of Attachment (Crittenden, 1992)

Sampling Issues

The BEIP team expressed regret at having not included infants below 6 months of age in their foster placement intervention study, as evidence from other research suggests that removal from institutional settings before this point has a markedly greater impact on outcomes (Smyke et al., 2009). This group also noted that there was a lack of 'pure groupings' among their sample, with a considerable number of 'Care as usual' infants being placed for periods in foster care homes outside of the BEIP network. However, as the authors point out it is likely that any significant differences that remain are even more robust as the foster care placements are very likely to provide a less depriving caregiver environment.

5.8. Summary

The key findings from this review of previous studies are:

1. Inspection of the limited number of previous studies of infants in severely depriving institutional settings, and the collation of distributions of attachment classifications,

suggests that extremely high levels of disorganisation are the norm (average of 67% for 448 infants across 10 samples)

2. Disorganised attachments are on average markedly lower among those samples of infants where a dedicated caregiver is provided (56%) than where a dedicated caregiver is not provided (75%).

3. The great majority of samples find no association between caregiver sensitivity and attachment classification.

4. Adoption and Foster placements are associated with significantly improved attachment outcomes.

5. Age at adoption/fostering (also considered as extent of deprivation) has a significant impact on subsequent attachment formation (e.g. BEIP, ERA).

6. Domestic foster placements in early infancy pre-adoption (ERA) and in childhood post-institutionalisation (BEIP) are associated with most favourable attachment outcomes.

5.9. Areas of Uncertainty

Two main areas of uncertainty stemming from the previous research are:

1. A 'country of origin' hypothesis stemming from comparisons of internationally adopted children suggests that pre-adoption conditions in East Asia are more conducive to the formation of healthy attachments than those in Eastern Europe.

2. There is inconsistency in the impact of dedicated caregiver interventions, suggesting that other caregiver or non-caregiver variables influence attachment formation. These include the length of time that dedicated caregiver has been together with the child (e.g. SPUOC intervention), the difficult to control ‘chaos’ of busy understaffed facilities (e.g. as reported at Metera Baby Centre, Athens), and other environmental conditions not considered such as heterogeneity of institutional facilities in some countries (e.g. Bulgaria) compared to relative homogeneity in others (e.g. Russia).

5.10. The Present Study and Research Questions

The present study is designed to test the key findings listed above with the first sample of institutionalised Chinese infants to be assessed using the SSP, which will also provide a test of the ‘continent of origin’ hypothesis. The second area of uncertainty is central to this study and will be addressed through the careful delineation of environmental conditions in 4 different institutional units, one of which has had a dedicated caregiver programme in place since long before the birth of the infants assessed. Specifically, the following research questions are asked:

1. Are there differences in distributions of attachment classifications between institutionalised infants and community infants in a relatively poor northwest province of People’s Republic of China?
2. What distribution of attachment classifications are demonstrated by infants across 3 Child Welfare Institutions in 3 cities in this northwest province?

3. What distributions of attachment classifications are demonstrated by infants across 4 distinct institutional care units in 3 CWIs in this northwest province?
4. Are there differences in attachment classifications between infants in high and low caregiver-to-infant ratio care environments?
5. Does the provision of a dedicated caregiver improve attachment security and organisation among institutionalised infants?
6. Are there differences in distributions of attachment classifications between infants always in institutions and those with early experience in a foster family?

Additional variables such as age at admission, duration of institutionalisation, and infant and caregiver characteristics will also be considered in association with attachment quality.

-Chapter Six

STUDY TWO

Infant-Caregiver Attachment in a Chinese Institutionalised Sample

6.1. METHOD

The location and design of the present study were limited by those of the project upon which it is based – an evaluation of the efficacy of a dedicated caregiver program at a Child Welfare Institute (CWI) - an account of which is provided in Appendices 0.1 and 0.2. For this reason the research lacks the controls of an experimental or quasi-experimental design and is more characteristic of an exploratory study. Accordingly, efforts were made to control for and monitor potentially important variables, and the study background and methodology are presented in detail. A proportion of the sample was re-tested after approximately 3 months, and a follow-up after 1 year was conducted to monitor patterns of move from CWI to adoptive family.

6.1.2. Selection of CWIs

The Provincial Capital CWI (labelled ‘Enhanced Institution’), whose ‘Aunty Program’ was being subject to evaluation, was the starting point of this study. A second and major city CWI was selected by the Provincial Department of Civil Affairs to provide a comparison CWI in which an ‘Aunty Programme’ had not yet been implemented but would be once baseline assessments had been made (see Appendix 0.2. for initial evaluation study design). An initial inspection by the research team determined that conditions were not clearly different from those at the target and so a third CWI, in a remote and relatively impoverished city, was suggested. This third CWI was judged a suitable comparison and, as available infant numbers were lower than expected, it was decided that all 3 CWIs would be included. The second CWI will be referred to as ‘Part-enhanced Institution’ and the third CWI will be referred to as ‘Non-Enhanced Institution’. Further details in support of these labels are provided below. There is a question about the representativeness of these CWIs, details of which are provided below, but it is believed that with their ‘Open to Foreign Guest’ status, a status not held by many CWIs (which it was made clear would not be accessible for visits or research), conditions are likely to be of a relatively high standard.

6.1.3. Selection of Sample

The sampling strategy was broadly opportunistic, with some efforts to match to the target ‘Enhanced Institution’ sample, and minimal exclusion criteria applied to maximize sample size. At the start of data collection the 3 CWIs housed and cared for a total of 133 infants aged 0-36 months. As the data collection was scheduled to take place over a 10-month period, only those aged over 3 months would be eligible for participation in the SSP toward the end of the data collection period which reduced the available population

to 111. Of these, 80 (72.1%) were included in the test sample (see Table 6.1.1.below). Medical records and staff were consulted and children physically unable to participate, those with severe neurological disorders, and those with unspecified but severe developmental disorders were excluded (medical conditions by infant are provided in Tables 6.1.11. to 6.1.4. in Appendix 6.3.). Other reasons for exclusion were that the child was fostered or adopted outside of the institution before there was opportunity to test. Inclusion at the Enhanced, Independently-Run, and State-Run X and State-Run Y Units X, was 82%, 44.4%, 85%, and 71.4% respectively. The significantly lower inclusion at the Independently-Run Unit resulted from the decision to prioritise assessment at other Units, which, along with other Unit specific selection details, is explained below.

The Enhanced Institution was the target of the initial evaluation study, thus maximum resources were allocated for the assessment of these infants, and comparison participants were sought from other CWIs to match for age and gender as far as possible. Of the 9 (18%) of the 50 the Enhanced Institution infants not included in the study, 1 was completely blind, 1 was placed with a foster family, 5 were unable to sit unassisted, and 2 had recently returned from foster family placements²⁷.

The Part-Enhanced Institution was the initial target comparison site, but early into the data collection phase it became apparent that infants were housed and cared for in two quite separate units, Independent-Run and State-Run. The State-Run Unit had visibly poorer resources and enquiries to staff confirmed that staffing ratios were also markedly different, with those in the Independent-Run Unit being comparable to the target Enhanced-Institution. Once this distinction had come to light resources were

²⁷ Note that other infants included who had previously been in foster care were tested before this information was made available 6 months into the data collection period.

concentrated into assessing infants from the State-Run Unit. Only 3 of the available infants were not tested, 1 as she aged out by the time she was made available for assessment, and the other 2 due to serious physical disability. Thus, relatively fewer (12 of 27) infants from the Independent-Run Unit were tested in large part because their rearing environment was judged too similar to that of the target Enhanced Institution. Of the 15 infants not included 3 had congenital heart disease and other complications, 9 had cleft palates, 2 had missing limbs, and one was reported to be without problem.

All but 4 of the infants in the target age range at the Non-Enhanced Institution were tested. Of those not tested 3 were excluded due to cerebral palsy, and 1 for being too young at last data collection visit.

As can be seen in Table 6.1.1., the gender distribution of children included in the study (62.5% female) did not differ significantly from that of the population from which they were drawn (59.5% female), nor did it differ when Units are considered individually. This compares to 55.1% female among 3, 857 children from 0 to 14 years found in Shang et al.'s (2001) survey of 8 CWIs across several provinces referred to elsewhere in this thesis. It should be noted that these percentages are likely to be somewhat lower in part because more than 60% of their sample were in foster care, and females were under-represented in such placements. Further analysis of gender data is provided below, and relation to foster care placements for the present sample is considered at a later stage.

Table 6.1.1.

Comparison of all children target age-range and those included in sample by Unit

	Institutional UNIT				
	OVERALL	Enhanced	Independent	State-X	State-Y
Age 3-36 months					
Total, <i>n</i>	111	50	27	20	14
Included, <i>n (%)</i>	80 (72.1%)	41 (82%)	12 (44.4%)	17 (85%)	10 (71.4%)
% Female					
Total	59.5	46.0	59.3	85.0	71.4
Included	62.5	51.2	66.7	82.4	70.0

6.1.4. Participants

Thus, the initial sample consisted of 80 children in residential care within one of 3 CWIs across a single north-western province, and their caregivers. Data was successfully collected and coded for 78 of these children who are included in analyses and for whom descriptive data is provided here (see Tables 6.1.2. to 6.1.7). Child characteristics (gender, age at assessment, age at admission to institution, percentage of life/1st year in institution, and medical condition) are first presented for the entire sample, with between Institution comparisons, and then by Unit for which the grouping rationale has been explained. Details for these same characteristics are also presented according to ‘favourable caregiver-to-infant ratio’, ‘dedicated caregiver’, and ‘foster care’ groupings to both identify variance for subsequent analysis, and to highlight problems of assumed homogeneity of CWI samples (these groupings are illustrated schematically in Figure 6.1.).

Table 6.1.2.

Percentage of life in CWI: categorical ranges for comparison to BEIP Study

	Between Samples		Between CWIs			χ^2
	BEIP STUDY ROMANIA	THIS STUDY	Enhanced	Part- Enhanced	Non- Enhanced	
% life in CWI						
0-49	Excluded	16.7	25.6	6.9	10.0	
50-75	21	16.7	28.2	6.9	-	
76-99	28	61.5	41.0	79.3	90.0	
100	51	5.1	5.1	6.9	-	16.42**
% 1st year in CWI						
0-49	Not Available	24.4	35.9	13.8	10.0	
50-75		7.7	5.1	10.3	10.0	
76-99		62.8	53.8	69.0	80.0	
100		5.1	5.1	6.9	-	6.809

**p<.01

6.1.5. Child characteristics Overall and by CWI

The majority (64.1%) of the 78 children were female, with no significant differences in gender distribution between the 3 CWIs. The average age of admission was 2.5 months (SD = 4.3), with average age at assessment 20.4 months (SD = 6.9), at which time participants had spent on average 80.6% (SD = 25) of their lives in the test institution (compared to 90% among BEIP study infants when tested at average age of 24 months, range 12-31 (Zeanah et al. (2005), and comparable to Vorria et al. (2003) in which

median age at admission was 40 days). Shang et al.'s (2001) survey of 380 children across 8 CWIs found that around 80% were admitted before 1 month of age, compared to 57.7% in this sample, but the figures are closer for within 12 months (92.4% and 96.2% respectively). Age at admission and assessment did not differ between CWIs, but children in the Part-Enhanced and Non-Enhanced had spent significantly greater percentages of their first year and entire life in institutional care than those on the Enhanced Institution. Percentage of life in institution was also classified into 4 categories (0-49%, 50-75%, 76-99%, and 100%) to compare to Zeanah et al.'s (2003) BEIP study sample which reported such a distribution (see Table 6.1.2.).

While the BEIP study had excluded all those who had spent less than half of their lives in institutional care, such children constituted 16.7% of our sample (though, as is later shown, the majority of these were located in the Enhanced Institution, and many had experienced early foster care placements, and so are excluded from most analyses; see Table 6.1.6). There is also a marked difference in number of children who had spent 100% of their lives in institutional care, 51% of the BEIP sample and just 5.1% of ours. However, only 28% of the BEIP sample is in the 76-99% range compared to a full 62.8% of our sample. The rationale and strictness in application of these categories by the BEIP is unclear, as to be in the 100% range, by definition, infants would need to have been within the institution from birth. Perhaps this reflects a contextual difference in the nature of abandonment between the two samples, or some lenience in use of the measure '100%'.

Table 6.1.3.

Sample Characteristics by CWI

	TOTAL	Enhanced	Part- Enhanced	Non- Enhanced	
	(n = 78)	(n = 39)	(n = 29)	(n = 10)	
<i>Gender</i>					χ^2
% Female	64.1	53.8	75.9	70.0	3.677
<i>Age, months (SD)</i>					F
Assessment	20.4 (6.9)	21.6 (6.9)	20.5 (7.2)	15.8 (3.3)	2.94
Admission	2.5 (4.3)	3.2 (5.4)	1.9 (2.6)	1.4 (2.9)	1.08
<i>Time in CWI</i>					F
% life	80.6 (24.7)	71.5 (27.1)	89.9 (16.4)	89.4 (24.2)	5.98** 2,3>1
% 1 st year	75.5 (33.6)	64.9 (39.4)	84.9 (21.9)	89.1 (24.9)	4.21** 2,3>1
<i>Medical Condition</i>					χ^2
Typically Developing	21.5	23.1	17.2	40.0	
Visible deformity	29.2	25.6	34.5	40.0	
Internal illness	33.8	38.5	31.0	10.0	
Dev. delay	15.4	12.8	17.2	10.0	4.803

**p<.01

On average 21.5% of the children were reported to have no physical or health problems and, while the figure was as high as 40% for Non-Enhanced Institution, there were no significant differences in distribution between institutions. The majority (almost 80%) of infants suffered from medical problems (e.g. congenital heart disease) or physical defects (e.g. cleft palate). There were no significant differences in prevalence of medical abnormalities by Unit, and prevalence was actually higher within Units predicted

to lead to better outcomes (i.e. better caregiver-to-infant ratio, dedicated caregiver, superior resources; detailed below). Preliminary analyses of SSP classifications and the presence or history of medical abnormalities, and the severity of abnormality (e.g. congenital heart disease compared to corrected cleft palate) found no significant associations and so all children were included in main analyses. There were no differences in medical problems by gender.

Importantly, more severe impairments were at least as common at the target improved site (approximately half of children at the Enhanced Institution), and markedly less prevalent in the most impoverished comparison site (approximately one fifth of children at the Non-Enhanced Institution). Severity of medical condition was also coded into a binary variable of ‘visible deformity’ and ‘internal medical illness’ to test for possible associations with attachment behaviour patterns demonstrated in the SSP. For the Enhanced Institution 19 (48.7%) children were categorised as ‘no impairment/visible deformity’ (9 normal, 6 cleft palate, 1 missing arm, 1 missing hand, 1 deformed outer ear, 1 ptosis) and 20 (51.3%) as ‘internal medical illness’ (5 congenital heart disease, 5 unspecified developmental delays, 1 epilepsy, 1 hermaphroditic, 1 severe neonate pneumonia, 1 Hirschsprung’s disease (post-op), 1 gastroschisis, 1 suspected brain defect, 1 hypospadias, 1 congenital glaucoma, 1 occipital mass, 1 severely hearing impaired). For the Independent-Run Unit of the Part-Enhanced Institution (or Independent Unit) 7 (58.3%) the children were categorised as ‘no impairment/visible deformity’ (1 normal, 5 cleft palate, 1 congenital talipes equinovarus), and 5 (41.7%) as ‘internal medical illness’ (2 congenital heart disease, 2 malnourished, 1 adenoid hyperplasia). For State-Run Unit X of the Part-Enhanced Institution 8 (47.1%) of the children were categorised as ‘no impairment/visible deformity’ (4 normal, 1 hand deformity, 1 foot deformity, 1 chest

deformity, 1 cleft palate) and 9 (52.9%) as ‘internal medical illness’ (3 premature birth, 3 undefined swelling on head, 1 back membrane swollen (unclear), 1 congenital heart disease, 1 cataracts). For the Non-Enhanced Institution (or State-Run Unit Y) 8 (80%) children were classified as ‘no impairment/visible deformity’ (4 normal, 3 cleft palate, one deformed hand) and 2 (25%) were classified as ‘internal medical illness’ (1 severe spine problem, 1 unspecified developmental delay).

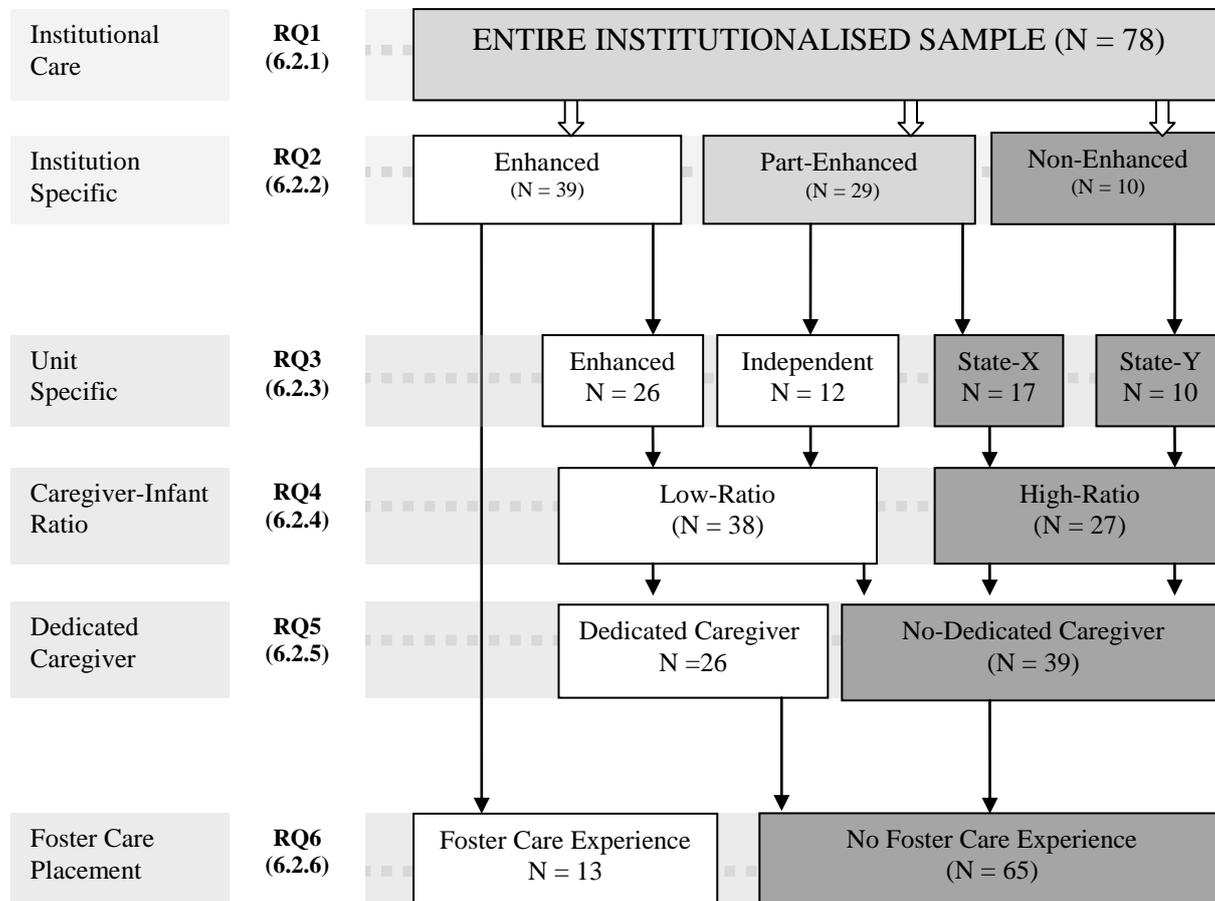
6.1.6. Grouping Strategies

Six different grouping strategies are utilised to address each of the 6 Research Questions.

Figure 6.1 above illustrates how these groupings were derived.

Figure 6.1.

Levels of Analyses, Research Questions, and Grouping Strategies.



Note: Darker shaded boxes theoretically associated with generally lower quality of care and expected lower quality of attachment as determined through Strange Situation Procedure.

At the first level of analysis all institutionalised children were pooled together. At Level 2, the 3 CWIs are treated as 3 Groups. At Level 3, the 4 distinct Units are treated as 4 Groups (note Foster Care sub-group is excluded). At Level 4 a ‘low caregiver-to-infant ratio’ (LCIR) Group combines the Enhanced Unit with the Independent Unit, and a ‘how caregiver-to-infant ratio’ (HCIR) Group combines State-Run Units X and Y. At Level 5 the Enhanced Unit, the only ‘dedicated-caregiver’ (DC) Group, is compared to a ‘no dedicated-caregiver’ (NoDC) Group composed of the Independent and State Units. At Level 6 a ‘foster care’ (FC) Group is compared to a ‘no foster care’ (NoFC) Group composed of all infants who have remained in institutional care since abandonment. While the FC children were all living within the Enhanced Institution and receiving the same care at time of assessment, preliminary analysis found that percentage of life spent in CWI was significantly different (53.5% for FC children, 80.5% for No-FC Enhanced Unit children; $t = 3.31$, $df = 37$, $p < .002$). The foster care programme is outlined below.

Tables 6.1.3-4 include percentage of life and percentage of first year of life in institutional care, overall, by CWI, and by Unit. Table 6.1.7 includes these same data for the 13 infants who experienced foster care placements, and these figures only include the time in the CWI with time in foster home placements subtracted in calculations. One-way ANOVA tests identified no differences for age of admission. Similar tests for percentage of life/first year did identify between group differences, but these were no longer present when the sub-sample of foster care infants was removed from analyses.

Child characteristics by Institutional Unit

There were no significant between group differences for gender, except when the Enhanced, Independent, and both State Units were compared to the Foster Care Group which contained only 31% females.

As explained above, the Enhanced Institution participants are separated into a group of 13 children who had previously been in foster care (FC Group) and a group of 26 children who had remained in institutional care (Enhanced Unit). Children in the Part-Enhanced Institution lived and were cared for in two separate groups (Independent-Run and State-Run), while all of the children in CWI3 lived and were cared for in one group (State Unit Y). Thus there are 4 Units comprising 65 children.

Table 6.1.4.

Sample Characteristics by UNIT

	Enhanced (n = 26)	Independent (n = 12)	State-X (n = 17)	State-Y (n = 10)	
<i>Gender</i>					χ^2
% Female	65.4	66.7	82.4	70.0	1.57
<i>Age, months (SD)</i>					F
Assessment	19.8 (6.6)	17.5 (5.1)	22.6 (7.8)	15.8 (3.3)	2.93* A<Y
Admission	4.3 (6.4)	2.7 (2.9)	1.3 (2.3)	1.4 (2.9)	1.87
<i>Time in CWI</i>					F
% life	80.5 (26.1)	82.1 (21.9)	95.3 (8.1)	89.4 (24.2)	1.8
% 1 st year	71.1 (38.6)	78.5 (24.6)	95.3 (19.2)	89.1 (24.9)	1.6
<i>Medical Condition</i>					χ^2
Typically Developing	19.2	8.3	23.5	40.0	
Visible Deformity	19.2	50.0	23.5	40.0	
Internal illness	46.2	25.0	35.3	10.0	
Dev. delay	15.4	16.7	17.6	10.0	9.29

*p<.05

There were no significant between-Units differences for gender, age at admission, time in institutional care, or medical condition (see Table 6.1.4 above). One-way ANOVA revealed a significant between groups difference ($F = 2.93$, $p = 0.04$) for age at assessment, with the State Unit-X group (average 15.8 months) being younger than the State Unit-Y group (average 22.6 months).

Table 6.1.5.

Sample Characteristics by Caregiver-to-Infant Ratio Groups

	Low	High	
	(n = 38)	(n = 27)	
<i>Gender</i>			χ^2
% Female	65.8	77.8	1.09
<i>Age, months (SD)</i>			t
Assessment	19.1 (6.2)	20.1 (7.2)	0.61
Admission	3.8 (5.5)	1.3 (2.5)	2.42*
<i>Time in CWI</i>			t
% life	81.0 (24.6)	93.1 (15.9)	2.41**
% 1 st year	73.4 (34.6)	89.4 (21.1)	2.3*
<i>Medical Condition</i>			χ^2
Typically Developing	15.8	29.6	
Visible Deformity	28.9	29.6	
Internal Illness	39.5	25.9	
Dev. delay	15.8	14.8	2.27

* $p < .05$, ** $P < 0.01$

Child characteristics by High and Low Caregiver-to-Infant Ratio Group

The Low Caregiver-to-Infant Ratio (LCIR) Group ($n = 38$) is composed of the Enhanced Unit and the Independent Unit, the High Caregiver:Infant Ratio (HCIR) Group ($n = 27$) is composed of State Units X and Y. There were no significant differences between these 2 groups for gender, age at assessment, or medical condition. However, age at admission for the LCIR Group (average = 3.8 months) was significantly higher than for the HCIR Group (average = 1.3 months; $t = 2.42$, $p < .05$). Accordingly there were also significant differences in percentage of life and percentage of first year spent in institution (see Table 6.1.5 above).

Table 6.1.6.

Sample Characteristics by With/Without Dedicated Caregiver (DC vs. NoDC)

	DC ($n = 26$)	NoDC ($n = 39$)	
Gender			χ^2
% Female	65.4	74.4	0.61
Age, months (SD)			t
Assessment	19.8 (6.6)	19.3 (6.7)	0.29
Admission	4.3 (6.4)	1.8 (2.7)	1.9
Time in CWI			t
% life	80.5 (26.1)	89.7 (18.4)	1.56
% 1 st year	71.1 (38.6)	86.0 (22.5)	1.78
Medical Condition			χ^2
Typically Developing	19.2	23.1	
Visible Deformity	19.2	35.9	
Internal Illness	46.2	25.6	
Dev. delay	15.4	15.4	3.53

Child characteristics by provision of Dedicated Caregiver Group

The Enhanced Unit constitutes the Dedicated Caregiver (DC) Group ($n = 26$), and the Independent and State X and Y Units constitute the No-Dedicated Caregiver (NoDC) Group ($n = 39$). There were no significant differences between these 2 groups for any of the child characteristic measures utilised (see Table 6.1.6. below).

Table 6.1.7.

Sample Characteristics by Foster Care/No Foster Care Group (FC vs NoFC)

	FC	No-FC	
	($n = 13$)	($n = 65$)	
Gender			χ^2
% Female	30.8	70.8	7.53**
Age, months (SD)			t
Assessment	25.1 (6.5)	19.5 (6.6)	2.83**
Admission	0.9 (1.1)	2.8 (4.7)	2.89***
Time in CWI			t
% life	53.5 (19.1)	86.0 (22.1)	4.95***
% 1 st year	52.8 (39.6)	80.1 (30.6)	2.79**
Medical Condition			χ^2
Typically Developing	30.8	21.5	
Visible Deformity	38.5	29.2	
Internal Illness	23.1	33.8	
Dev. delay	7.7	15.4	1.55

* $p < .05$, ** $P < 0.01$, *** $P < .001$

6.1.7. Child characteristics by experience of Foster Care Group

The 13 Enhanced Institution children who had experienced substantial portions of life in Foster Care (FC Group) were compared to a No Foster Care (NoFC) Group which consisted of the rest of the entire institutionalised sample (n = 65). The significant differences across all but the medical condition variable confirmed the logic of this grouping. On average the FC Group children had spent just over half (53.5%) of life in institutional care, compared to 86% for the No-FC Group (t = 4.95, p<.001), with a similar differences for percentage of first year of life (see Table 6.1.7 above).

Interestingly, the FC Group children had also entered the Enhanced Institution at a significantly earlier age (average = 0.9 months) than the No-FC Group (average = 2.8 months) before being placed with a foster family (t = 2.98, p <.005). Thus the period of very early life pre-abandonment was significantly shorter for the FC Group. Age at assessment was also significantly different (t = 2.83, p<.01), with the FC Group older (average = 25.1 months) than the No-FC Group (average = 19.5 months). Finally, there was a striking difference in gender distribution ($\chi^2 = 7.53$, p<.01), with only 30.8% of the FC Group female compared to 70.8% of the No-FC Group. Further details of the FC Group are provided below. There were no between group differences for medical condition.

Relative to the Enhanced Institution children who did not experience foster care, the foster care group contained fewer cases with more serious medical conditions (excluding those typically developing or with visible deformity only; 30.8% compared to 61.5%), which might have been related to selection for placement. However, comparisons between FC-G and all 4 Units (Enhanced, Independent, State X, and State Y) revealed no significant between groups differences for this variable or medical condition otherwise

classified (physical disabilities: typically developing = 30.8%, visible deformity = 38.5%, internal illness = 23.1%, other developmental delay = 7.7%). Average age at placement in foster family was approximately 8 months (34 weeks, s.d. = 23 weeks), with an average duration of placement 9.7 months (s.d. = 2.9), and average age of return 17.9 months (s.d = 6.6 months). The average time between return to institution and time of assessment was 6.3 months (s.d = 2.9), and foster placement accounted for on average 40% of infants' lives (importantly, none of these variables was found to be significantly associated with attachment organisation or security *within* the FC Group). One peculiar finding was that of 13 children who had experienced foster care placement only 30.8% (n = 4) were female compared to 65.4% of those in the care of the Enhanced Institution who had not experienced foster care placement. The possible reasons for this disproportionate placement of male infants with foster families, assuming child placement records are accurate, may include foster family preference for males and the perceived benefits they offer (as covered in Chapters 2 and 4). Unfortunately it is not known why specific children were returned to the CWI, and it may be that girls are more likely to remain in foster placements/be adopted. However, it was later learned that the foster care programme operating at the Enhanced Institution routinely involves children's return to the centre following a fixed stay of approximately half a year, or one year. For example, 8 of the 13 children included in this study were placed on the same date, 3 returned after 7 months and 5 returned after approximately 12 months. Reason for shorter placement of the 3 is unknown; all had no/low impairment, were classified as organised in the SSP, and were subsequently adopted overseas. The majority of children (over 100 at any time) are all placed in the same small rural village.

6.1.8. Characteristics of Institutional Environment

As the number of caregivers that a child receives care from, and the experience of a dedicated caregiver, as well as adequate staffing to cater to the ongoing needs of infants are of particular interest to the present study these are considered in some detail here (see Tables 6.1.8 & 6.1.9). Surrounding details of the 3 CWIs, and the 4 Units contained within, are also provided. Characteristics of the caregiver sample overall and by Unit are provided below and in Table 6.1.10.

Table 6.1.8.

Details of Caregiver Structure by Unit

	Enhanced	Part-Enhanced	Non-Enhanced	
<i>Caregiver Environment</i>	Enhanced Unit	Independent Run Unit	State Run Unit	State Unit
Dedicated Caregiver?	yes	no	no	no
Total N caregivers in Unit	60	39	23	22
Approx N infants 3-36 months	50	27	20	12
Approx N infants per room	25	10	10	24
Approx C:I ratio (observed)	1:2 (1:2)	1:2 (1:2)	1:2.5 (1:5)	1:4 (1:5)
Estimated N CGs providing routine daily care	Fewer than 5	Up to 39	Up to 23	Up to 22

State Unit Y/Non-Enhanced Institution (from CWI Director's presentation 10.07.2006)

The Non-Enhanced Institution was built and commenced operations in late 2000, is under the direction of the civil affairs department of the city, and had a staff of 25 at the time of data collection, 3 of whom are Directors/Vice-Directors. In 2001 the institution was approved for international adoptions and of the 108 children who have been cared for

since then 28 have been adopted internationally (to 8 countries) and a further 16 have been adopted domestically. At the time of testing there were 38 children (aged 0-14) under the care of the CWI, 29 (76%) of whom had special needs. Twenty-seven of the children were cared for within the single residential room of the institution, and 11 were in foster care placements. Of these 27 children, 3 go to school weekdays during which time the remaining 24 children were cared for by 3 regular members of staff, plus 3 supplementary daytime 'aunties' (a ratio of 1 caregiver to 4 children). Two additional supplementary 'aunties' worked on weekends. Observations during data collection suggest that in reality the daytime ratio was typically closer to 1:5 or 1:6. As there was no dedicated caregiver for each child, routine care would be provided by up to 22 different adults on a weekly basis, a number that is likely to be even higher when staff turnover is taken into account.

Part-Enhanced Institution (from CWI Director's presentation, July, 2006)

The Part-Enhanced Institution was built and commenced operations in 1994 and had 86 members of staff at the time of data collection. This CWI is part of a general Social Welfare Institute (SWI) which includes a facility for approximately 280 adults (and so it is probable that only approximately one-third of these staff are employed in the children's building which is consistent with the other data we received). Since 1996, when the CWI was approved for international adoptions, 386 children had been adopted to 14 countries (210 to the USA). In 1998 a new 4-storey children's building was constructed (a much larger building was subsequently added in 2008). Of the 105 children under the CWI's care at the time of testing 80% had special needs. As previously noted, these children were cared for in two separate Units. State-Run Unit X is governed entirely by the CWI,

whereas the day to day management and care of children in the Independent-Run Unit is conducted independently by an overseas agency.

State-Run Unit X Details of staffing and provision of care were provided by the director of child care on 12.07.2006: Children are housed and cared for in group rooms containing approximately 10 children where two main members of staff (1 nurse and 1 senior ‘aunty’) rotate on 3 shifts (9am-5pm, 5pm-12am, 12am-9am). Between 8am-noon and 2pm-6pm 2 ‘assistant aunts’ are added to each room (daily routines for children are included in Appendix 6.2).

Thus every day children receive care from a minimum of 10 caregivers, and during the daytime there are 4 caregivers for 10 children, a ratio of 1:2.5. Observations during data collection visits suggest that in reality the daytime ratio was closer to 1:5 or 1:6. There was no dedicated caregiver for each child and so routine care could be provided by in excess of 23 different adults, increasing with staff turnover.

Independent-Run Unit Details of staffing and provision of care were provided by the manager of the unit (a Western volunteer) and from agency literature. The Unit had been in operation since 2001, and at time of testing cared for 33 children all under 4 years of age. Intake was channelled through the Part-Enhanced Institution (i.e. the State-Run CWI) and the Independent-Run Unit tended to care for those children with greatest need, hence 40% had cleft palate/lip and 60% had more or less severe disabilities (according to the Unit’s own literature 98% of the children in their care have special needs of some sort, which is quite consistent with the prevalence within our sample; see table 6.1.12 in Appendix 6.1 for health condition by child). Children were cared for in 3 separate rooms (newborns, infants, toddlers) by a total of 48 staff members, 39 of whom

were caregivers. Unlike in other Units the staff dormitory was located within the unit. The infant and toddler rooms were staffed by 4 caregivers during the day, with a caregiver-to-infant ratio of approximately 1:2 or 3, which was confirmed through observation during data collection visits. However, there was no dedicated caregiver for each child and so in graduating through the 3 rooms routine care could be provided by up to 39 different adults, increasing with staff turnover. It should also be noted that this Unit utilised numerous and transient volunteer caregivers, often from overseas, in addition to the main staff.

Enhanced Institution

The Enhanced Institution was founded in 1985 and had over 62 staff and over 600 children in its care at the time of testing. International adoptions began in 1994 and over 700 children have been placed domestically and overseas. In 1999 a new 4-storey residential building was completed.

Enhanced Unit: ‘The Aunty Programme’

‘The Aunty Programme’ was initiated, funded, and has been run since 2001 through the time of assessment by a US based international adoption agency with the intention of providing the Enhanced Institution infants with a consistent and dedicated caregiver. The programme also provides regular trainings by Western developmental experts (see Appendix 0.1. for a brief report by the agency director responsible for the programme). At the time of data collection children were housed and cared for in two ‘group’ rooms with approximately 30 infants in the baby group (0-18 months) and 20 children in the toddler group (18-36 months).

Table 6.1.9a. *Summary and comparison of 4 CWI Units from which the sample is drawn. (Part 1 of 2)*

	Enhanced Unit	Independent-Run Unit	State-Run Unit X	Non-Enhanced Unit Y
Total Children	600+ . Includes special needs, older children, 100+ infants in foster families	40 . Includes newborns nursery, older children, special needs infants	100 . Includes a newborn and special needs unit, and older children	20 . Several young infants, special needs infants, and older children
12-36 mths	50	27	20	14
Ratios²⁹	1:2or3	1:2or3	1:5or6	1:5or6
Caregiver Training	Ongoing as well as periodic intensive sessions.	Reported that the staff receives ongoing training.	No evidence of specific caregiver training.	No evidence of specific caregiver training.
Special Programs	Granny Program allocates each infant a primary caregiver (each assigned 2 infants).	Sophisticated management and training funded and organised by a Christian charitable organisation.	A Granny Program is to be introduced following data collection.	A Granny Program is to be introduced following data collection.
Daily Routine/ Activities	Structured and unstructured play, indoors and outdoors. Watching movies, games, reading.	Structured with continuous attention, most time in common play areas, interacting with others.	According to timetable multiple structured indoor and outdoor activities each day. Little supporting evidence.	Emphasis on practical aspects of care with little other organised activity.
Additional Caregivers	Several volunteer programs, as well as frequent visits from concerned groups.	Volunteers from China and abroad (all Christian) in addition to core staff.	The orphanage also has a full-time paediatrician on staff.	Several floating staff with varied duties.

²⁹ Figures for numbers of infants, age-distributions, and staffing levels are approximate and based on reports from orphanage informants and observations at the time of initial visits.

Table 6.1.9b. *Summary and comparison of 4 CWI Units from which the sample is drawn. (Part 2 of 2)*

	Enhanced Unit	Independent-Run Unit	State-Run Unit X	Non-Enhanced Unit Y
General Physical Facilities	Comprehensive, immaculate. Two 4-story buildings (1 for infants, 1 for admin), school building, canteen, gardens, equipped outdoor play areas, staff housing block	Comprehensive, immaculate. Self-contained unit occupying 1 st floor of CWI2; ‘family room’, kitchens, sterile milk-room, equipped outdoor play area	Basic, Moderately maintained. Two 4-storey buildings (1 for infants, 1 for admin), canteen, equipped outdoor play area	Basic, Moderately maintained. 2-storey building (infant room and canteen on 1 st floor, admin on 2 nd). Particularly remote.
Rooms 12-18 months	Two large rooms partitioned by an office, toilet/dressing/changing area. Each divided into cot area and soft-floored play area, reasonably well equipped toys.	Small and quiet room with cots on one side and soft play matt with mobiles and toys on the other.	Small and bright, cots lining three walls centre leaving a narrow access corridor. Open space has potties, a play matt and a few cuddly toys.	All infants and toddlers live and sleep in one room that has rows of cots at one side and an open space on the other side, and arrangement that gives something of a big family atmosphere. Floor is hard-tiled, no enclosed matted area for younger infants to play and interact. Quite cramped and can be stifling in the summer.
Rooms 19-36 months	Two large linked rooms partitioned by an office, toilet/dressing/changing area. One houses cot beds, one open for activities and playing. Large windows provide natural light and ventilation.	Large, brightly coloured with murals and decorations. Divided into three with cots, feeding/sitting, and play area with soft flooring. Extensive toys, vehicles, and games.	Large and sparse, cots lining three walls with open space in centre. Hard tiled floor, prohibiting play for less mobile infants. Both rooms under ventilated.	

Table 6.1.10a.

Characteristics of Caregiver Sample by Enhanced (E), Independent-Run (IR), and State-Run (SR) Unit.

	OVERALL	E Unit	IR Unit	SR Unit X	SR Unit Y	
	(n = 41)	(n = 24)	(n = 7)	(n = 5)	(n = 5)	
Times in SSP						F
Median	1	1	1	2	1	
Mean (SD.)	1.9 (1.4)	1.6 (0.8)	1.7 (1.9)	3.4 (2.6)	1.6 (0.9)	2.36
Range	1-8	1-4	1-6	2-8	1-3	
						F
Age	35.71 (9.2)	35.9 (7.5)	29.0 (13.5)	38.4 (4.6)	40.6 (10.1)	2.00
Age Range	19-58	23-50	19-58	34-45	24-50	
						χ^2
Married	87.5%	95.7%	42.9%	100%	100%	15.58***
Has Own Children	82.1%	90.9%	42.9%	100%	80%	9.58**
<i>Missing</i>	2	2	-	-	-	
Education Level						χ^2
No Education	5.1%	4.3%	-	-	25%	
Junior School	35.9%	26.1%	71.4%	60.0%	-	
High School	33.3%	34.8%	14.3%	40.0%	50%	
University	25.6%	34.8%	14.3%	-	25%	12.61
<i>Missing</i>	2	1	-	-	1	

p<.01, *p<.001

Table 6.1.10b.

Characteristics of Caregiver Sample by Enhanced (E), Independent-Run (IR), and State-Run (SR) Unit.

	OVERALL	E Unit	IR Unit	SR Unit X	SR Unit Y	
	(n = 41)	(n = 24)	(n = 7)	(n = 5)	(n = 5)	
<i>Months as Caregiver</i>						F
Mean (s.d.)	35.7 (32.7)	24.6 (22.8)	No data	70.6 (44.1)	45 (33.1)	5.51**
Range	1-127	1-65	No data	8-127	11-77	Y>X
<i>Children cared for</i>						F
N (SD)	25 (28)	9 (10)	38 (35)	50 (29)	75 (43)	11.59***
Range	2-100	2-45	20-100	10-80	25-100	Y,A>X
<i>Still see these children</i>						χ^2
	70.3%	76.2%	57.1%	60%	75%	1.23
<i>Missing</i>	4	3	-	-	1	

p<.01, *p<.001

Each child is assigned an ‘aunty’ who serves as primary caregiver and is encouraged to treat the child as her own and form a special attachment. A second ‘aunty’ is usually assigned when the children graduate from the baby class into the toddler class. This system is designed to reduce the number of caregivers to whom each infant is exposed. During the daytime there are approximately 28 caregivers (14 aunts, plus 14

additional caregivers) in the baby group and 9 caregivers (6 aunties, plus 3 additional caregivers) in the toddler group, thus caregiver to infant ratios of approximately 1:1 and 1:2. Observations during data collection confirmed this. In addition to CWI staff, a considerable number of volunteers work as short term caregivers, many as part of international programmes.

Foster Care programme

In June of 2008 I visited the foster care programme that the subsample of 13 ('FC group') children in the Enhanced Unit had experienced. The programme included around 100 children between a few months of age to late childhood placed, often in pairs, with families all within the same small rural village. In relation to the outline of socio-emotional over material deprivation presented in earlier chapters, a distinction that is at the core of attachment theory and research, the foster care village that I visited and where these children had experienced family placement, was quite poor, dirtier, and less well materially provisioned, than the Enhanced Institution. The image in the opening pages of this thesis shows a similar village some miles away, with dirt roads and very basic housing. As is often the case in China, the vast majority of the young adult population had migrated to urban centres in search of work, and so those remaining tended to be in late middle to retirement age. As is also the case across hundreds of similar fostering programmes across China (the programme received funding and training from Care for Children, mentioned in Chapter 4), a western fostering model promoting permanency of placement, adapted to local conditions, and employing a whole village, was utilised. This approach has several advantages, including maximisation of shared community resources provided to cater specifically to the needs of foster families (for example schools and training centres), a 'neighbourhood watch' system to promote good practice, and a

broader community life suited to the needs of the children. Perhaps the most important question in relation to the subsample of 13 children who had been placed in families in this village is why, given that this programme promotes long-term foster care, were they returned to the institution? As will be elaborated upon later, it seems that this transition back to the institution is not typical, and that these children were chosen to be adopted overseas. Related data and a discussion of the complex issues stemming from this are presented.

6.1.9. Characteristics of Caregivers in Sample

A total of 41 different caregivers participated in assessments with the 78 children, each accompanying between 1 and 8 children (mean = 1.9, SD = 1.4; median = 1). With the ‘Aunty Programme’ in place, there were 24 caregivers at the Enhanced Institution (Enhanced Unit and FC Group) each participating in an average of 1.7 (SD = 0.9) assessments. Seven caregivers participated from the Independent Unit, and 5 from both State Units X and Y. While caregivers from State Unit Y participated in more assessments on average (3.4, SD = 2.6) than other Units, there was no statistically significant between groups difference (see Table 6.1.10). The average age for caregivers was 35.7 years (SD = 9.2, range 19-58). Caregivers at the Independent-Run Unit tended to be on average markedly, but not significantly, younger (29 years) than those at other Units. This age difference was reflected in marital status with between 95-100% of caregivers at Enhanced, State X and Y Units married compared to only 42.9% of caregivers at Unit H ($\chi^2 = 15.58, p < 0.001$). The pattern and statistically significant difference was almost identical for maternal status, with an average of 82.1% of all caregivers having their own children compared to only 42.9% of Independent-Run Unit caregivers. There were no statistically significant differences for educational level

attained with only 2 caregivers indicating that they had no formal education, one-third junior school, one-third high school, and 25% university. Notably 8 (34.8%) of the Enhanced Unit caregivers indicated university level education, compared to 1 caregiver from both Independent and State-Y Units, and none from State-X Unit.

Unfortunately there is no '*length of time as a caregiver in CWI*' data for the Independent-Run Unit, as start of work data was not provided. There are also concerns about the accuracy of data provided by State Unit-Y (that is from the Non-Enhanced Institution) as there was considerable inconsistency between reports from participating caregivers and Unit directors, thus this variable is treated with caution. Across the 3 Units for which any data were available, the indicated average length of time as caregiver was 35 months (range 1-127). One-Way ANOVA identified a significant between Units difference ($F = 5.22, p < .01$), determined through post-hoc analysis to result from significantly shorter time as caregiver for the Enhanced Unit (average 25 months) than for both State Units (average 71 and 44 months respectively). Congruently, there was the same statistically significant between Units difference for number of children cared for ($F = 11.58, p < 0.001$), with the Enhanced Unit caregivers reporting an average of 9 compared to averages of 50 and 75 for State Units X and Y respectively. Caregivers at the Independent-Run Unit reported having cared for on average 38 infants, which did not differ significantly from any other Unit, and may give some indication of proportionate length of time as a caregiver. Another possible source of discrepancy comes from the likelihood that caregivers at the Enhanced Unit may have only included the children for whom they are assigned 'aunty' as part of the programme, whereas at other Units all children cared for over the caregiver's career are likely to have been counted. Regardless, though this data lacks precision, it confirms that the Enhanced Unit caregivers are

assigned to fewer infants and infants are in turn exposed to fewer and more consistent caregivers.

Of the 41 caregivers 70% indicated that they continued to see children for whom they had cared and who had left the institution. This was highest for the Enhanced Unit X and State-Run Y Unit caregivers (76.2% and 75% respectively) and lowest for the Independent Unit and State-Run X Unit caregivers (57.1% and 60% respectively) with no statistically significant between groups differences.

6.1.10. Measures

The main measures used were the same as those used in Study 1. *Attachment* was assessed using the Strange Situation Procedure (SSP, Ainsworth et al., 1978). A brief and structured interview collected background data on the caregiver as summarised above (see Tables 6.1.10), plus additional questions covered caregiver's initial and evolving impressions of the infant (e.g. *How did you feel when the orphanage asked you to take care of this child?*, *What future do you see for this child?*, *Would you like to remain in contact with this child?*), caregiving priorities (*What's your plan for this child? What are the most important qualities for a caregiver?*), and views on the institution's strengths and weaknesses (a copy of interview schedule is provided in Appendix 6.3).

6.1.11. Training of RAs

As previously indicated, 2 additional RAs were recruited through the local contacts of X CJ the senior collaborator on the evaluation study, based at the New School in NYC. Reading materials were provided and an initial training session conducted involving a tutorial on attachment theory and research followed by a viewing and discussion of SSP tapes. Emphasis was placed on procedural detail as the process of data collection did not

require in-depth theoretical and methodological understanding. All RAs were present during initial visits to the CWIs, met with leaders and caregiving staff, and played a role in the process of setting-up. One of the RAs, who was designated the 'stranger' role, did not interact with infants during these or any other subsequent visits during data collection in order that infants did not become familiar with her. A trial SSP assessment was completed at the Enhanced Institution, under the supervision of the 2 PIs and with the translation assistance of XCJ, which was used for confirmatory training through video review and discussion until all team members were confident to commence data collection. An additional review session, during which procedures were scrutinised and discussed, was conducted following the first full day of data collection to reinforce and refine procedural details.

6.1.12. Data Collection Procedure

Data collection at the 3 CWIs was conducted between July 2006 and March 2007, with 28 data collection days at the Enhanced Institution, 12 at the Part-Enhanced Institution, and 4 at the Non-Enhanced Institution. A total of 131 SSP assessments were conducted, with an average of 3 children tested per data collection day. Other assessments not included in this thesis were also conducted during these visits. Procedures recorded onto mini-DV tapes were copied onto DVDs which were then mailed to HS on 6 occasions. The first procedures were mailed within the first month of data collection in order that the PIs were able to view them as soon as possible and identify any problems for early correction.

Selection of accompanying caregiver for assessments

In the Enhanced Unit/Institution it was requested that each child be accompanied by his/her dedicated caregiver ('aunty') for assessments, and in the other Units staff were

asked to select among themselves who they judged to be closest to each child. Most often caregivers stated that no one had more of a particularly close relationship to each child than any other, and so accompanying caregivers were selected at random or upon availability. It was noted by the Chinese research assistant who met with and briefed caregivers prior to assessment that there was a marked reluctance to participate among many of the caregivers, particularly at the two State-Run Units, and so there may have been other difficult to control for variables influencing participation. The high frequency participation of certain caregivers was explained by Unit directors as a result of others not being available at times of data collection (due to remoteness, CWI visits were limited), and also again that relationships between caregivers and infants were much the same. Nevertheless, and in accordance with this last point, Unit staff were requested to vary the accompanying caregiver where possible. Where age data for all caregivers was available at State-Run Unit X, at least on this variable there was no significant difference between those who participated in SSPs and those who did not (mean age of participating caregivers = 38.4 years ($n = 5$, $s.d. = 4.6$), mean age of non-participating caregivers = 39.6 years ($n = 18$, $s.d = 7.6$), $t = 0.32$, $p = 0.8$). An advantage of having individual caregivers participate in procedures with multiple infants was that any trends in infant attachment quality in relation to specific adults can be detected.

Conducting of Assessments

Each infant-caregiver dyad was assigned a 1-hour slot for testing at which time a Chinese research assistant met with and guided them to the testing area. Considerable precaution was taken, particularly with institutionalised infants who rarely left their familiar surroundings, to ensure infants were calm and comfortable in a room adjacent to the testing room. During this time the research assistant instructed the caregiver on the SSP

and answered any questions. The research assistant who met with the dyad introduced them to the unfamiliar room and served as timekeeper, informing stranger and mother when to enter, and when to leave with gentle knocks on a partition window. A second Chinese female research assistant acted as stranger. My role was to coordinate and video record procedures. Next, a Chinese research assistant conducted the brief caregiver interview. Once all data had been collected the participants were thanked and interviews were translated by the interviewing research assistant and myself.

Time 2 Assessment Procedure

Forty-seven (60%) of the infants were re-assessed approximately 4 months (average 4.3, SD = 0.7, range 3 – 6.1) after the first assessment to detect stability or change in attachment classifications. Selection for assessment at Time 2 (T2) was largely governed by availability of caregiver and limited resources. While 28 of the 47 infants were tested with the same caregiver as at T1, almost half (19) were tested with an alternative caregiver (determined entirely by availability, thus randomly assigned with no awareness/consideration of T1 classifications; though there is the possibility that caregivers who experienced the T1 assessment as negative, for example if infant was highly distressed, would be less inclined to make themselves available for T2 re-assessment; this possibility is partially tested below). Re-test participation (n same caregiver/n alternative caregiver) by Unit was Enhanced = 11/5, Independent = 3/6, State X = 8 (all same), State Y = 4/1, and Foster Care = 2/7. Preliminary analysis found no significant differences in age between those re-tested (average = 21.4 months at T1) and those tested only at T1 (average = 18.9 months). Nor were there any significant differences in inclusion at T2 as opposed to T1 only by CWI ($\chi^2 = 0.71$), Unit ($\chi^2 = 0.84$), high/low caregiver:infant ratio group ($\chi^2 = 2.02$), with/without dedicated caregiver group

($\chi^2 = 0.17$), and foster care group ($\chi^2 = 0.53$). There was a significant difference by gender, with fewer females (55.3% compared to 77.4% T1 only) and more males (44.7% compared to 22.6% T1 only) participating in two assessments.

An additional survey was conducted around 18 months after the completion of the main data collection, and information of the placement of a portion of the children was monitored. These data are provided at the end of the results section.

6.1.13. Coding of SSP Data

As noted above, video recordings of the SSPs were converted to DVD and mailed to the Team in NYC for independent classification. Coding and categorisation into 3-way (A, B, C) and 4-way (A, B, C, D) was performed according to detailed criteria by highly trained and reliable coders as follows: Coded in conference by a group of 5-6 coders (2-3 principle investigators + 3 graduate students who were blind to site identity). The standardised coding procedure is outlined in Chapter 1.

6.1.14. Research Questions and Statistical Analysis

The rationale for and form of the research questions addressed in this study, outlined toward the end of Chapter 5 in relation to previous studies with institutionalised children, and with the grouping method illustrated in Figure 6.1 above, are:

1. Are there differences in distributions of attachment classifications between institutionalised infants and community infants in a relatively poor northwest province of People's Republic of China?

2. What distribution of attachment classifications are demonstrated by infants across 3 Child Welfare Institutions in 3 cities in this northwest province?
3. What distributions of attachment classifications are demonstrated by infants across 4 distinct institutional care units in 3 CWIs in this northwest province?
4. Are there differences in attachment classifications between infants in high and low caregiver-to-infant ratio care environments?
5. Does the provision of a dedicated caregiver improve attachment security and organisation among institutionalised infants?
6. Are there differences in distributions of attachment classifications between infants always in institutions and those with early experience in a foster family?

Additional variables such as age at admission, duration of institutionalisation, and infant and caregiver characteristics will also be considered in association with attachment quality.

For each of the main research questions (1-6) contingency tables are generated and examined, with chi-square tests for independence utilised to determine statistical significance of any associations identified. Additional tests of association between attachment classification and child/caregiver characteristics also utilise chi-square tests for nominal variables (e.g. health status of infant, marital status of caregiver) and One-

Way ANOVA with post-hoc tests for significance and/or independent samples t-tests for continuous variables (e.g. percentage of life in institution, age of caregiver). In all of these tests for Time 1 (the primary focus of this study) sample size is 78; the statistical power afforded in answering each of the main research questions is governed by the group sizes. For the a priori questions upon which the study was designed and data collection determined (RQ1, RQ4, and RQ5)³¹ group sizes permit the detection of moderate to large effects with power set at 0.80 and alpha at 0.05. Tests to answer the remaining research questions, which examine associations between distributions of attachment classifications and specific CWIs (RQ2), specific independent Units within CWIs (RQ3), and those who have or have not experienced foster care (RQ6), include somewhat smaller groups (n between 10 and 13) which reduces power to as low as 0.39 (Baguley, 2004). Thus, while these questions are of practical significance, statistically significant findings from these tests are interpreted with particular caution.

Finally, several multivariate analyses (logistical regressions) are conducted to determine the relative influence of variables found to be associated with attachment classification.

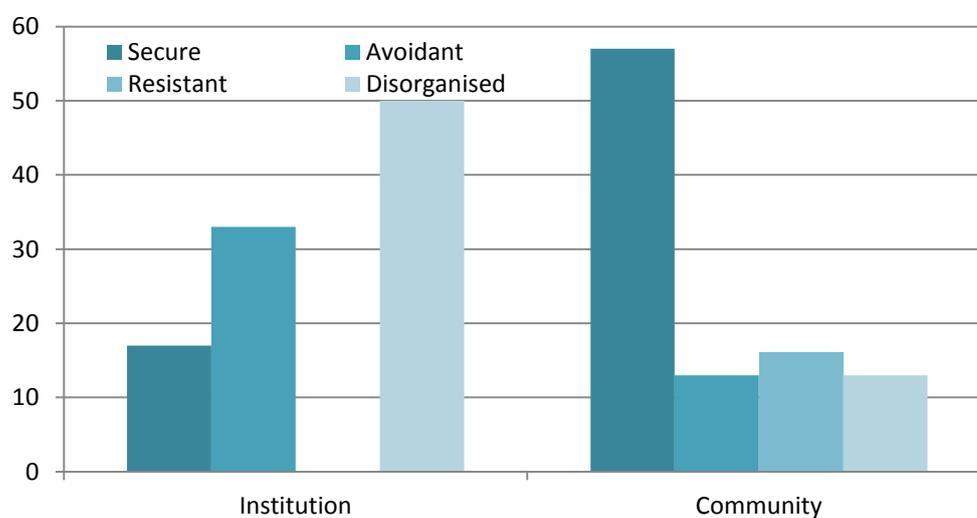
³¹ Note that the order of the questions is based on the reality of organization of the institutions, with CWI grouping followed by Unit grouping, before comparisons at the 're-constitutive' levels of caregiver-to-infant ratio and dedicated caregiver, hence the a priori RQs are 'split' (1, 4, and 5) by those which had not been anticipated in initial study design (2, 3, and 6).

6.2. RESULTS

The first part of this results section addresses research questions 1-6 by presenting and examining distributions of attachment classifications by different groupings (see Figure 6.1). These are followed by results from tests for association between attachment classifications and child/caregiver characteristics, multivariate analyses including several of these variables, and distributions of classifications for the subset tested again approximately 3 months after the first assessment. Finally, a summary of results from a small survey of the destinations of a portion of the children who could be followed-up is presented.

Figure 6.2.

Comparison of Attachment Classification Distributions (%): Institution (n = 78) and Community (n = 61) Chinese Samples from present Research



6.2.1. Research Question 1: Overall Distributions

Overall distributions among the 78 institutionalised infants included extremely low levels of secure attachment and extremely high levels of disorganised attachment patterns as expected (see Tables 6.2.1. for 3-way ($\chi^2 (2, N = 139) = 38.03, p < 0.001, \text{Cramér's } V = 0.52$), sec/insec ($\chi^2 (1, N = 139) = 26.9, p < 0.001, \text{Cramér's } V = 0.44$), and 6.2.2. for 4-

way ($\chi^2 (3, N = 139) = 48.7, p < 0.001, \text{Cramér's } V = 0.59$), org/disorg ($\chi^2 (1, N = 139) = 20.81, p < 0.001, \text{Cramér's } V = 0.39$) below). Three-way classifications found a large majority of infants (65.4%) to be insecure-avoidant, only 19.2% securely attached, and the remaining 15.4% insecure-resistant. Four-way classifications found that half (50%) of infants behaved with disorganised patterns of attachment, with 16.7% secure, 33.3% insecure-avoidant, and none classified as insecure-resistant (see Figure 6.2. above).

Table 6.2.1.

Distributions of Attachment Classifications (% 3-way) for Institutional and Community Samples

Sample	n	B	A	C	χ^2 3-way	χ^2 sec/insec
Institution	78	19.2	65.4	15.4		
Community	61	62.3	14.8	23.0	38.03***	26.91***

***p < .0001

Table 6.2.2.

Distributions of Attachment Classifications (% 4-way) for Institutional and Community Samples

Sample	n	B	A	C	ABC	D	χ^2 4-way	χ^2 D/non
Institution	78	16.7	33.3	-	50.0	50.0		
Community	61	57.4	13.1	16.4	86.9	13.1	48.71***	20.81***

***p < .0001

As shown in Table 6.2.2., no children were judged to have insecure-resistant attachments to caregiver when 4-way classification criteria (i.e. the inclusion of disorganised attachment) were applied. All comparisons of distribution of attachment classifications (i.e. 3-way, 4-way, 2-way) between the institutional and community comparison samples (detailed in Study 1) found large and highly significant differences.

As with the presentation of results in Study 1, in most cases this presentation of results will focus on 4-way classifications plus binary organised-disorganised comparisons, as well as occasional inspection of secure-insecure distributions based on 3-way classifications.

6.2.2. Research Question 2: Distributions by CWI

Four-way classifications revealed significant between group differences when sample was divided by CWI ($\chi^2(4, N = 78) = 10.44, p = 0.03, \text{Cramér's } V = 0.37$; see Table 6.2.3).

The prevalence of disorganised attachments was markedly divergent between institutions, decreasing as predicted by degree of 'enhancement' (Non-Enhanced = 70%, Part-Enhanced = 55.2%, and Enhanced = 41%). Contrary to expectations, avoidant attachments were markedly prevalent (48.7%) within the Enhanced CWI, and secure attachments markedly prevalent (27.6%) within the Part-Enhanced CWI. Neither binary secure-insecure nor organised-disorganised comparisons detected significant differences between groups.

Table 6.2.3.

Distributions of Attachment Classifications by CWI

(% 4-way and Binary Organised/disorganised)

Grouping	n	B	A	C	ABC	D	χ^2	χ^2
							4-way	D/ORG
Enhanced	39	10.3	48.7	-	59.0	41.0		
Part-Enhanced	29	27.6	17.2	-	44.8	55.2		
Non-Enhanced	10	10.0	20.0	-	30.0	70.0	10.44*	3.17

* $p < .05$

6.2.3. Research Question 3: Distributions by CWI Unit

Significant differences between the four institutionalised infant Units were found for 4-way but not organised-disorganised distributions of attachment classifications (see Table 6.2.4.). As previously noted, there are no insecure-resistant classifications, and so within the 4-way rating organised classification differences are entirely between secure/insecure-avoidant. The most marked between groups difference on this B/A split is between the Enhanced Unit (7.7%/42.3%) and the Independent-Run Unit (50%/8.3%). Congruently, disorganised classifications were least prevalent for the Independent-Run Unit (41.7%) and most prevalent for the Non-Enhanced Unit (70%). The Enhanced and State-Run Unit fall between with 50% and 64.7% respectively.

Table 6.2.4.

Distributions of Attachment Classifications by Unit

(% 4-way and Binary Organised/Disorganised)

Grouping	n	B	A	C	ABC	D	χ^2 4-way	χ^2 D/ORG
Enhanced Unit	26	7.7	42.3	-	50.0	50.0		
Independent-Run Unit	12	50.0	8.3	-	58.3	41.7		
State-Run Unit X	17	11.8	23.5	-	35.3	64.7		
State-Run Unit Y	10	20.0	10.0	-	30.0	70.0	14.8*	2.68

* $p < 0.05$

6.2.4. Research Question 4: Distribution by Caregiver-to-Infant ratio

While prevalence of disorganised attachment classifications was markedly lower among those infants in low caregiver-infant ratio settings (47.4% compared to 66.7%), this association was not statistically significant (4 – way: $\chi^2 (2, N = 65) = 2.48$, $p = 0.29$, Cramér's $V = 0.19$; 2 – way: ($\chi^2 (1, N = 65) = 2.38$, $p = 0.1$, Cramér's $V = 0.19$). These results are presented in Table 6.2.5 below.

Table 6.2.5.

Distributions of Attachment Classifications by Caregiver-to-Infant Ratio

(% 4-way and Binary Organised/Disorganised)

Grouping	n	B	A	C	ABC	D	χ^2	χ^2
							4-way	D/ORG
Low-Ratio	38	21.1	31.6	-	58.8	47.4		
High-Ratio	27	11.1	22.2	-	33.3	66.7	2.48	2.37

6.2.5 Research Question 5: Distributions by provision of Dedicated Caregiver

While Disorganised classifications were found to be somewhat less prevalent among the DC-G (50%, compared to 59% of the NoDC-G), this binary difference was not significant ($\chi^2 (1, N = 65) = 0.51$, $p = 0.32$, Cramér's $V = 0.09$). A near significant difference detected in the 4-way analysis ($\chi^2 (2, N = 65) = 5.75$, $p = 0.06$, Cramér's $V = 0.29$)

clearly results from the B/A classification contrast, with the pattern revealed in the 3-way distribution persisting (see Table 6.2.6 below).

Table 6.2.6.

*Distributions of Attachment Classifications by Provision of Dedicated Caregiver
(% 4-way and Binary Organised/Disorganised)*

Grouping	n	B	A	C	ABC	D	χ^2 4-way	χ^2 D/ORG
Dedicated Caregiver	26	7.7	42.3	-	59.0	50.0		
No Dedicated Caregiver	39	23.1	17.9	-	41.0	59.0	5.75*	0.51

P = 0.06

A further test was conducted for all children residing in the Enhanced CWI (that is the Enhanced Unit plus the 13 Foster Care children), all of whom had a dedicated primary caregiver, to determine if being assessed with primary caregiver in the SSP was associated with attachment classification. Ten (25.6%) of 39 children were tested with a caregiver who was not their ‘aunty’. There were no significant differences in distribution of attachment among infants tested with their dedicated caregiver (58.6% organised, 13.8% secure) as opposed to another caregiver chosen from among the staff (60% organised, 10% secure). In fact, among the 26 Enhanced Unit infants who had remained within the CWI without time in a foster placement those tested with dedicated caregiver were at higher risk of being classified disorganised in the SSP (55%) than those tested with a caregiver other than their own (33.3%). By contrast, of those who had experience in a foster care placement and were tested with their dedicated caregiver only 1 (11.1%) was classified as disorganised, while 2 of the 4 tested with a different caregiver were so classified.

6.2.6. Research Question 6: Distributions by Experience of Foster Care Placement

There were significant between groups differences for both 4-way ($\chi^2 (2, N = 78) = 6.00$, $p = 0.05$, Cramér's $V = 0.28$) and 2-way (organised/disorganised: ($\chi^2 (1, N = 78) = 4.52$, $p = 0.03$, Cramér's $V = 0.24$) comparisons (see Table 6.2.7 below).

Table 6.2.7.

Distributions of Attachment Classifications by Experience of Foster Care

(% 4-way and Binary Organised/Disorganised)

Grouping	n	B	A	C	ABC	D	χ^2	χ^2
							4-way	D/ORG
Foster Care Placement	13	15.4	61.5	-	76.9	23.1		
No-FC Placement	65	16.9	27.7	-	44.6	55.4	6.00*	4.52*

* $p \leq 0.05$

Whilst 55.4% of the NoFC-G infants were classified as disorganised, only 23.1% of the FC-G infants were so classified. Despite this extremely positive indication, a very large proportion (61.5%) of those who had experienced foster care were classified as insecure-avoidant, and there was no difference in the proportion demonstrating patterns of secure attachment to the accompanying caregiver (15.4% of those who had experienced foster care, and 16.9% of those who had remained within the institution).

6.2.7. Distributions by Child Characteristics

Child Age

As was done in Study 1, an initial test for association between child age (below or above 18 months of age) was conducted as the SSP is most well validated for children in the lower age range. Although, as with those infants in the community sample, a larger proportion of the 12-18 month children were classified as disorganised this was not a statistically significant association (4-way χ^2 (2, N = 78) = 2.05, $p = 0.36$, Cramér's $V = 0.16$, and 2-way χ^2 (1, N = 78) = 1.85, $p = 0.13$, Cramér's $V = 0.15$). These results are summarized in Table 6.2.8 below.

Table 6.2.8

Distribution of Attachment Classifications (% 4-way) for 12-18 month old age-range

Age Range	n	B	A	C	D	χ^2 4-way	χ^2 org/dis
12-18 months	40	12.5	30.0	-	57.5		
19-40 months	38	21.1	36.8	-	42.1	2.05	1.85

Child Gender

Across the entire sample, though disorganised attachments were somewhat more prevalent among females than males (56% compared to 39.3%), there were no statistically significant associations between gender and attachment classification (4-way: χ^2 (2, N = 78) = 2.23, $p = 0.3$, Cramér's $V = 0.17$; 2-way: χ^2 (1, N = 78) = 2.01, $p = 0.2$, Cramér's $V = -0.16$). These figures are summarised in Table 6.2.9 below.

Table 6.2.9.

Attachment Distributions by Gender (% 4-way and Dis/Org)

	n	B	A	C	ABC	D	χ^2 4-way	χ^2 2-way
Gender								
Female	50	16.0	28.0	-	44.0	56.0		
Male	28	17.9	42.9	-	60.7	39.3	2.23	2.01

Other Child Characteristic Variables

Analyses were conducted to identify any associations between attachment classification and *Age at Admission* and *Age at Assessment* (in months as a continuous variable; see Table 6.2.10., below). In contrast to the binary age chi-square test presented above, ANOVA determined that those classified as disorganised were significantly younger (18.4 months) at time of assessment than those classified as avoidant (22.2 months) or secure (22.9 months; $F = 3.5$, $p = 0.04$). While this finding is consistent with the pattern of distributions in the binary test for association (displayed in Table 6.2.8.), given the previously noted distributions of age between the different Units, we can quite confidently infer that the prevalence of disorganisation is in fact associated with the caregiving environment rather than age at assessment.

Table 6.2.10

Summary of results for ANOVA between 4-way and 2-way attachment classifications and Age at Assessment and Age at Admission to CWI.

	N	B	A	C	ABC	D		
<i>Age, months</i>							F	F
Assessment	78	22.9	22.2	-	22.4	18.4	3.50*	7.17**
Admission	78	1.8	2.5	-	2.3	2.6	0.19	1.84
<i>Time in CWI</i>								
% life	78	86.0	68.0	-	78.36	82.8	1.27	0.384
% 1 st year	78	82.8	74.5	-	72.97	78.0	1.07	0.001

*p < .05, ** p < .01

Similar ANOVA tests found no association between attachment classification and percentage of life and percentage of first year spent in institutional care (see Table 6.2.10 above).

Chi-square tests also found significant associations between Health Condition and attachment classifications (4-way: $\chi^2(6, N = 78) = 12.5$, $p = 0.05$, Cramér's $V = 0.40$; 2-way: $\chi^2(3, N = 78) = 8.35$, $p = 0.04$, Cramér's $V = 0.33$, see Table 6.2.11. below).

However, subsequent analysis determined that these apparent associations stem from the between-group differences previously identified and outlined above (i.e. there were no such within group associations) and are thus dismissed. Specifically, the curious indication that disorganised classifications are highest (77.8%) among those children whose health condition is classified as 'typically developing' and markedly low (33%)

among those who have visible deformities, with prevalence between these extremes for those with internal illness (48%) and developmental delays (45.5%), surely results from the previously noted prevalence of relatively healthy infants in the most depriving caregiver setting (i.e. the Non-Enhanced CWI). By contrast a relatively large proportion of infants with visible deformities are in the Foster Care and Independent-Run Unit groups, both of which have been associated with relatively low proportions of disorganised attachment classifications. This overlap will be further considered in the discussion section.

Table 6.2.11.

Attachment Distributions by Child Health Condition (4-way and Dis/Org)

	N	B	A	C	ABC	D	χ^2 2-way	χ^2 4-way
Typically Developing	18	5.6	16.7	-	22.2	77.8		
Visible Deformity	24	33.3	33.3	-	66.7	33.3		
Internal Illness	25	12.0	40.0	-	52.0	48.0		
Dev. delay	11	9.1	45.5	-	54.5	45.5	12.53*	8.35*

*p<.05.

Further analyses, including a more detailed consideration of influence of Health Condition on attachment organisation, is presented below in section 6.2.9.

6.2.8. Distributions by Caregiver Characteristics

As with the child characteristics listed above, the majority of caregiver characteristics (marital status, maternal status, educational history, number of infants accompanied in SSP, number of children previously cared for, still seeing children who have left CWI, and length of time as a caregiver) were found to be not associated with infant attachment classification (see Tables 6.2.12 and 6.2.13 for these null findings).

Table 6.2.12

Attachment Distributions by Caregiver Characteristics (4-way and Dis/Org)

	N	B	A	C	ABC	D	χ^2 2-way	χ^2 4-way
Married	71	15.5	35.2	-	50.7	49.3		
Unmarried	5	40.0	20.0	-	60.0	40.0	0.16	2.04
Has Own Children	68	16.2	35.3	-	51.5	48.5		
No Children of Own	8	25.0	25.0	-	50.0	50.0	0.01	0.55
See Past Children*	50	20.0	30.0	-	50.0	50.0		
Don't See Past Children	22	13.6	36.4	-	50.0	50.0	0.01	0.54
No Education	6	16.7	50.0	-	66.7	33.3		
Junior School	26	26.9	30.8	-	57.7	42.3		
High School	29	17.2	20.7	-	37.9	62.1		
University	14	-	57.1	-	57.1	42.9	9.78	3.25

*refers to children previously cared for as a caregiver in CWI

Table 6.2.13

Characteristics of Caregiver per Attachment Classification

	n	A	B	C	ABC	D	<i>f</i>	<i>t</i>
Times in SSP	78	2.6	3.0	-	2.7	3.1	0.48	0.77
Tot. Children Cared for	65	19.2	32.8	-	24.2	41.9	2.85	2.11*
Years as caregiver	70	4.2	2.3	-	3.5	4.2	1.59	0.76
Age	77	35.8	30.7	-	34.1	37.5	3.39*	1.80 D>B

* $p < .05$

Two overlapping and apparently significant differences were found between infant classification status and the Age and/or Total number of Children the testing caregiver has previously cared for (see Table 6.2.13 above). Specifically, those classified as disorganised were accompanied by caregivers who had cared for a total of 41.9 infants during their time as a caregiver, compared to 24.2 for caregivers accompanying organised infants ($t = 2.11$, $p < .05$). However, there are three difficulties with this seemingly significant finding. Firstly, the item was somewhat ambiguous and, as noted previously, caregivers may have responded with reference to the ‘Aunty’ programme specifically, or across their entire career as a caregiver. There was considerable missing data for caregivers. And finally, and related to the next finding, caregivers at the Independent-Run Unit were younger, had been in position for a shorter period of time, and so would likely have worked with fewer infants. ANOVA determined that infants classified as

securely attached had significantly younger caregivers in the SSP (mean age = 30.7 years) than those classified as disorganised (mean age = 37.5 years; $f = 3.39$, and post-hoc analysis found $p = 0.01$). However, as noted in the Method section 6.1.9, caregivers at the Independent-Run unit, where disorganised attachments were markedly low, were significantly younger than those at other units. As expected separate tests within Units found no significant differences supporting this inference that this apparent age-related difference stems from other between-units variables (see Table 6.2.14. below).

Table 6.2.14.

Age of Caregiver by Infant Attachment Classification (4-way)

Grouping	N	B	A	C	ABC	D	F	t
							4-way	D/Or
Overall	78	30.7	35.8	-	-	37.4	3.39*	1.80
Unit X	29	35.8	35.6	-	-	38.3	0.64	1.15
Unit H	12	24.7	24.0	-	-	30.2	0.78	0.93
Unit Y	17	34.5	39.0	-	-	37.4	0.39	0.07
Unit A	10	39.0	37.0	-	-	40.9	0.92	0.47

6.2.9. Multivariate Analyses of Time 1 Data

In an effort to gain a clearer understanding of how child characteristics and caregiver-environment characteristics interact in relation to attachment organisation a second stage of analyses was conducted. Firstly, a logistical regression was carried out using 3

variables already identified as associated with attachment organisation: Experience of Foster Care, Age at Assessment, and Health Condition. The results are summarised in Table 6.1.15 below.

Table 6.2.15

Logistic regression to predict Disorganised attachment to caregiver (n = 78)

Predictor variable	<i>B</i>	<i>SE B</i>	<i>(β)</i>
Age at Assessment	0.59	0.04	1.06
Health Condition	-1.72	0.93	0.18*
Experience of Foster Care	-1.59	0.85	0.20*

*P = 0.06

Model $\chi^2 = 17.34$, p = 0.004
65.4% of cases correctly predicted (50% intercept-only)

This initial logistic regression model demonstrated a considerable and highly significant improvement on the intercept-only (null) model, predicting 65.4% of cases successfully, compared to just 50% ($\chi^2 = 17.34$, df = 5, p < .005). However, inspections of distributions of the variables involved – and the related significant associations with attachment organization – suggests that separate models should be generated for those with less severe health problems (i.e. typically developing and visible deformity) and those with more severe health problems (i.e. internal illness and developmental delay; see Table 6.2.11 above). Accordingly, the sample was thus split and separate models generated.

The logistic regression model including only those identified as Typically Developing or with Visible Deformity (the Health Condition variable), also including Age at Assessment and Experience of Foster Care, demonstrated a large and highly significant improvement on the intercept-only (null) model, predicting 76.2% of cases successfully, compared to just 52.4% ($\chi^2 = 20.44$, $df = 3$, $p < .001$). Of the 3 predictor variables, Health Condition (visible deformity compared to typically developing, $\beta = 0.05$, $p < 0.01$) and Experience of Foster Care (experienced compared to not experienced, $\beta = 0.02$, $p < 0.05$) reduce odds of a disorganized attachment classification. Age at assessment did not contribute to the model. Results are summarized in Table 6.2.16 below.

Table 6.2.16

Logistic regression to predict Disorganised attachment to caregiver, including children classified as Typically Developing or with Visible Deformity for Health Variable (n = 42)

Predictor variable	<i>B</i>	<i>SE B</i>	(β)
Age at Assessment	-0.14	0.07	.99
Health Condition (Typically Developing)	-3.03	1.15	0.05**
Experience of Foster Care	-3.92	1.52	0.02*

* $P < 0.05$, ** $p < 0.01$

Model $\chi^2 = 20.44$, $p < .001$

76.2% of cases correctly predicted (52.4% intercept-only)

In contrast to the logistic regression model for those developing typically or with visible physical deformities, for those deemed to have more severe health problems (either Internal Illness or identified Developmental Delay) the model demonstrated only a small

and non-significant improvement on the intercept-only (null) model, predicting 58.3% of cases successfully, compared to 52.8% ($\chi^2 = 3.6$, $df = 3$, $p = 0.31$). Furthermore, neither of the successful predictor variables from the first regression model were useful in this model. Results are summarized in Table 6.2.17 below.

Table 6.2.17

Logistic regression to predict Disorganised attachment to caregiver, including children classified as Internal Illness or with Developmental Delay for Health Variable (n = 36)

Predictor variable	<i>B</i>	<i>SE B</i>	(β)
Age at Assessment	0.10	0.06	1.11
Health Condition	-0.19	0.76	0.98
Experience of Foster Care	0.39	1.12	1.47

Model $\chi^2 = 3.60$, $p = 0.31$

58.3% of cases correctly predicted (52.8% intercept-only)

Overall, the results from these three multivariate regressions lend further insight into the predictors of a child being categorised as disorganised in relation to accompanying caregiver. In brief, among those with no or less severe health problems it is those with visible deformities are at lower risk of being classified as disorganised than those deemed to have no health/physical problems (typically developing). None of the variables included demonstrate predictive power among those infants identified as having more severe health problems (either Internal Illness, or Developmental Delays). These regressions have also demonstrated that experience of foster care, which is associated with organised attachment classifications in the chi-square tests presented above, is only a predictor among those with less severe medical problems. It should be noted however that only 4 of the 13 who had experienced foster care were classified with such more

severe medical problems (see Table 6.1.17 above). More generally the small sample size necessitates caution in interpretation of the results from these multivariate analyses.

6.2.10. Overall Distributions at Time 2

Time 2: Attachment Classifications

While the same general patterns of overall distribution were found at T2 as at T1, prevalence of attachment security was somewhat higher (29.8% compared to 19.2% at T1, 3-way) and disorganisation somewhat lower (42.6% compared to 50% at T1). An initial analysis was conducted to determine if attachment distributions at T1 for the subgroup of those assessed again at T2 differed to those who were assessed just once. While the groups did not differ significantly, there was a marginally higher prevalence of secure attachment among those who were re-assessed at T2, and a difference approaching significance for proportion of disorganised classifications (42.6% compared to 61.3% of those assessed only once; see Tables 6.2.18 and 6.2.19 below). This difference is likely to have contributed an apparent improvement from T1 to T2.

Table 6.2.18.

Comparison of Distributions of Attachment (% 3-way) for infants assessed Once or Twice

Grouping	n	B	A	C		
Total T1	78	19.2	65.4	15.4		
					χ^2 3-way	χ^2 sec/insec
Assessed Once T1	31	16.1	64.5	19.4		
Assessed Twice T1	47	21.3	66.0	12.8	0.79	0.32
Assessed Twice T2	47	29.8	51.1	19.1		

Table 6.2.19.

Comparison of Distributions of Attachment (% 4-way) for infants assessed Once or Twice

	n	B	A	C	ABC	D		
Total T1	78	16.7	33.3	-	50.0	50.0		
							χ^2 4-	χ^2
							way	D/non
Assessed Once T1	31	12.9	25.8	-	38.7	61.3		
Assessed Twice T1	47	19.1	38.3	-	57.4	42.6	2.62	2.62 [†]
Assessed Twice T2	47	19.1	34.0	2.1	55.3	44.7		

[†]p = .08**6.2.11. Test-Retest Distributions by Group**

The same analyses performed by group were conducted for attachment distributions at T2 (see Tables 6.2.20 and 6.2.21). Though most patterns remained the same, with reduced sample size many of the groups became too small for reliable statistical analysis and so these data are provided for cautious consideration. Three changes are noteworthy. Firstly, while the difference in prevalence of disorganised attachment remained markedly higher among the non-FC Group (50%) compared to the FC Group (22.2%) a statistically significant difference was no longer detectable. Secondly, for 3-way distribution there was now an unexpected difference between those with low or high caregiver-to-infant ratios, with the less well provided for group showing markedly higher proportions of secure attachment (46.2%) than the better provided for group (23.5%), though this difference only approached significance (χ^2 (2, N = 47) = 5.64, p = 0.06, Cramér's V = 0.35), and only when the difference in insecure-avoidant attachments (still very high in

high-ratio group) was included. Thirdly, with this second set of assessments markedly fewer of those in the dedicated caregiver group were classified as disorganised (32%) compared to those in the without dedicated caregiver group (59.1%). This difference also approached significance in binary (organised-disorganised) analysis: $\chi^2(1, N = 47) = 3.48$, $p = 0.06$, Cramér's $V = 0.27$; see Table 6.1.21 below).

Table 6.2.20.

Time 2: Distributions of Attachment Classifications (% 3-way and Binary Secure/Insecure)

Grouping	n	B	A	C	χ^2 3-way	χ^2 sec/insec
Overall	47	29.8	51.1	19.1		
Enhanced Inst.	25	20.0	64.0	16.0		
Part-Enhanced Inst.	17	47.1	41.2	11.8		
Non-Enhanced Inst.	5	20.0	20.0	60.0	9.73*	3.79
Enhanced Unit	16	25.0	56.3	18.8		
Independent-Run Unit	9	33.3	55.6	11.1		
State-Run Unit X	8	62.5	25.0	12.5		
State-Run Unit Y	5	20.0	20.0	60.0	8.99	3.89
Low-Ratio	34	23.5	61.8	14.7		
High-Ratio	13	46.2	23.1	30.8	5.64†	2.30
Dedicated Caregiver	25	20.0	64.0	16.0		
No Dedicated Caregiver	22	40.9	36.4	22.7	3.74	2.45
Foster Care Placement	9	11.1	77.8	11.1		
No-FC Placement	38	34.2	44.7	21.1	3.24	1.86

* $p < .05$; † $p = .06$. NOTE: Group sizes are too small for statistical analysis (i.e. Non-Enhanced

Institution, $n = 5$), and so these contingency tables are provided for purposes of cautious comparison.

Table 6.2.21.

TIME 2: Distributions of Attachment Classifications (% 4-way and Binary Organised/disorganised)

Grouping	n	B	A	C	ABC	D	χ^2 4-way	χ^2 D/O
Overall	47	19.1	34.0	2.1	55.3	44.7		
Enhanced Inst.	25	16.0	48.0	4.0	68.0	32.0		
Part-Enhanced Inst.	17	23.5	23.5	-	47.1	52.9		
Non-Enhanced Inst.	5	20.0	-	-	20.0	80.0	7.42	4.62
Enhanced Unit	16	18.8	37.5	6.3	62.5	37.5		
Independent-Run Unit	9	11.1	22.2	-	33.3	66.7		
State-Run Unit X	8	37.5	25.0	-	62.5	37.5		
State-Run Unit Y	5	20.0	-	-	20.0	80.0	7.16	4.30
Low-Ratio	34	14.7	41.2	2.9	58.8	41.2		
High-Ratio	13	30.8	15.4	-	46.2	53.8	3.83	0.61
Dedicated Caregiver	25	16.0	48.0	4.0	68.0	32.0		
No Dedicated Caregiver	22	22.7	18.2	-	60.9	59.1	6.14	3.48†
Foster Care Placement	9	11.1	66.7	-	77.8	22.2		
No-FC Placement	38	21.1	26.3	2.6	50.0	50.0	5.35	2.27

†p = 0.06

6.2.12. Stability of Attachment Classifications (Test-Retest)

In order to determine the stability of classifications between T1 and T2 contingency tables for these 3-way and 4-way, incorporating binary, classifications were created (see Tables 6.2.22 and 6.2.23 below). 3-Way classifications remained stable for 34 (72.3%) of the 47 infants, with greatest shifts from insecure-avoidant at T1 to secure (n = 5) and

insecure-resistant ($n = 4$) at T2. Analysis determined that these shifts constituted a significant difference in distributions ($\chi^2 (2, N = 47) = 25.99, p < 0.001, \text{Cramér's } V = 0.75$). Similarly, while 31 infants remained insecure in both assessments, and 8 remained secure, that 2 infants became insecure and 6 became secure was found to be statistically significant ($\chi^2 (1, N = 47) = 15.31, p < 0.001, \text{Cramér's } V = 0.57$).

Table 6.2.22.

Stability/Change of individual infant Attachment classifications (Freq 3-way) Time 1 and Time 2

Time2	Avoidant (24)	Resistant (9)	Secure(14)	<i>Insecure</i>
Time1				
Avoidant (31)	22	4	5	
Resistant (6)	1	4	1	
Secure (10)	1	1	8	2
<i>Insecure</i>			6	31

Table 6.2.23.

Stability/Change of individual infant Attachment classifications (Freq 4-way) Time 1 and Time 2

Time2	Secure (9)	Avoidant (16)	Resistant (1)	Disorganised (21)	Organised (26)
Time1					
Secure (9)	5	-	-	4	
Avoidant (18)	3	10	-	5	
Resistant (0)	-	-	-	-	
Disorganised (20)	1	1	1	12	8
Organised (27)				9	18

For just over half (57.7%) of the 47 infants 4-way classification remained stable between the 2 assessments, with changes occurring about evenly across the 4 categories (A, B, C and D; see Table 6.2.23 above). Chi-square tests confirmed that these shifts constitute a significant difference ($\chi^2 (6, N = 47) = 17.54, p = 0.007, \text{Cramér's } V = 0.61$). Stability of classification was greater when disorganisation was treated as a binary variable (12 infants remained disorganised, 18 remained organised, 9 became disorganised, and 8 became organised) though the difference remained a statistical trend ($\chi^2 (1, N = 47) = 3.31, p = 0.07, \text{Cramér's } V = 0.27$).

6.2.13. Stability of Attachment Classifications by Group

Tests for stability of change were performed by group, limited to organisation of attachment as the small group sizes do not permit finer analysis, and disorganisation is of particular interest to this study.

Differences between groups for stability, when tested as all 4 possibilities of stability or change (i.e. remain organised or disorganised, or change in either direction), do not permit adequate tests for detection of statistical significance (see Table 6.2.24). Therefore a binary category was computed denoting positive (remained or became organised) versus negative outcome (remained or became disorganised). See Table 6.2.25.

Table 6.2.24.

Comparison by Group of % Change/Stability of Attachment Organisation between T1 and T2

Grouping	n	Remained	Remained	Became	Became	
		Organised	Disorganised	Organised	Disorganised	
Overall	47	38.3	25.5	17.0	19.1	
						χ^2
Enhanced Inst	25	52.0	16.0	16.0	16.0	
Part-Enhanced Ins.	17	23.5	29.4	23.5	23.5	
Non-Enhanced Ins	5	20.0	60.0	-	20.0	7.54
Enhanced Unit	16	43.8	18.8	18.8	18.8	
Ind-Run Unit	9	22.2	33.3	11.1	33.3	
State-Run Un. X	8	25.0	25.0	37.5	12.5	
State-Run Un. Y	5	20.0	80.0	-	-	7.39
Low-Ratio	25	36.0	24.0	16.0	24.0	
High-Ratio	13	23.1	38.5	23.1	15.4	1.60
Dedicated	16	43.8	18.8	18.8	18.8	
Caregiver						
No Dedicated	22	22.7	36.4	18.2	22.7	2.36
Caregiver						
Foster Care	9	66.7	11.1	11.1	11.1	
Placement						
No-FC Placement	38	31.6	28.9	18.4	21.1	3.85

While there were no significant differences between groups for the binary variable of ‘Remained/Became Organised’ versus ‘Remained/Became Disorganised’, the same patterns of advantage previously identified remained in evidence (see Table 6.2.25). Notably, 77.8% of those who had experienced a foster care placement remained or became organised, compared to 22.1% who remained or became disorganised, indicating both benefits of placement and high test re-test stability. Stability was highest, and least favourable, for the Non-Enhanced CWI/State-Run Unit Y, in which 4 out of the 5 re-tested infants remained or became disorganised. Stability was also quite high for the Enhanced Unit, which is also the dedicated-caregiver group, though this level of 62.5% remaining or becoming organised is no higher than for State-Run Unit X in which caregiver provision is low-ratio and non-dedicated. This finding for State-Run Unit X underlines the previously noted unexpectedly favourable distribution of attachment classifications at T2.

The possibility that attachment classification is specific to a particular caregiver, and therefore being accompanied by different caregivers in assessments might have influenced stability of classifications, was tested for. For the sample as a whole, there was no association between binary classification of change to attachment organisation status and being tested with same or alternate caregiver at T2; of those tested with the same caregiver 57.1% remained or became organised, and of those tested with an alternate caregiver 52.6% remained or became disorganised ($\chi^2 (1, N = 47) = 0.09, p = 0.8, \text{Cramér's } V = -.05$). Once again, meaningful statistical analysis at the sub-group level is limited by sample size though no statistically significant differences were detected when these tests were performed.

Table 6.2.25. Comparison by Group of % Positive versus Negative Change/Stability of Attachment Organisation between T1 and T2

Grouping	n	Remained or Became		χ^2
		Organised	Disorganised	
Overall	47	55.3	44.7	
Enhanced Inst.	25	68.0	32.0	
Part-Enhanced Inst.	17	47.1	52.9	
Non-Enhanced Inst.	5	20.0	80.0	7.54
Enhanced Unit	16	62.5	37.5	
Indep-Run Unit	9	33.3	66.7	
State-Run Un. X	8	62.5	37.5	
State-Run Un. Y.	5	20.0	80.0	4.30
Low-Ratio	25	52.0	48.0	
High-Ratio	13	46.2	53.8	0.12
Dedicated Caregiver	16	62.5	37.5	
No Dedicated Caregiver	22	40.9	59.1	1.73
Foster Care	9	77.8	22.1	
No-FC	38	50.0	50.0	2.27

Table 6.2.26.

Binary coding of Attachment Organisation over 2 Assessments

Grouping	n	Always	Once/Twice	χ^2 O/Dis
		Organised	Disorganised	
Overall	47	38.3	61.7	
Enhanced Inst.	25	52.0	48.0	
Part-Enhanced Inst.	17	23.5	76.5	
Non-Enhanced Inst.	5	20.0	80.0	4.26
Enhanced Unit	16	43.8	56.3	
Indep-Run Unit	9	22.2	77.8	
State-Run Unit X	8	25.0	75.0	
State-Run Unit Y	5	20.0	80.0	7.93
Low-Ratio	25	36.0	64.0	
High-Ratio	13	23.1	76.9	0.66
Dedicated Caregiver	16	43.8	56.3	
No Dedicated Caregiver	22	22.7	77.3	1.89
Foster Care	9	66.7	33.3	
No-FC	38	31.6	68.4	3.79†

†p < .06

6.2.14. Test Re-Test as Increasing Sensitivity to Detection of Disorganised

Attachment

Given that inconsistency/instability of attachment strategy characterises disorganisation, the use of 2 assessments conducted with a relatively brief test-retest interval, thus minimising the influence of maturation, might provide a more inclusive screening for infants at risk of disorganisation. However, as with the main analyses at T1, the only between groups difference to approach significance was between the Foster Care Group (33.3%) and the no experience of foster care group ($\chi^2 (1, N = 47) = 3.79, p = 0.05$, Cramér's $V = -0.28$). Given that no variables were identified as being significantly associated with attachment classification at Time 2, no multivariate analyses are included.

6.2.15. Post-Study Follow-up on Placement: Overseas Adoptions.

Follow-up contact with administrators/leaders of the two institutions demonstrating most and least favourable prevalence of disorganised attachment (Enhanced Unit and Non-Enhanced Unit), 18-months after completion of the data collection, provided interesting information on the post-study placement of many of these infants. These figures are summarised in Table 6.2.27 below.

Of the 36 of 39 infants in the Enhanced Unit for whom data records were available, 27 (75%) had been adopted overseas (22 of these to the USA). The remaining infants remained in institutional care, in a special educational class. Eight of the 10 children from the Non-Enhanced Unit had been adopted overseas (all to USA). The average age of adoption from the Enhanced Unit was 33.1 months (s.d. 7.5), with the youngest infant 15.5 months and the oldest 46.7 months of age. It is estimated that similar patterns of adoption would be found in the other institutions. This late stage adoption will be

considered in light of findings from other studies, and in light of the attachment classifications for the infants tested here.

Table 6.2.27.

Characteristics of Adopted/Non-adopted Infants

	OVERALL	Adopted	Not-adopted	χ^2 / t
	49	35	14	
<i>Gender</i>				
% Female	57.1	54.3	64.3	0.41
<i>Age (months)</i>				
Adoption	n/a	33.1 (7.5)	n/a	
<i>Assess-Adopt interval</i>		10.2 (5.9)		
Assessed	20.4 (6.8)	20.8 (6.6)	19.3 (7.2)	0.67
Admission	2.8 (5.1)	2.47 (4.3)	3.67 (6.7)	0.75
<i>% Foster Care Exp.</i>				
	26.5	31.4	14.3	1.51
<i>Medical Condition</i>				
Typically Developing	26.5	28.6	21.4	
Visible Deformity	28.6	34.3	14.3	
Internal Illness	32.7	25.7	50.0	
Dev. delay	12.2	11.4	11.4	3.47
<i>% of life in CWI</i>				
0-49%	22.4	22.9	21.4	
50-75%	22.4	25.7	14.3	
76-99%	51.0	45.7	64.3	
100%	4.1	5.7	-	2.067

As shown in Table 6.2.28, below, infants who were adopted overseas within 18 months of the completion of data collection do not differ significantly to those who remain institutionalised in terms of attachment classifications.

Table 6.2.28.

Comparisons of Distributions of attachment classifications (% 4-way/D-O) of subsequently adopted infants

	n	B	A	C	ABC	D		
Overall	76	17.1	32.9	-	50.0	50.0		
<i>Adopted</i>								
Enhanced	27	14.8	48.1	-	63.0	37.0		
Non-Enhanced	8	-	25.0	-	25.0	75.0		
							χ^2 4-way	χ^2 Org/Dis
Adopted	35	11.4	42.9	-	55.3	45.7		
Not-Adopted	13	7.7	38.5	-	46.2	53.8	0.30	0.25

Overall almost half (45.7%) of the infants who are adopted overseas are classified as having a disorganised attachment, and this figure is clearly much higher for the children from the Non-Enhanced Unit/CWI. Figures are combined as, while there is no scope for further analyses, a more accurate picture of infants adopted from a range of types of institutions is provided.

6.2.16. Summary of Results

In summary the analysis of this set of data, focusing on differences in distribution of attachment classifications both between the community sample (Study 1) and this sample of institutionalised infants, and between different practical groupings within the institutionalised sample (outlined in Figure 6.1.), has found that institutionalised infants are at significantly elevated risk of demonstrating insecure and disorganised attachments to caregivers. Importantly, this set of analyses has highlighted that prevalence differs significantly between institutions located in different cities in the same province, with those in more impoverished regions demonstrating poorer outcomes, as well as less obvious and even unexpected findings. There is very little evidence, and no statistically significant support from analysis of the data presented here, to suggest that improving caregiver-to-infant ratios or providing a dedicated caregiver results in statistically significantly higher prevalence of secure and organised attachments. Of all the groupings, the isolation of the Independently-Run Unit (the unit housed within but operated independently of the Part-Enhanced (State-Run) CWI) identified markedly higher prevalence of secure attachments, and the isolation of those children who had previous experience in foster care (residing in the Enhanced Unit at time of assessment) identified markedly higher prevalence of organised attachments.

Health Condition, or physical status, of the children demonstrated interesting and somewhat complicated associations with attachment classifications (e.g. those with visible deformities least likely to be classified as disorganised). In univariate analyses age was also associated with attachment organisation (younger children more likely to be classified as disorganised), but closer inspection determined that this was limited to certain Units, and thus complicated by other variables.

Multivariate analyses provided some greater clarity, and found that foster care and health condition are good predictors of attachment organisation, but only among children who have less severe medical or developmental problems. Stability of attachment over time was found to be low, and attachments to specific caregivers showed no advantage over attachments to others. Follow-up of the sample 18 months after completion of data collection found that a large majority of these children has been adopted overseas, and are thus being raised within Western (predominately American) families. These findings are discussed below and in the final Chapter 7.

6.3. DISCUSSION

The overall distribution of attachment classifications reveals the predicted high proportion of disorganized and low proportion of secure classifications: both the 4-way (A, B, C, D) and 3-way (A, B, C) distributions were significantly different to the community comparison sample presented in Study 1. An unanticipated finding, on the basis of previous institutionalized samples reviewed in Chapter 5, is that in 4-way and 3-way distributions insecure-avoidant classifications were far more prevalent than insecure-resistant classifications. The average distributions derived from the collated findings of the 10 institutional samples previously conducted (Table 5.4.2, Chapter 5) included 7.1% A and 8.4% C classifications 4-way, compared to 33.3% A and zero (0%) C classifications in our Chinese institutional sample overall. Several variables predicted to be associated with attachment classification were not found to be associated, while several unanticipated associations were identified. These are discussed below.

Firstly a consideration of the unusually high proportion of avoidant classifications. The association between experience of caregiver as rejecting and unavailable and subsequent constricted affect, as detailed with a wealth of experimental evidence in Chapter 1, provides a compelling theoretical and empirical framework within which this high proportion of avoidant attachment patterns among institutionalised infants, who we would expect and have observed to experience extreme constraints on caregiver responsiveness, sits comfortably. This generalised explanation is however challenged when variations in distribution within specific CWIs are considered. The following discussion, considering specific elements of caregiver environment across the heterogeneous groups within and between CWIs will further elaborate on possible underlying dynamics likely to

result in high prevalence of insecure-avoidant attachments, as well as give detailed consideration to the striking fluctuations in prevalence of disorganised attachment across groups.

It is interesting to note that the high prevalence of ‘lack of co-regulation of affect’ among post-adoption 4-year-olds in the ERA study necessitated the inclusion of the ‘*insecure-other*’ category (43% of children at 4 years, Rutter et al., 2008). The authors distinguish this from ‘disordered co-regulation’, with silly, hyperactive, and disorganised behaviours tending to be in response to stranger, and characterized by failure to approach parent to down-regulate affect. Further investigations with Chinese institutionalised samples, or perhaps a reconsideration of avoidant patterns among the present sample, might benefit from this perspective. The insecure-other classification was also significantly associated with adoptive parental report of disinhibited attachment which, as discussed below, is implicated with the CWI groups in which insecure-avoidant classifications were most elevated.

The only other known high-risk sample of infants with elevated levels of insecure-avoidant classifications, and no insecure-resistant classifications when disorganised attachment was coded for, was provided by Lyons-Ruth, Bureau, Riley, and Atlas-Corbett (2009). However, while there was a history of documented abuse for a considerable proportion of these infants, and all were otherwise at elevated risk, out of home placement was controlled for as this sample was selected to assess indiscriminate behaviour through coding of interactions with stranger in the SSP and so it was important that experience of maternal caregiver had been consistent. Thus, whilst this unusual distribution shows

some commonality with that of the present study, comparability of the underlying causes is not immediately apparent.

It is important to emphasise that within the comparison community sample, though not hugely deviating from global norms overall, there was a definite tendency toward relatively higher proportions of insecure-resistant classifications than insecure-avoidant classifications, consistent with previous findings of low prevalence of avoidant behaviours (an interesting exception to this among previous SSP-based studies in China was that conducted with autistic infants in which over two-thirds were classified as insecure-avoidant, Deng et al., 2007; see section 2.3.). Thus it has been clearly ascertained that this extremely high level of insecure-avoidant classifications is, if anything, inverse to the background culture within which the institutionalised infants are being reared and of which they may (unless adopted overseas) become mature members. Infancy in the CWI is also unlikely to equip a child for culturally normative socio-emotional relating (broadly speaking the Confucian interdependency outlined in Chapter 2) should he or she be adopted domestically. However, this issue becomes more complicated, and perhaps redundant, in light of the unanticipated finding that the majority of infants followed-up did not remain within the institution, nor within the Chinese cultural context, rather they were adopted overseas, mostly to the USA. In interpreting the possible implications of adaptive preparedness of infants, as evidenced through the SSP, consideration should be given to later trajectory and likely socio-cultural environment. If we apply the ‘Integrated Theoretical Framework of Human Development’ (Dasen, 2003; introduced in Chapter 2, see Figure 2.1) to the developmental niche of the infants in this study, we must also incorporate the modifications at all levels in anticipation of probable migration into a Western cultural context. Remarkably, the

developmental paths of these abandoned, and probably mostly rural, infants must be considered within a global macrosystem. It is also worth reflecting on the possibility that this aspect of the infants' development was not coincidental, outside of the awareness of the biological parents at time of abandonment, pregnancy, or even earlier. There has been some suggestion that women have been financially compensated to part with their infants with the promise that they will have a better life in the developed West, and even paid to produce infants, with the express purpose of financial gain by agencies involved in sending infants to overseas adoptive placements. How this ties to policy will be considered further in the final concluding chapter.

Before discussing the detailed findings by group (as outlined in Figure 6.1., and delineated in the Research Questions), it is worth first emphasising that no associations were found between attachment classification and gender, age at admission, and percentage of 1st year of life in institution. These characteristics – and others which were associated with attachment classifications - as they contribute to the composition of the sample are discussed below.

6.3.1. RQ 2: Generalisability Across Institutions

Comparisons of attachment organisation and security, as binary variables, find no statistically significant differences between the 3 CWIs in the 3 markedly different cities, which suggests a degree of homogeneity at this important level of analysis. However, comparison at the 4-way classification level did reveal statistically significant and notable heterogeneity. As expected disorganised classifications were most prevalent (70%) among the Non-Enhanced institution sample. While disorganised classifications are lowest among infants in the Enhanced Institution, where a dedicated caregiver is provided,

it is striking to see that almost there are almost 3 times as many secure classifications within the Part-Enhanced Institution. This unexpected distribution becomes clearer when sample is considered at the Unit level.

6.3.2. RQ 3: Heterogeneity Across Units within Institutions

The analysis at the Unit level involved separating out infants from two CWIs (the Enhanced and the Part-Enhanced Institutions) who, it was found in the course of data collection, were experiencing or had experienced a quality of care distinct to that provided by the state institution, and the dedicated caregiver programme at the centre of the initial evaluation study. These realisations are the source of two of the most interesting and intriguing findings of this study. Firstly, the separation of infants in the two distinct Units (the Independent-Run and State-Run X units) at the Part-Enhanced Institution isolated quite different distributions of attachment despite both units being literally ‘under one roof’. Whilst only 11.8% of infants in the State-Run Unit X were found to be securely attached to caregiver, an impressive 50% of those in the Independent-Run Unit were thus classified. What might explain this high level of secure attachments which is comparable to normative samples? Once again, reservations stemming from sample size are held in mind, though suspended for the purposes of speculation. As explained in the Method section above, the Independent-Run Unit is managed and run by a charitable Christian organisation. In relation, and in addition, the caregivers’ characteristics did differ in several ways to those of other units (i.e. younger, unmarried, no children), but these variables were not found to be associated with attachment security. Certainly the quality of caregiving, both the physical environment, the detail-oriented management, training and programmes, and attitude of employees, was exceptional on this unit; all caregivers are Christians and many made mention of the

significance of God/Christ and related love and compassion during interviews, to both their vocation in caring for the children, the assured destiny of the infants, and the success of the unit. Though the staff of this unit reported having not visited the adjoining State-Run Unit (upstairs in the same building) there was a somewhat regretful awareness that provision differed, and an emphasis in the Independent-Run Unit which underlay the maternal quality was one of love and compassion, fostering the individuality of the children, who were simultaneously held as members of the Christian family, and helping them to develop healthily in mind, body, and – again, very much peculiar to this unit – spirit. This aspect of the study, and this element of institutional care which recurs in many CWIs in China, will be considered again in the final chapter, and is also discussed in an emphasis on the experience of the caregiver below.

The high prevalence of secure attachments among the Independent-Run Unit infants must also be considered against the still elevated level (41.7%) of disorganised attachments. However, this remained the lowest of all 4 units. The second unanticipated grouping variable was that one-third of the children in the Enhanced Institution had previously been placed in a foster family. The effect of removing this subgroup from the Enhanced Institution, where the Aunty Programme was being evaluated, is considered below, after a discussion of RQs 4 & 5.

6.3.3. RQ 4 and RQ 5: Caregiver –to-Infant Ratio and Dedicated Caregiver

These two items, which examine separately the impact of caregiver-to-infant ratio and the provision of a dedicated caregiver, are central to the present study and, as detailed in Chapter 5, constitute the major thrust of interventions to improve institutional care. Surprisingly, although these are the two main components of the ‘Aunty Programme’,

standardised SSP assessments found neither to be significantly associated with lower prevalence of disorganised or insecure attachments. This set of findings differs to those from the comparable interventions in St Petersburg institutions (SPUO Team, 2008), in that the relative difference associated with the intervention is smaller, but also that in both dedicated-caregiver and no-dedicated-caregiver groups of the present study there is a lower proportion of disorganised attachments than in the Russian baby homes. Among our sample, the difference in prevalence of disorganised attachment is least marked for dedicated caregiver, the single grouping which compares 'Aunty Programme' infants only with those of all other Units. Clearly, as already discussed, the collapsing of the other units in this way is problematic as these are now recognised as highly divergent. Specifically, the inclusion of the Independent-Run Unit, which has the lowest proportion of Disorganised classifications overall (lower than the Enhanced Unit) provides positive compensation for the otherwise high levels of Disorganisation in the State-Run Units X and Y (64.7% and 70% respectively). This general set of distributions does not support the suggestion that provision of a dedicated caregiver, as an isolated intervention, enhances likelihood of developing an organised attachment to caregiver. This inference is further substantiated by the complimentary finding that comparison of high and low caregiver to infant ratio groups identifies a larger (though also non-significant) difference. That this difference is more marked, with the inclusion of the Independent-Run Unit, suggests that it is something other than the provision of a dedicated caregiver (as provided by the 'Aunty Programme' in the Enhanced Unit) which protects against the formation of disorganised attachment. This conclusion deserves comparison to the background of findings from previous studies outlined and collated in Chapter 5. Though there was no test for statistical significance, the difference in proportion of Disorganised classifications for the 5 samples without a dedicated caregiver (75%) compared to the 5 samples with a

dedicated caregiver (56%) was somewhat greater than that found in the present study. I would suggest that taken together, this set of evidence does not detract from the benefits of providing a dedicated caregiver, but underlines the importance of considering more finely other influences in the extremely complex and heterogeneous social environments and trajectories of children living in and adopted from institutions. Once again, the highly divergent findings reported from Bulgarian institutions, in which the provision of dedicated caregivers also yielded highly ambiguous and almost paradoxical attachment classification distributions, supports this cautionary perspective.

Given the general lack of association between attachment classification and quality of caregiving, as assessed and reported from various studies reviewed in Chapter 5 (e.g. Vorria et al., 2003; O'Connor et al., 2003; van Londen et al., 2007; Smyke et al., 2010), it is perhaps unsurprising that the related groupings of caregiver-to-infant ratio, and provision of a dedicated caregiver, are not clearly associated with quality of attachment in the present study. Smyke et al., (2010) have suggested that the lack of association between quality of caregiving and secure attachment among their sample at 48 months, which included children who had been placed in foster care, may have reflected the inadequacy of their single brief measure post-intervention, and the added confound of a number of children changing location during the intervention period. For the purposes of design and implementation of interventions to enhance caregiver sensitivity through training, this set of findings suggests rather limited scope consistent with the St Petersburg-USA Orphanage Team (2008). Certainly this lack of association demands further investigation, and may perhaps be elucidated indirectly through assessment of caregiver state of mind with regard to attachment experiences through for example the

Adult Attachment Interview. Direct associations with caregiver specific variables are discussed further below.

6.3.4. RQ 6: The Implied Benefits of Foster Care

The complex set of contributing influences on socio-emotional development has perhaps been best illustrated with the identification and separate analysis of the subgroup of children who had experienced foster care placement. Remarkably, this was the only grouping which yielded a statistically significant difference in proportion of disorganised attachments among the entire sample; by contrast to the elevated 55% (range 42-70% by Unit) for the rest of the sample, among which no grouping variable identified statistically significant difference, only 23.1% of those children who had experience of a foster family placement during infancy and early toddlerhood were classified as disorganised in relation to caregiver. Though this support for the benefits of foster care must be regarded as tentative, given the small sample size, the low proportion of disorganised attachments is almost identical to that reported in the follow-up of previously institutionalised children assessed during foster care placement (in the BEIP study placements were ongoing with intended permanence) in Romania (Smyke et al., 2010, see Chapter 5). This finding is also consistent with the unusually positive outcomes for the subsample among the ERA sample that had experienced home placements prior to adoption from Romania to the UK (O'Connor et al., 2003). That the children in the present study demonstrated organised attachments some months (average 6.3 months, s.d. = 2.9) after returning to the institutional environment suggests the powerful impact of the family-home experience during sensitive phases of attachment development (average age of placement was 9.7 months). It also supports the understanding that developing the capacity for organised attachments through the experience of one or several consistent primary caregivers, in a

relatively normal family social environment, equips the child with a generalisable resilience. However, a critical and fundamental difference between the BEIP assessments of children in ongoing foster care placements and the subsample of Chinese infants who returned to institutional care from temporary foster care placement is that, while levels of disorganised attachment were low, levels of security were also extremely low (only 2 of 13 infants = 15.4%), and insecure-avoidant attachments remained extremely high as with other children in the Enhanced Institution. Thus, the findings from this small sample suggests that while foster care placement reduces risk of disorganised attachment, it does not increase likelihood of demonstrating secure attachment to caregiver upon return to CWI, even after several months with a dedicated caregiver. According to Smyke et al. (2010): ‘*Organized insecure patterns of attachment (avoidant, ambivalent, and dependent) do not appear to be increased in children with institutional rearing.*’ (p.214), which suggests that this pattern is unusual. This set of findings demands further investigation with larger samples, a study design anticipating this variable and, crucially, the inclusion of children in ongoing foster care placements assessed with their family placement caregiver to determine which components of this particular set of trajectories contribute resilience, the possible detection of greater levels of secure attachment, and where in the chain of transitioning through types of placement this may be compromised. Given that, on average, the foster care subgroup also first entered institutional care significantly earlier than those never placed in foster care (at 1 month, compared to 3 months), such early experiences should also be further examined.

The persistent high levels of insecure-attachment, despite significantly lower levels of disorganised attachment, among children who have returned to the CWI may relate to the broader environmental stimulation – such as negotiating real social matrices,

varied peer interaction, increased demands, and adult attention - of the foster placement in accelerating cognitive development. Among their sample of Romanian infants, Smyke et al., (2010) found that for those who remained in institutional care higher cognitive development scores were associated with an organised attachment classification at age 4, but not associated with security of attachment. By contrast, among infants who had been fostered and those who had never been institutionalised there was a significant association between cognitive development and security of attachment. As infants were allocated 'care as usual' and 'foster care' through random selection this difference sheds significant light on the different risks dependent on rearing environment (i.e. family home or institution), the relative demands on the attachment system (i.e. security or organisation), and the differentially moderating role played by cognitive capacity. Though measures of cognitive development are not included in the present study, this differential finding among the Romanian sample provides an intriguing framework within which to speculate on the experiences and mechanisms underlying the implied association between capacity for organised attachment and foster care placement.

A consideration of Shang et al.'s (2001) investigation of 380 children (the 10% randomly sampled from the populations of 8 CWIs across a large geographical area), 243 of whom were in foster placements, may shed further light on the findings of significantly higher proportions of organised attachments. For example, among those with adequate mental sophistication to answer questions on life satisfaction, significantly more (59.7%) of those in foster placements than in institutional care (43.1%) indicated that '*The parents/staff will care for me actively when unhappy things happen*'. It is also important to note that, as is the case with the children fostered in the present sample, the foster parents in Shang et al.'s (2001) study were mostly of low SES with almost half being

rural farming peasants, and 63.3% of 180 parents interviewed educated to below a junior high school standard. The characteristics of these foster carers are broadly consistent with those of the foster placements likely experienced by the children in the present study, as evidenced during a visit I made in June 2008 to the ‘foster care village’ where the children from the Enhanced Institution had been placed. That 80% of foster parents stated that they felt they should participate in the decisions for their foster children’s future is evidence of their investment, which certainly differs to that of caregivers within CWIs. This picture is made more complex when it is considered that almost 60% of foster parents indicated that they would ‘*never think about adoption under any circumstances*’, and less than 30% of foster parents planned to continue the fosterage until the child had grown-up. Given the return of children from foster care to institutional care in the present sample, issues of stability and permanence of placement require further attention. Shang et al. (2001) noted that, as severity of disability was strongly associated with willingness to adopt, this issue should also be considered in terms of physical and medical needs.

6.3.5. Disability and Gender

Of the various child characteristics included in analyses, disability – treat broadly as ‘Health Condition’ – in our study, presents both the most intriguing and puzzling associations with attachment classification. Consistent with previous reports, a large proportion of infants in the CWIs, almost 80% across the whole sample, suffered from medical conditions and/or physical abnormalities (Shang et al., 2001). In stark contrast to Johnson’s indications from the reports of abandoning parents (albeit a decade earlier), in which 60% of abandoned boys and only 8% of abandoned girls were known by parents to be disabled or severely ill, there was no marked difference in proportion of ill-health by

gender in our sample of children residing in institutions. In light of this, it is important to consider the possibility that children with severe illness may not have survived infancy, thus altering health/gender distributions, and also that children with certain and severely debilitating conditions may be cared for in specialised units and thus not among the general CWI population. Such detailed information was beyond the reach of the current investigation, and should be a consideration of subsequent work.

Somewhat unexpectedly there were significantly more disorganised classifications among those who were identified as ‘typically developing’ than among all other Health Condition categories (‘visible deformity’, ‘internal illness’ and ‘developmental delay’). While, upon reflection, a reasoned explanation can be made, two methodological challenges must be stressed. Firstly, we have limited confidence in the Health Condition classifications as there were weaknesses in each of the two steps in which they were made. In most of the units child health records were limited, diagnoses were vague for those with identified conditions and there is a strong possibility that health and/or developmental problems among ‘typically developing’ infants had not been identified. Furthermore, allocation into one of the 4 categories for the Health Condition variable was made by myself on the basis of these records, rather than by a medical professional (a full list of cases with health condition by child is provided in the Appendices). While these methodological considerations limit our confidence to an extent, the particularly high prevalence of disorganised classifications among what we will for the sake of this discussion take to be ‘typically developing’ children in this institutionalised sample demands attention. The second challenge relates to the use of the SSP with this sample. These are considered further through a discussion of the distributions below.

A more detailed consideration of the appropriateness of the SSP for assessment of attachment quality within this institutional context follows below and in the final chapter, however in relation to Health Condition, it may be that some of the children with more severe illnesses/developmental delays would struggle to form secure and/or organised attachments to caregivers irrespective of abandonment and constraints of caregiving in an institution. That said, given that around half of the children identified as having ‘internal illness’ or ‘developmental delay’ are judged to have an organised attachment to caregiver (see Table 6.2.11), it seems that – according to the criteria applied to the sample – attachments can be formed and interpreted through the SSP.

Among those identified as ‘typically developing’ ($n = 18$) or with a ‘visible deformity’ ($n = 24$) – and whose health condition would therefore present less of a challenge to attachment formation and assessment – we find a striking difference in prevalence of disorganisation (77.8% and 33.3% disorganised respectively). Three possible explanations suggest themselves immediately. Firstly, as already pointed out, it may be that those identified as typically developing have an underlying and less easily recognisable problem. Secondly, and conversely, it may be that those with a visible deformity also have another underlying (and not identified) problem which interferes with attachment formation, but contributes to a behavioural pattern not similar to a disorganised attachment (in which case the SSP would not be able to make accurate classifications) and so they are more likely to be classified as organised. Thirdly, if we assume that the Health Condition categorisations are valid, that children with a visible deformity are far more likely to form an organised attachment to caregiver would seem to suggest that they experience qualitatively different care than those who have no such visible deformity. Within the institutional setting, it may be that children whose needs are

more apparent (their vulnerability signalled by the visible deformity) evokes greater investment of resources from and the cultivation of healthier (more organised) attachments to caregivers. To extend this suggestion, those who appear to be ‘typically’ developing may be left more to their own devices, evoking less attention and sympathy from caregivers, and generally experiencing a greater degree of neglect and hostility. This pattern of distributions is considered further below in light of multivariate analyses.

It is important to note that the highest proportion of ‘typically developing’ infants was found in the remote Non-Enhanced Institution, accounting for almost half (40%) of infants, where proportion of females was also high (71%), as was prevalence of disorganised attachment classifications (70%). However, analyses determined that while this overlap is likely to have practical significance (i.e. healthy females at higher risk of abandonment in impoverished counties, thus at higher risk of experiencing impoverished institutional care, and higher risk of disorganised attachment), association between disorganised attachment classification and placement in this as opposed to a less impoverished CWI does not reach statistical significance.

Although gender was found to be not associated with attachment classification (secure attachments almost identical, avoidant classifications somewhat higher and disorganised somewhat lower among boys), a consideration of disability in the context of abandonment and subsequent institutional care should include a reflection on the overlap of these two. Pre-institutionalisation data were unavailable for our sample, and so we cannot make direct comparisons to related findings from Johnson and colleagues’ studies of abandonment which found increased risk for females, particularly those with higher-order female siblings and/or health problems (Johnson, 1996; Johnson et al., 1998, 2004,

covered in Chapter 4). These have been implicated as critical in decision to abandon by impoverished families lacking health care support or other forms of social welfare provision, family planning policies imposing legal limits on reproduction, and an overwhelming desire for a son and heir (covered in Chapters 2 and 4). Interestingly, though among the total population of the 4 Units from which our sample was drawn 59.5% were female (62.5% of those included in sample), there were considerable between unit variations (see Table 6.1.1.). Critically, this variation in distribution was not favourable for girls: the 2 higher quality units (the Enhanced and Independent-Run Units which had either/or dedicated caregiver, more training, hygienic environment, and lower caregiver to infant ratio) included 46% and 59.3% girls respectively, whilst the two lower quality (State-Run) units included 71.4% and 85% girls respectively. No satisfactory explanation for this difference is available, though it may be related to the more remote (rural and therefore presumably more impoverished) catchment area for the 2 State-Run Units where traditional male preference is stronger, and poverty more constraining, leading to higher incidence of female abandonment. The Independent-Run Unit housed in the same CWI as State-Run Unit X, with its population channelled through the same administration, though the filtering process into one or other Unit is unclear. One possible explanation is that infants with the most challenging disabilities tend to be placed in the Independent-Run Unit (as reported by staff of this Unit), and evidence suggests that abandonment of healthy females tends to occur more frequently than that of healthy males. If these two units are combined the percentage of females in the Part-Enhanced CWI is around 70%, similar to the Non-Enhanced CWI (State-Run Unit Y), which would be consistent with this 'rural leading to higher percentage of females in institutions' interpretation of gender imbalance, contrasting to the surprisingly low 46% females the Enhanced Institution, which is located in the provincial capital. A second possibility which must be considered

is that higher proportions of females were placed in foster care at the time of data collection. This suggestion can be tied to the high percentage of male infants among those returned to the institution from foster care and constituting the foster care group in this study. Such a pattern could be consistent with the unofficial adoption patterns found by Johnson et al (1998), with couples who already had a son showing preference for a daughter to complete the traditional family. This may explain the high return-rate of boys from foster care placements, and be an optimistic indication of relative permanency of placement for girls. Such speculation, dampened by Shang et al. (2001)'s finding of higher proportions of boys than girls in foster placements, requires and invites further investigation. It is also possible that our data collection maps on coincidentally to a period in the international adoption cycle during which a sizeable number of girls have been adopted overseas. To extend this line of speculation, there is some suggestion that misinformation and questionable institutional management perpetuates a culture of 'female rescue', with overseas couples unwittingly providing homes for what they are led to believe is an excess of abandoned girls, when in fact there may be commercially oriented manipulations in this supply. The extent to which this 'baby-selling' market coerces abandonment, and even encourages the production of infants with the express purpose of monetary gain, is unclear and demands more systematic investigation (Meier & Zhang, 2008). These speculations are certainly not intended to implicate any of the CWIs involved in this study, nor the provincial and municipal authorities overseeing them, rather they are made to provide as broad as possible a perspective on the conditions surrounding the present sample and the wider population from which it is drawn.

6.3.6. Multivariate Analyses

The logistic regression models provided greater clarity on the suggested implications of Health Condition, under which specific circumstances experience of foster care impacted upon attachment organisation, and determined that age at assessment was not a very useful predictor when the effects of these other variables was taken into account. A separate treatment of those in the broadly less severe Health Condition categories – which only includes those for whom we would anticipate greater suitability for the SSP (i.e. not including those with identified developmental delays or serious internal illness) – underlined the finding that those infants who have a ‘visible deformity’ have a significantly lower likelihood of being classified with a disorganised attachment to caregiver than those ‘typically developing’. For this group of children (n = 42), experience of placement in foster care was also confirmed as a powerful predictor of attachment organisation. Health Condition had no significant predictive power among those with ‘internal illness’ or ‘developmental delay’ included in the other regression model. While sample size and reservations about the validity of the child characteristic data necessitate that these results be weighed with caution, on balance there is an intriguing suggestion that abandoned and institutionalised infants with least health problems (i.e. typically developing) are at highest risk of demonstrating disorganised behaviours in the SSP, and that foster care placement significantly reduces such risk. These suggestions should be considered in more detail and demand more further investigation.

6.3.7. Stability of Attachment Classifications

The test-retest component of this study, with a 4-month interval, is unique among studies of institutionalised infants and contributes further understanding to the complex nature of

infant-caregiver attachment, and the added complexity of the institutionalised rearing environment. The distributions at T1 and T2 of the 47 infants tested twice were remarkably similar, but these conceal considerable shifts in individual classifications. These shifts are further complicated when a distinction is made between infants tested on the two occasions with the same caregiver or different caregivers.

Low overall stability of classifications (72.3% 3-way, 51.7% 4-way) over the 4 month test-retest interval is consistent with previous reports of less deprived samples (covered in Chapter 1). Given the complex, and relatively unstable, environments in which these infants are reared, and without detailed information on possible influences on their experiences during the test-retest interval, inferences on causes of instability specific to this sample are difficult to make. Previously identified causes, such as infant maturation and memory resulting in positive or negative priming for T2 procedure may be relevant. Certainly among these infants, whose exposure to diverse environments is likely to be minimal, and whose experience is often almost entirely limited to the CWI ward, the possibility of an increasingly adverse reaction to the unusual and repeated procedure is feasible. This inference is lent some support by the Unit-based test of stability between T1 and T2, which found the highest degree of stability among the State-Run Unit Y infants. Though this group is very small, that 4 of the 5 infants tested twice remained or became disorganised is consistent with our observations, and reports from CWI staff, that the children have very limited experience outside of their shared room. In fact, at the small Non-Enhanced CWI (State-Run Unit Y), as described in the Method section above, children and staff spend almost all waking hours (and sleeping hours for children) in a single room. Whilst the stability and positive change for the Enhanced Unit may be optimistically attributed to the provision of a dedicated caregiver, despite lack of

support from T1 findings, this is contrasted to the two counter intuitive shifts in the Independent-Run Unit and the State-Run Unit X. None of the data collected provides an explanation of the positive shift for State-Run Unit X nor the negative shift for the Independent-Run Unit. Once again, small sample and group sizes, cited complications in repeated measurement with the SSP, attrition biases, and the complex and heterogeneous natures of the experiences of institutional care elucidated in this study limit interpretability. As was found through statistical tests, stability of organised classification was not associated with being assessed with the same caregiver on both occasions.

Though test-retest interval was much greater (approximately 3 years), and attachment at T2 was assessed with the Attachment Q-Sort (AQS), the follow-up of Vorria et al.'s (2003) institutionalised sample following placement in adoptive homes provides a similarly peculiar and unstable set of findings (Vorria, Papaligoura, Sarafidou, Kopakaki, Dunn, et al., 2006). This study, not included in the Chapter 5 review as it did not utilise the SSP, found that, contrary to expectations, a disorganised classification during infancy whilst residing in an institutional setting was associated with greater security of attachment to adoptive mother at age 4. Likewise, children who had been classified as secure in infancy demonstrated significantly lower levels of security than those in all other categories (A, C, or D). Importantly, and equally puzzling, this same unexpected pattern was also present among the community (day-care) control group. The authors point to Zeanah et al.'s (2005) criticisms of the use of conventional SSP classifications with institutionalised infants as one possible source of this peculiarity, and suggest that further follow-ups are needed. Other studies utilising the AQS with previously institutionalised infants post-adoption have found expected improvements

(Chisholm, 1998), as well as inconsistent and wide-ranging distributions of security (Farina, Leifer, & Chasnoff, 2004).

Given the complications of test-retest stability, in which the SSP at T2 is arguably not the same measure as it is at T1, the utility of both assessments as cumulative toward a more robust classification may be justifiable. As disorganised attachment behaviour is inherently inconsistent, it is possible that underlying disorganised tendencies not revealed during a first exposure might be revealed during a second. This may result from the differing subjective experience of the retest SSP (i.e. compounded strangeness/distress as infant carries impression from T1 into experience of T2), or simply result from infant specific characteristics, or some quality specific to the surrounding experiences of the T2 assessment which differ to T1 (for example negative interaction with caregiver or peer, which is difficult to monitor and control for in complex CWI environment). Irrespective of the mechanisms, it is interesting to find that with this approach the Enhanced Unit, where the Aunty Program (dedicated caregiver) is in place, had markedly lower levels (56%) of disorganised classifications (i.e. Disorganised at T1 and/or T2) compared to relatively homogenous prevalence across the other Units which did not have a dedicated caregiver (75%, 78% and 80%). This novel classification approach provides relative and limited endorsement for the provision of a dedicated caregiver. However, as was the case with risk prevalence of disorganised attachment as tested with a conventional single SSP at T1, this cumulative approach also finds that only grouping by experience of foster care placement yields an association approaching statistical significance.

6.3.8. The Importance of the Caregiver

The majority of caregiver characteristics were found to be independent of attachment classification, suggesting that influences on attachment relationship were relationship-specific, or associated with wider environmental conditions. The apparent association between age of caregiver and attachment classification was shown to result from a between units difference, with caregivers at the Independent-Run Unit significantly younger than those at other units. The finding of significantly higher levels of secure attachment among the infants in the Independent-Run Unit then implicates this caregiver characteristic, which is also associated with marital and maternal status. However, as other peculiarities of the Independent Unit have been described, a more detailed study, and one including measures of caregiver sensitivity, would be required to discern the magnitude of influence of specific elements. The analysis of classifications of multiple infants accompanied by particular caregivers found that no caregiver accompanied only organised infants who had spent their entire post-abandonment lives in institutional settings, and the few cases of caregivers accompanying multiple organised infants implicated previous experience of foster care placement.

In the early work within English institutions, Tizard and Rees (1975) reported the head nurse of a group home as explaining that they '*don't encourage the children to become too attached, it isn't fair to them, it isn't fair to us.*' (p.24). In relation to the specific constraints on institutional caregivers Rutter et al. (2008), in agreement and extension of George and Solomon's (2008) emphasis on the caregiver behavioural system, suggest that:

‘...parenting itself needs to be thought of in terms of a behavioural system that is reciprocal to, and involved in parallel with, the attachment system of the child. That leads to the query as to the extent to which further attention needs to be paid to the thought processes of the caregiver as well as the actual acts of care giving. Moving to more extreme situations, we similarly need to enquire: What are the commonalities and differences in the effects on social relationships of institutional care, child abuse and child neglect?’ (p.10)

In assessing the specific strains on the infant-caregiver relationship in foster care placements, Dozier et al. (2008) have found evidence that not only do these children tend to demonstrate particular forms of physiological and behavioural regulation by comparison to those in low-risk biological family settings, but their behaviours often result in the caregiver being pushed-away, and *‘the foster parents’ own issues sometimes make it difficult for them to provide nurturance.*’ (p.848). In extending efforts to provide attachment informed training to caregivers within institutional settings, particularly those where a dedicated caregiver system is already in place, consideration might be given to an adaptation of the Attachment and Biobehavioral Catch-up (ABC) intervention developed by Dozier and her colleagues, which has proven effective at regulating physiological stress-response and reducing prevalence of insecure-avoidant attachments (e.g. Fisher, Gunnar, Dozier, Bruce, & Pears, 2006; Dozier, Peloso, Lewis, Laurenceau, & Levine, 2008). However, given that the majority of infants are destined to leave the institutional setting there remains the question of emotional trauma upon separation for both infant and caregiver, which is arguably more severe if a close secure attachment is cultivated.

Contrary evidence from the training and structural change (dedicated caregiver) condition in the St Petersburg study, at least over the short-term (which might be reversed should separation occur), suggests that an institution-wide shift in culture within the Baby House enhanced both attitudes toward caregiving (with a reduction in ‘traditional attitudes’), and reductions in depression ratings over time. This was in stark and significant contrast to the caregivers in the training only condition where the only change was an increase in depression scores. Moreover, there was also a substantial downturn in positive socio-emotional engagement between caregivers and infants in the training only condition, while such interactions significantly increased over time among dyads in the Training and Structural Change condition. On balance this evidence suggests that the cultivation of valuing the role of caregivers, and caregivers in turn taking pride and pleasure in the positive impact of their work, has far reaching benefits. While it is imperative that the attachment needs of institutionalised infants be attended to with increasing dedication, such efforts would be self-defeating if appropriate consideration is not also given to the emotional needs of those who are expected to negotiate the equally institutionalised experience of providing care in such circumstances. How can these women maintain optimum health whilst serving as an attachment figure to a series of infants from whom they anticipate inevitable and permanent separation? Shang et al.’s (2001) interviews with 96 caregivers across a wide-range of CWIs determined that, in addition to the vast majority indicating that they were expected to care for more children than was possible, 54% felt they deserved ‘*more acknowledgement from society*’. This finding supports the notion that the role of caregiver is both challenging and grossly under supported and rewarded.

The conundrum of possible increase in detrimental impact on caregiver, and infant, if closer attachments are fostered within the institutional setting is further complicated by cultural considerations. As detailed in Chapter 2, Chinese culture emphasizes a pronounced in-group bias which requires that resources are almost exclusively channelled into the family, and decisions are made with the family's collective interests as foremost consideration. This cultural tendency has implications for caregivers working within institutions who may be culturally disinclined to bestow an excess of their emotional resources upon children to whom they have no kinship tie, particularly as they are destined to leave which will result in a further drain. By contrast to the Western ideals of universal compassion, embodied for example in Christian doctrine, which might be more consistent with devotion to institutionalized infants, in the Chinese context such an attitude might be considered inappropriate, excessive, or irresponsible. In addition it must be borne in mind that the majority of caregivers in the CWIs, particularly those in rural areas where the institutions have most meagre resources and are not open to foreign visitors or funding, are themselves extremely poor and are likely to tend toward an economic Value of Children model even for their own offspring (Zheng & Shi, 2004). In light of these economic and cultural considerations, the implementation of psychologically oriented childrearing practices seems overly idealistic if not misguided. As noted above, an exception to this may be the involvement of religious NGOs who employ Christian staff (which runs the risk of political upset given China's law against religious proselytizing) where the caregiving ethos and VOC is aligned with minority religious affiliation rather than local mainstream culture. In her ethnographic study of a Western run Unit housed within a large state run CWI, similar to the Independent-Run Unit in the present research except that the Chinese caregiving staff are not all Christians,

Wang (2010) describes a pervasive friction stemming from cultural notions of appropriate caregiving:

When I asked the Australian founder of [the Unit] to name the biggest cultural challenges she has faced in running her facility, she stated, “Mostly it’s been difficult in terms of training the nannies to raise children in a Western way. Chinese people are often very hard on their kids, very strict.” For their part, in private informal conversations many ayi [nannies] state that their primary consideration is to keep the sick and disabled children under their care fed, clean and warm. They complain that in having to bathe, feed, administer multiple medications and change three children’s diapers up to six times a day during 12-hour shifts, to add “playing” to their list of responsibilities is asking too much. Therefore, they believe that if volunteers want children to be entertained, they should do it themselves. While observing a volunteer help a child learn how to draw, one caregiver shook her head in a bemused fashion and said, “Westerners always do what the child wants to do. It’s really different from Chinese people. In China, children do what the parents say.” (p. 151/2)

Wang suggests that the tensions arise as much from economic and class mismatch as cultural differences:

Possessing their own financial backing and medical expertise highly valued by the Chinese state, volunteers draw upon Western middle-class notions of childhood as a protected, nurtured time of life, which inspires practices that seek to revalue each child as a unique individual and to “give children a childhood.” These methods

include giving children English names, tracking their bodily and emotional development on a daily basis, and attempting to discover and encourage each child's innate talents and predispositions. In the special care unit, contrary to more traditional Chinese expectations that children will grow up to care for their parents in the future (still a common practice in primarily agricultural regions), Western volunteers appreciate special needs children in spite of their economic uselessness. (p. 157)

Though the Unit on which Wang reports differs in some ways to all those in the present study, there is comparability to the extent with which foreign run interventions risk imposing culturally inappropriate values and practices. Similarly, this risk of inappropriate imposition of values must be considered in the approach to evaluations of care provision. Hwang (2004), in a discussion of the limited suitability of what he refers to as the 'microworld of scientific knowledge', calls for indigenous approaches to within culture problem solving:

In a particular domain of life, one may utilize microworlds of scientific knowledge to engage in production work, while in other domains, one may instead use knowledge originating from one's own cultural tradition to solve the problem. One of the missions for non-Western psychologists in developing indigenous psychology is to clarify what the most appropriate cultural theory is that can be used in a specific situation by people of a given cultural group. (page numbers not indicated)

I will further discuss the challenges to mainstream psychology approaches to culture specific problems in the final chapter.

6.3.9. Prospects Following Overseas Adoption

The suggestion that infants adopted from the Asian continent were at lower risk of developing attachment problems in adoptive homes, speculated to perhaps result from more favourable pre-adoption conditions (von den Dries, 2008), have not been supported in the present study. What predictions might we make, based on previous evidence, of the developmental trajectories of the 35 children adopted overseas within the 18 months following our assessments? As noted, these represented over three quarters of the infants tested at the two sites for which this adoption status data was available. The first detail of note is the relatively late stage adoption of all of these children, the earliest of whom was placed at 15.5 months with an average of 33 months ($s.d. = 7.5$); the evidence on international adoptions reviewed in Chapter 5 strongly suggests that placement after 6 months significantly increases risk of demonstrating disorganised attachment to adoptive parent in early childhood (e.g. Chisholm, 1998; O'Connor, 2003). In addition to this pessimistic indication, our infant SSP assessments classified 45.7% of these 35 infants as disorganised in relation to institutional caregiver, with a further 42.9% insecure-avoidant, and only 11.4% securely attached. The findings from the BEIP domestic foster care programme also suggested that placement before 24 months enhanced prospects of forming a secure attachment to foster parent, and earlier placements up until 28 months also enhanced likelihood of organised attachment, even among children previously classified as insecure and/or disorganised during infancy in institutional care. On balance, this set of findings suggests deeply troubling prospects for the late adopted children from our institutional sample.

In addition to the elevated risk of continued attachment insecurity and disorganisation, these children also remain at risk in other areas of development. For example, among internationally adopted infants insecure and atypical-insecure attachment classifications have been associated with heightened behavioural problems (Chisholm, 1998; O'Connor et al., 2003), and indiscriminate friendliness (Tizard & Hodges, 1979; Chisholm, 1998). As with disorganised attachment, maternal reports of indiscriminate friendliness among later adopted children were significantly higher than for those adopted before 4 months of age, and this also diminished more over time among early adopted children (Chisholm, 1998).

6.3.10. Methodological Considerations

Whilst the general picture of extremely high prevalence of disorganised attachment classifications found in previous studies in institutional settings has been replicated here, several peculiarities of the distribution within this heterogeneous sample, and in contrast to other samples, strongly underlines the inadequacy – if not the inappropriateness - of the use of the Strange Situation Procedure. I am confident that this extremely well-validated and systematic measure has been well implemented in the current study, and equally persuaded that the evoked patterns of behaviour have interpretable and useful meaning, but it seems almost certain that these patterns of behaviour neither stem from directly comparable underlying experiences of the caregiver environment nor have directly comparable meaning. That is to say, within the sample we can make meaningful comparisons and glean a great deal of understanding from variations in experience of the caregiving environment, but we cannot with confidence infer that behaviours attributed to an underlying attachment to the caregiver in the SSP – most importantly attachment

disorganisation – are in fact facets of that attachment. In many cases, on the basis of reports from CWI staff, the reported number of transient caregivers experienced, and congruent with findings from other studies (particularly those including Attachment Formation Ratings, considered further below), it would seem most likely that conditions were not adequate and sufficient for an attachment to have been formed to the accompanying caregiver. Therefore the measurement tool (the SSP and application of standardised coding procedures) is mismatched to the object of study, and so classifications – whilst having an important degree of internal consistency – must be interpreted as qualitatively different, and including an important element of unquantified ‘noise’. Simply stated, what is treat here as a case of disorganised or avoidant attachment may actually be a constellation of behaviours stemming from a range of other developmental experiences (limited stimulation in institutional setting, lack of a consistent caregiver, diverse and unpredictable sources of fear in chaotic rearing environment) and quite unrelated to the caregiver who happens to be accompanying the child during the SSP assessment. This understanding will be held in mind as the distribution of attachment classifications is now further discussed in relation to methodology and similar studies in other countries.

The highest proportion of avoidant classifications among any previously published institutionalised sample, excluding the recently conducted and unpublished Bulgaria study (Steele and Steele, 2008), is 5.9%, which is very low by comparison to established norms in low-risk family-based samples (see Table 5.4.1.). By contrast, distributions for the 4 Bulgarian samples range between 8% and 22% when a dedicated caregiver is provided and 25% and 50% when there is no dedicated caregiver. That levels of avoidant classification were elevated above norms only among the Bulgarian samples,

and the present Chinese sample, which were coded by the same team of highly trained reliability-tested coders, suggest the possibility of difficulties in the coding procedure with these institutionalised samples (though inter-rated reliability was a very acceptable 80%), and the possibility of between-lab variations in coding standards. I suggest that a coordinated exchange of a sample of cases from various labs who have conducted studies involving institutional settings might help to reduce variations in coding practice, and also potentially provide a useful level of examination of difficult-to-classify cases through a broader conferring and collaborative exchange of highly experienced researchers. This possible variation in study standards ties to previously raised concerns that different coding systems have been utilised in post-adoption studies, which increases the need for caution in making comparative inferences.

Another distinction between this sample and others reported in Chapter 5, which also relates to distributions in classifications and suggests the possibility of inconsistent coding practices, is the proportion of ‘unclassifiable’ cases and the use of the Attachment Formation Rating (AFR, Carlson, 2002, also covered in Chapter 5). As noted in Chapter 5, whilst none of the 162 procedures among the St Petersburg study (SPUO Team, 2008) were deemed unclassifiable, and only 2 (2.5%) of our sample, 13% of the BEIP sample were judged unclassifiable (Zeanah et al., 2005). Whilst only 35% of the BEIP sample were judged to have formed a selective attachment to caregiver during the SSP (and 65% and 58% in the two other studies known to have utilised this measure Herreros (2009) in Chile, and Dobrova-Krol et al., (2010) in the Ukraine respectively), the AFR applied to a randomly selected subsample found that all infants showed some indication of having

formed a selective attachment³². This observed difference is reported with caution for two reasons: firstly, it was not utilised systematically with the entire sample, and secondly the coders reported that an anomaly in the final episode of the SSP, whereby the caregiver was instructed to initiate play with her infant upon re-union, may have reduced clarity of coding for these procedures. It is important to stress that the reliability tested coders did not report that this anomaly prohibited coding with the standardised A, B, C, D system. It is possible that these differences in prevalence of infants observed to have formed a selective attachment to caregiver with the AFR reflect actual differences in magnitude of attachment disturbance across institutional settings spread across the 3 continents, though the scale of the difference would suggest otherwise, and would be inconsistent with reported prevalence of attachment disturbance as determined through established assessments (i.e. coding for disorganised attachment). This very limited set of findings, utilising a new and as yet non-standardised measure (the AFR), underlines the suggestion that comparability of attachment research within institutional settings, and the endeavour more generally, would benefit from inter-lab exchange on standards.

6.3.11. Concluding Comments

On balance the findings from this study provide a clear indication that the caregiving environment across Chinese CWIs is likely to pose a significant threat to healthy socio-emotional development. Even if the SSP-derived classifications are problematic in determining the quality of attachment formed, the method of assessment unequivocally demonstrates disturbance in socio-emotional adjustment. If we allow for a

³² This report of experimental use of the AFR, not included in the method and results section, is based on a discussion with the Principal Investigator on the study (Professor H. Steele) who oversaw the coding of all SSPs in NYC, independent of my work organising and carrying out data collection in China. It is included as a basis of tentative speculation and suggestions for future work as there was a lack of confidence in the suitability of the findings.

capacity to discern between qualities of attachment, and assume that at least in many cases a specific attachment has formed to accompanying caregiver, significant variations of prevalence of certain classifications, including the more problematic avoidant and disorganised forms, suggests that the pooling of samples from divergent institutional settings – which seems to have often been the case in the literature - overlooks important heterogeneity and unit-specific risk and protective factors.

Importantly and in relation to the evaluative study upon which this thesis is based, the data do not provide statistically significant support for the benefits of providing a dedicated caregiver in institutional settings. The complicated role of health condition, particularly the suggested and statistically significant increase in risk for disorganised attachment among those ‘typically developing’, demands further investigation. This would no doubt benefit from and need to include a complimentary examination of both the role of the caregiver and attitudes and behavioural tendencies toward the range of infants with whom they are involved. While neither of the expected quality of caregiver environment variables (caregiver-to-infant ratio, dedicated caregiver) was associated with attachment organisation, the experience of prior placement in a foster care family was. As the number of children who had experience of a foster care placement is quite small, and details the programme, as well as reasons for placement and return to the institution, are limited, a more systematic study is called for. While such details are lacking, given that the follow-up survey found the majority of returned children to have been adopted overseas within 18-months of the assessment, it can be inferred with some confidence that the transition back to the CWI for subsequent placement overseas was planned and occurs routinely and systematically. Such practices, which have important implications for the

formation, function, and assessment of attachments to caregivers, are discussed in the following and final chapter.

-Chapter Seven

Conclusions, Limitations, and Future Research

This thesis has identified both robust indications of problems in the formation of healthy attachments associated with institutional childrearing, as well as nuanced variations suggesting the differential impact of specific institutional conditions. These findings can therefore be taken to inform those developing and organizing interventions, managing institutional resources, and formulating relevant policy, as well as informing directions for future research. This chapter is a speculative discussion of these indications, which also emphasizes the strengths and limitations of the present research.

7.1. Strengths of this Thesis

Strengths of this research which lend confidence to its findings include the provision of an age and gender matched community sample, the standardized coding of SSPs by reliability-tested coders (independent of the data collection, analysis, and this write-up), a diligent and flexible approach to implementation which allowed important variables

(including the experience of foster care placement) to come to light, and the collaboration between the US-based Principal Investigators, senior Chinese researchers advising and facilitating research based in the principal city (the provincial capital, and location of the Enhanced CWI), a team of 5 Chinese research assistants, and intermediary roles by X CJ (a senior Chinese native based at the New School in NYC), and myself a native of England with experience of China and Mandarin language skills. My efforts throughout the data collection phase, and particularly in developing the collaborative partnership with the local university to collect the community comparison sample, have benefitted immensely through the consultation and site visits of my primary supervisor who has almost three decades of research experience across China. In addition, subsequent to completion of the data collection in July 2007, I remained in China for 3 years, maintaining regular contact with members of the research team and staff of the CWIs. Through periodic visits to all 3 CWIs, informal meetings with staff members and as a guest of CWI leaders, seeing the developing children (many of whom were included in our study), and the parallel developing of their programmes and facilities, I gained a greater understanding of the immediate environment of the CWI sample and the complex organizational structure surrounding it. This ongoing contact has also provided the follow-up data on children from 2 of the 3 CWIs giving the unexpected dimension of post-institutional overseas adoption. This information was rather surprising, influencing the meaning and possible application of our findings, as during the study design and implementation phases it was our impression that these children would not be adopted overseas. Implications of this are discussed below along with other programmatic details and developments.

7.2. Limitations of this Thesis

The limitations of this thesis are numerous and varied, though a number may be allowed the concessions of studies conducted in relatively uncharted waters. Several of these are mentioned in earlier chapters, but I will bring them together here. Limitations may be divided vertically, with the underlying issues of methodological suitability, and the overlying issues of study weakness once such suitability is assumed. The more fundamental underlying issues will be discussed later in the consideration of advancing a more authentic culture-specific psychology. Primary among the weaknesses at the presumed level of methodological suitability is the size and composition of the sample. Based on information passed to the principal investigators from the agency providing training and funding for the intervention at CWI1, the initial study design called for 36 12-15-month old infants at the target site, and 36 12-15-month old infants at a control site, which had been presumed to be adequately comparable on all relevant variables. As detailed in Chapter 6, site visits during setting-up very quickly revealed that the populations at neither CWI included close to this number of age-appropriate children for the planned data collection period, and overlapping interventions confounded comparability for control purposes. Consequently the sampling strategy was largely opportunistic. As it was necessary to match the community sample to this CWI sample, it too then included a wide age-range limiting statistical power for the 12-18 month age range, and comparability to other populations. In order to achieve adequate sample size it was necessary to include all available 12-38 month olds from 4 distinct units; to further increase the 12-18 month old sample (without extending the data collection period well beyond 12 months) even more CWIs would need to have been included, increasing the between units variability which has been a focus of this thesis. Indeed, perhaps the central message of this thesis is the inherent error of assuming homogeneity across and even within CWIs when samples are composed of data pooled from multiple institutions.

With lessons learned from this study, and suitable measures taken, comprehensive site visits prior to finalization of study design constitutes a valid direction for future work. This was not possible for the present study for 3 main reasons: 1. The small scale of the study with limited resources, 2. Geographical distance, and 3. PIs based in USA and no team members on the ground in China during study design phase. Building on the experiences gained through conducting the present study, I would strongly recommend that future efforts include a more thorough survey of possible sites for inclusion with preliminary caregiver environment assessments, child population statistics, caregiver lists and details compiled and reviewed in advance of formal study design. To this end I would suggest a more prominent role of local researchers in the design and setting-up, and data collection phases. Arguably an equal collaboration is ideally suited to cross-cultural work in this challenging socio-political environment so that mutual checks on biases and blind spots might be possible³³ (theoretical and practical aspects are discussed further below). It would be insensitive and contrary to the objectives of cross-cultural understanding to impose the ideals of transparency and explicit communication onto the host culture where these may not be equally valued, and so this compromise must be accommodated in the process of research and the interpretation of results. To an extent, it would be naïve to assume that the principles of the scientific method can be applied with equal suitability across cultures without generating relatively greater distortions in the behavior of subjects (infants are perhaps a valuable exception to this, but accompanying adults are likely differentially sensitive to instruction and manipulated lab behavior). However, carefully planned and managed channels of culturally appropriate communication are essential to minimizing confounds which threaten research validity.

³³ Yang (2000) describes and provides guidelines for a Cross-Cultural Indigenous Psychology in which partners from multiple cultures collaborate without resorting to an imposed-etic approach.

One of the most important lessons from this research was that there are often multiple programmes operating sequentially, or even simultaneously, in a single institution which necessarily influence infants' experience of the caregiver environment. For various reasons, including perhaps concerns that funding streams may be jeopardized, or in order that attention not be explicitly drawn to programmes with ambiguous official status (as with the Independent-Run Unit, managed by a Christian organization), CWI leadership are not always inclined to emphasize the presence of one to the organizers of another. For the purposes of research and assessment of specific interventions, it is also possible that CWI staff do not realize the importance of such potential confounds and the omission occurs outside of awareness.

The detailed descriptions and comparisons of the 4 CWI units (Chapter 6) highlighted the problem of assumed homogeneity of environment and sample characteristics in research with infants being reared in institutions. Ironically, a major issue in the evaluation of interventions in CWIs may be the overlap of multiple such interventions, often unbeknownst to the various providers, which inevitably influences developmental trajectory, and related research results. The findings from this study are therefore weighed with ample consideration of this cautionary note. Some emphasis will be given to two interventions of which we became aware only during data collection period, and of which a proportion of the children in our sample had experience. Extra diligence was made in an effort to determine the presence of any additional interventions (ongoing, intermittent, or historical) which might have been in place, and none were found. Also, efforts were made to clarify which infants in which groups had moved between groups and therefore been exposed to additional interventions. These unplanned-for measures highlight the complications involved with such research across

cultures, in a sensitive area of the society for which the state takes direct responsibility, *and* have also brought at least three unexpected and useful dimensions to the study. This is the nature of exploratory work, which requires both diligence and flexibility, in allowing less transparent elements in the complex system to reveal themselves in the course of the investigation, and then persevering to incorporate such variables so that findings and interpretations are based on the most accurate possible framing of the problem. In addition to providing tentative confirmatory support for ideas within and outside of the initial research domain, they also provide the seeds from which future research will grow.

7.3. Methodological Reflections

As has been discussed, there is some debate over the suitability of the SSP in both non-Western contexts and institutional contexts. In most general terms, the present study has provided a strong endorsement for both, and the benefits of its use are outlined here. Caveats concerning its suitability are detailed further below. Firstly, I would like to discuss several considerations of methodology and implementation arising from our experience. A simple oversight in our implementation of the SSP was not arranging for caregivers to remove their work aprons which identified them clearly as non-maternal caregivers to those conducting the coding who were unaware of infants' status. However, this measure alone would only have provided limited control as some of the CWI caregivers accompanied several infants; the additional step of utilizing multiple coders, arranging coding such that there were no such overlaps, might eliminate the risk of caregiver revealing infant status. Additionally, as testing rooms differed between but were consistent for each CWI, coders would be given an indication of subsample. Notably, this element of the data was of unexpected benefit in regard to one component of

our study: an extra 'blind' was inadvertently included for the important Foster Care subgroup (in which disorganization was significantly lower than all other groups), and the Independent-Run Unit (in which secure attachments were significantly higher than in other groups), which were all assessed in the same SSP rooms as the Enhanced-Unit and the State-Run Unit X respectively. This unplanned but fortuitous degree of control, wherein even our group conducting the procedures was unaware of the distinct status of these infants at time of assessment, bolsters the significance of the associations identified. Finally, in relation to anonymising the source of CWI sites in relation to community controls, a further difficulty with this is the physical appearance of many institutionalised infants; in addition to their characteristically CWI-specific outfits, a large proportion have superficial and visible physical defects. On balance then, there are limitations in the degree to which group identity of the dyads may be withheld.

Though this is common to SSPs conducted in Western settings, where the episodes of the procedure may have more cultural familiarity (for example as comparable to waiting in a doctor's waiting area), a considerable number of caregivers had difficulty in understanding or remembering what they were instructed to do. This uncertainty may have contributed relatively high levels of discomfort and less natural interactions with infants. One way of reducing these effects among institutionalized samples may be to take advantage of the regularly assembled group of caregivers and provide instruction, perhaps with images of the lab situation and handouts which can be studied more thoroughly and without pressure. This may also have been possible for our community sample as they were drawn from an established group that could be gathered more conveniently for this purpose.

An additional methodological issue concerning institution caregivers is the selection of the most appropriate individual to accompany each infant where there is not a dedicated caregiver programme. Whilst we employed the conventional approach of asking the staff to decide among themselves who they judged to have the closest bond with a specific infant, there were complications with this approach. As noted in the presentation of Study 2, at the small Non-Enhanced Institution one caregiver was repeatedly indicated as the suitable individual. Our casual observations did not seem to support this rather singular insistence. Upon querying we learned that the choice was somewhat questionable, the lady in question having worked as a caregiver on the unit for considerably less time than the average, and there appeared to be an element of hierarchical coercion on the part of other more experienced caregivers who were for some unknown reason disinclined to participate. The reasons were unclear and diplomatic caution was prioritized in making sense of the situation. One plausible explanation is that the CWI leadership, anticipating our expected finding of relatively poorer attachments in their relatively under-resourced facility, were motivated to facilitate such a result (importantly, their participation as a control group in the study would lead to the funding of additional caregivers). Our sensitive challenging of their choice, which took the form of a request for varied caregivers to allow a more representative sample (as the staff made it clear that no specific caregiver was closest to these infants), successfully overcame this issue and analysis found no association between quality of attachment and specific caregiver. A significant discrepancy between the self-reported time in position of the caregiver in question, and that provided by the CWI leadership, provides some support for the tentative suggestion that there was a degree of willful manipulation of allocated participants. I would suggest that the following procedural steps to safeguard against this sort of misunderstanding, where a conflict of interests and the misguided desire to ‘help’

might threaten validity: request full staff lists during the setting-up phase, if not the exploratory phase, including details of length of service and confirm these with individual participants prior to conducting SSPs.

Similarly, in cases where an infant has a dedicated caregiver (those children in the Enhanced Institution of our study), it is important to verify prior to assessment that the accompanying caregiver is in fact the named caregiver. We found that complications with scheduling, for example the unexpected absence of a specific caregiver, coupled with lack of communication among CWI staff that it was important that a specific caregiver participate, or perhaps a culturally-specific difference in valuing such specificity in measurement, led to alternate caregivers presenting for procedures. Having failed to identify the caregiver on one occasion we implemented a double-checking system which safeguarded against possible mistaken identity, as well as threats to validity, in all subsequent procedures.

The possible overlapping threats of competing priorities, culturally-defined undervaluation of measurement precision, and unclear communication should also be considered in relation to assessment of an identified sample some of whom are likely to be removed from the institution during the planned data collection period. Once it became clear to us that infants among our identified sample might be adopted overseas we were diligent in making regular checks on their status (e.g. if an infant's paperwork had been forwarded to the central administration for processing) so that assessments could be scheduled prior to their departure. Despite our best efforts, on several occasions during the early stages of data collection we would be informed of an infant's departure after the event. Given the small numbers of children available for assessment, and our

wanting to make as valid as possible a use of the disruption we were imposing upon them, this was frustrating and may be explained in terms of CWI staff not sharing our valuation of the research, which may even be tied to the parallel cultural issue of a foreign form of assessment, possibly perceived as counter to local understanding of children's needs and the role of the CWI, engendering a degree of resentment. Certainly this message was not overtly conveyed, and the explanations offered by CWI staff that either they thought it was not important, or they did not want to trouble us to travel to make assessments (in the case of the Non-Enhanced CWI, which was approximately 5 hours from our base location), are reasonable, plausible, considerate, and consistent with social interactions within Chinese culture. However, on the basis of this set of experiences, which share an important quality with possible friction arising from the imposition of practices from an outside culture as detailed with reference to foreign NGOs running institutional units (Chapter 6; Wang, 2010), I would suggest that future efforts include even greater sharing of ideas, values, and aims in the setting-up phase, with more leadership from local researchers, and possibly the input of CWI leadership in helping shape the research questions and design.

Lessons in design of intervention and assessment may also be drawn from the SPUOC team's work (e.g. SPUOC, 2008) in Russian baby-houses where careful design successfully limited the impact of confounding variables (Rutter (2008) provides independent praise of the methodology). However, the detailed account of this study also provided valuable lessons and highlighted the inevitability of unpredictable threats to validity. For example, during their study two significant and uncontrollable events confounded the impact of main intervention, namely the death of the director at the No Intervention control condition, and the ousting of the director at the Training Only

condition site during the intervention period. Given the acknowledgement that the director's commitment to the intervention measures was instrumental in the success of the most comprehensive intervention (in which Training was supplemented with structural changes to caregiving, and a 'cultural change', including enhanced well-being among caregivers was reported), these unfortunate occurrences in the comparison groups cannot be overlooked. These extreme occurrences are cited here to underline the difficulties in conducting evaluative research within complex institutional and political environments, and emphasise the caution with which inferences should be made.

7.4. Indications for Programming and Policy

The findings of this study, despite the limitations outlined here, offer valuable information for providers of interventions, managers of CWIs, and those involved with policy at the municipal, provincial, and national level. The clear and overriding message is that all forms of institutional care assessed in this study are associated with extreme increases in risk of demonstrating disorganized attachment, the sequelae of which include significantly elevated risk of clinical pathology in later life (detailed in Chapters 1 and 5). Subject to stringent tests of statistical significance, the evidence provides only the most tentative support of the significant benefit of improved caregiver-to-infant ratios and the provision of a dedicated caregiver, congruent with the inconsistent and inconclusive findings from studies reviewed in Chapter 5. Though these patterns demand further and increasingly systematic verification, on balance, the available evidence toward which this study contributes endorses the prioritizing of resources into the provision of more caregivers who are trained, valued, and incentivized to remain in post to provide consistent care to specific children. In light of the considerable expenditures on the construction of new buildings at all three CWIs since the data collection was completed,

it remains somewhat paradoxical that CWI leaders suggest that there are insufficient funds to enhance what they report to be understaffed units. The directing of funds into 'hardware', and the construction of disproportionately ostentatious new facilities, has been previously reported (Zhong, 2005). This trend highlights cultural peculiarities, perhaps particularly characteristic of an era of conspicuous consumption, material exhibitionism, and multiple challenges to the improvement of care of abandoned infants. Perhaps most importantly, it runs contrary to the stated aims of de-institutionalisation both within China and in accordance with the UN CRC which China has ratified. It is a little perplexing that what seem suitably large facilities constructed within the past decade, they themselves often underutilized, are replaced with new costly and larger buildings. Certainly, it is commendable that more modern, hygienic, secure, and comfortable environments are being provided for infants and caregivers. However, anecdotal evidence of what seems a misguided investment in new facilities is provided by the Independent-Run Unit which had adapted the first floor of the 'old' building (constructed in 1994) into what was arguably the best equipped and designed of all the facilities (4 Units) covered here, and superior to any of those newly built since. Indeed staff on the Independent-Run Unit told me that, having been moved into the new building upon completion in 2009, this new facility of theirs, though brand new and more spacious, was inferior to that which they had developed with attention to detail of the developing child's social needs (including, for example, a family room in which children had time with a caregiver in a family-like setting each week, and staff sleeping quarters within the Unit). Similarly, at the most remote of the 3 CWIs, the Non-Enhanced Institution, the original 2-storey building was replaced by a much larger facility in 2008. It was rather bewildering to be shown around the extensive and pristine facilities (including a physiotherapy room, performance hall, and music room), which were completely empty, before being shown

the dormitory in which, as had been the case in the previous building, all of the children were assembled, most left unattended in their immaculate new stainless steel cots. Despite, and perhaps logically not unrelated to, the impressive new accommodation these children remained under-stimulated and deprived of caregiver attention with the CWI leadership informing me that, regrettably, it remained the case that there were inadequate funds to provide what they judged to be sufficient caregivers for the infants. Though the additional caregivers provided, as promised for their participation in the study, had improved things, the directors suggested that more were required. In brief, this situation is reminiscent of that in other regions and historical periods, and the benefits of channelling funds into caregiving have been given empirical support through this study. Though the construction of new facilities may be more economical than the revitalization of older ones (and with the disproportionate collapse of state-constructed school buildings during the recent Sichuan earthquake for which corrupt cost-cutting building has been implicated, this may be an invaluable precaution), and improved physical environment will have numerous benefits for children and staff, there is no evidence that this will have a direct benefit to the crucial domain of socio-emotional development. To the contrary, the small subsample of children who showed most favourable organized attachment behaviours among our sample were those who had spent significantly more of their lives with foster families in quite impoverished village conditions. This brings to mind Bowlby's statement from over half a century ago, and already cited in Chapter 4:

Members of committees, too, in contemplating the fruits of their labours, are apt to find more personal satisfaction in visiting an institution and reviewing a docile group of physically well cared for children than in trying to imagine the same children, rather more grubby perhaps, happily playing in their own or foster-homes.

One must beware of a vested interest in the institutional care of children! (1952, p.154)

The construction of new, and larger, facilities generates a second paradox: if there is to be a move toward foster care for children who remain under state guardianship, then why construct such large new buildings? Indeed, I was told by someone working within the CWI system that a quota on foster care placements is used to avoid the embarrassment of empty new facilities. For the purposes of this study I have not been able to verify this suggestion, but it certainly seems plausible in light of the surrounding situation outlined here. Regardless, given the highly favourable indication of reduced prevalence of disorganized attachment among infants who have been placed in foster care (and then returned to the CWI) the disproportionate investment in institutional facilities is disconcerting.

This leads to the tentative endorsement of Foster Care programmes, which suggests that the family environment is the optimum safeguard against disorganized attachment. As noted in the discussion of Chapter 6, a large-scale study specifically designed to assess the implied benefits of foster care is urgently required. A particular question of such a study is the prevalence of secure attachments, as the prevalence of insecure-avoidant attachments remained extremely high among children who were assessed subsequent to return to the institutional environment. This practice is in of itself highly questionable, the re-transitioning from the foster care family arguably experienced as traumatic by the child. In addition, it was found that 11 (85%) of these 13 children were subsequently adopted overseas. The underlying permanency planning for the children warrants attention, and a study designed to assess attachment to foster care

parents during placements would do well to investigate the features of these programmes, and how child trajectory and overlapping placement (e.g. CWI post-abandonment=> Foster Care placement=>return to CWI=>overseas adoption placement) are inter-related. In brief, the present study lends tentative and optimistic support to the expansion of Foster Care programmes and the reduction of institutional placements.

In addition to a systematic study of foster care programmes, there should be careful assessments of other innovative interventions. For example, the Enhanced Institution is currently developing a new facility of several dozen small self-contained apartments in which couples employed by the CWI will live and care for children previously reared within the traditional institution. This restructuring of the facility, with all children remaining within the same compound and thus within accessible range of shared services, will also provide a more natural family environment. This intermediary approach, between foster care and traditional institution, warrants empirical evaluation to determine any benefits which might be replicable elsewhere. Such evaluation is particularly important as it has also been argued that such restructuring, though improving conditions for children, perpetuates the culture and practice of institutionally organized childrearing (Muehler & Browne, 2007).

The innovative and comprehensive programmes at the Enhanced Institution lead to another speculative concern; with a flood of financial support, specialist programmes, overlapping NGO interventions, as well as a stream of philanthropic visitors (many visiting in corporate groups accompanied by PR photographers or TV cameras), it may be that too many cooks risk spoiling the broth. In parallel to the suggestion that financial resources are being channelled into physical facilities detracting from the more essential

provision of consistent dedicated caregivers, it is possible that the constant thoroughfare of transient (and unusually attentive) visitors undermines the efforts to regulate and limit the pool of adult caregivers to whom children are exposed. This has particular implications for disinhibited RAD³⁴, as it has been found that exposure to a large number of caregivers increases risk of indiscriminate friendliness (Hodges & Tizard, 1989; Zeanah & Smyke, 2009). To this end it may be possible that the efforts of a dedicated caregiver programme, such as the Aunty Programme, are undermined by a high volume of volunteer carers working for brief stints (e.g. during university breaks, gap years). Though the present study did not assess RAD, informal observations confirm the unusual indiscriminately friendly approaches to strangers among the most favourable Enhanced Institution group where the traffic of transient carers and visitors (supplementary to programme) was very probably highest. It is also interesting to note that such behaviours seemed least conspicuous among the Independent-Run Unit children where secure attachments were highest. Children in foster care placements, many with histories of multiple previous placements, are also at risk of elevated disinhibited RAD (Zeanah et al., 2004), which unlike the inhibited form shows marked persistence even after caregiver environment has been improved (Zeanah & Smyke, 2009). Clearly this has implications for the proposed systematic study of children in temporary foster care placements, and a measure of RAD would be of great value. In relation, Rutter (2008) has suggested that while disinhibited RAD is a distinct clinical classification, inhibited RAD may not be

³⁴ Reactive Attachment Disorders (RAD) are included as psychiatric diagnoses, broadly capturing disturbed patterns in relating to others before age 5, in both the DSM-IV (American Psychiatric Association, 2000), and ICD-10 (World Health Organisation, 1996); in the latter there are two distinct forms: 'inhibited' and 'disinhibited'. Inhibited RAD is characterised by an introversion and under engagement with the social world including low level positive emotion, hypervigilance, and angry outbursts. By contrast, disinhibited RAD is characterised by extraversion and over engagement with the social world: lack of shyness, reduced discrimination between familiar and unfamiliar adults, 'going off with strangers', consistent with institutionalised children identified clearly by Tizard and colleagues covered in Chapter 5. The distinction between Inhibited and Disinhibited types, their likely causes, manifestations, and susceptibility to change, is so pronounced that Rutter et al (2008) judge the use of a single diagnostic category to be in contradiction to the evidence.

fully distinguishable from the behavioural indices of disorganized attachment classifications. On balance, this speculative suggestion that the social environment of the infants in institutions could undermine or bolster specific interventions requires further attention.

A recently developed measure of indiscriminate friendliness toward the stranger in the SSP (Lyons-Ruth, Bureau, Riley, & Atlas-Corbett, 2009) may provide a suitable tool for future research with CWI samples, or may perhaps even be applied to the recordings of procedures from the present sample in future work. In relation to the current study, a strong association was found between both organized-insecure, as well as disorganized, attachment classifications and elevated levels of indiscriminate friendliness (Lyons-Ruth et al., 2009). This is consistent with related suggestions that children in foster care placements, though demonstrating increased prevalence of attachment organization, as is the case with our sample, remain at elevated risk for disinhibited RAD problems.

7.5. Form and Function of an Authentic Cultural Psychology

Chapter 2 included some discussion of the cultural challenges to attachment theory and measures of attachment, specifically the SSP and the value judgements and parameters of its coding systems. The finding of normative distribution of attachment classifications among the Chinese community sample was taken as working proof of suitability for use within the Chinese institutional settings and is an important validation, lending an additional degree of confidence to the findings and inferences subsequently presented. However, a full examination of the limitations of attachment theory as an explanatory framework for infant-caregiver interactions in this Chinese context is beyond the empirical scope of this thesis. The discussion of Study 1 included the suggestion of

future research including ground-up naturalistic observation studies conceived, conducted, and interpreted by local psychologists and indigenous investigators from related disciplines. An aim of extending the reach of attachment theory, or integrating complimentary ideas from alternative cultures, should include the anticipated benefits of enriching understanding of human relationships (including infant-caregiver bonds) in all cultures, including those in which attachment theory was developed. Certainly the passage of ideas, religious, philosophic, political, and scientific has occurred in all directions and with seeds from culture of origin finding fertile soil in quite distinct cultures that, for one reason or other, had not arrived at the idea first. It would seem sensible to assume that an open attitude and exploration of attachment theory and related concepts would yield fruit. The concept of *guan*, or training, as a core feature of Chinese parenting practices (considered in Chapter 2), which has been found to have relevance in other cultures, though with culture-specific associations, has been suggested as an example of ‘exportability’ from Chinese to Western contexts (Stewart & Bond, 2002, p.306). I make this point explicit as an emphasis on the mainstream *etic* approach to the study of attachment in diverse cultures risks limiting scope of understanding.

The complex Chinese family structure, in which role and relation-specific priority and submissiveness remain highly salient features of everyday life, and are replicated in non-kin social structures, offers a great opportunity for examining the infant-caregiver attachment relationship as nested in this matrix, and as an evolving and dynamic entity. I suggest that one area of particular interest is the child’s transition into adulthood, the onset of romantic relationships, the fusion of multiple families through marriage, and the relatively *unchanged* child-parent attachment. By contrast to broadly speaking Western contexts, where adulthood and the commencement of one’s own nuclear family involves

to some extent a transfer of priorities from family of origin to new family, in China the priority remains family of origin and service to one's parents. To this extent I speculate that there are culture-specific variations in the degree to which the infant-parent attachment remains unchanged. In relation to contemporary Western culture Bowlby (1979) noted that in addition to other considerations: '*...for reasons stemming from the values of western culture, the requirements of adults for a secure base often tends to be overlooked, or even denigrated*' (p.104/4). A connection to the prevalence of insecure-avoidant attachments, and the associated emphasis on early independence, already discussed in earlier chapters suggests itself. By contrast, the findings of relatively high-levels of insecure-resistant attachments presented in Study 1, consistent with the culture-specific notions of interdependence in Chinese families, and the related valuation of *amae* – or presumptive dependence – in Japanese culture, are congruent with a culture in which the adult's need for a secure base is assumed and provided for as a matter of course. Further attachment research in China might benefit from a comparison of the child-caregiver attachment across developmental phases with an emphasis on multiple role-based relationships. As Inge Bretherton (1992) suggested: '*To better explore such cultural variations in attachment organization attachment researchers need to develop ecologically valid, theory-driven measures, tailored to specific cultures and based on a deeper knowledge of parents' and children's culture-specific folk theories about family relationships and attachment.*' (p.32). In relation, Kuo-Shu Yang has defined indigenous psychology as:

a discipline that applies the scientific method to the study of psychological and behavioural phenomena of people in a specific ethnic or cultural group, in such a way that the theories, concepts, methods, and tools used are highly compatible not

only with the studied phenomena, but also with their ecological, economic, social, cultural, and historical contexts. Indigenous psychology is spontaneously, naturally, and gradually formed through an endogenous process without the intrusion and domination of a powerful alien scientific psychology. (Yang, 2006, p.299)

Bringing these theoretical speculations on the conceptualizations of actual behavior to the measurable attachment patterns in the SSP, we might benefit from an observation by the paradigm changing anthropologist Franz Boas, who originated the use of an etic/emic distinction. With reference to physical artefacts from various cultures Boas noted that "*like effects do not necessarily have like causes*"³⁵, and criticised 'comparing method' approaches to ethnology:

A mere comparison of forms cannot lead to useful results, though it may be a successful method of finding problems that will further the progress of science. The thorough study must refer to the history and development of the individual form, and hence proceed to more general phenomena. (Boas, 1887a, p.486)

And:

The fact may be expressed by the words, "the physiological and psychological state of an organism at a certain moment is a function of its whole history;" that is, the character and future development of a biological or ethnological phenomenon is not expressed by its appearance, by the state in which it is, but by its whole history.

Physicists will understand the important meaning of this fact. The outward

³⁵This is a rephrasing for clarity suggested by Stocking (1989, p.2.), the original read: '*though like causes have like effects, like effects have not like causes*' (Boas, 1887, p.589).

appearance of two phenomena may be identical, yet their immanent qualities may be altogether different (Boas, 1887b, p.589)

This observation may be extended to behavioural artefacts, for example those observed and classified within the standard use of the SSP, which may serve a different function and have a different meaning in different cultures. Future efforts to elucidate possible differences in the underlying causes of what are manifest in the SSP as ‘like behaviours’ should perhaps move beyond the SSP, commencing investigations with an awareness of but without the assumptions of established attachment theory, drawing on ‘*the deeper knowledge of parents’ and children’s culture-specific folk theories about family relationships*’ as recommended by Bretherton (1992). Otherwise, as Kim (2000) has observed:

If psychological and behavioural indicators are used to define culture and then culture is used to explain the psychological and behavioural differences, researchers fall into a tautological trap: the psychological and behavioural data used to categorize cultures are then used to explain them. (p.270)

As outlined in Chapter 2, attachment studies across diverse cultures tend to apply the measures developed with Euro-American samples. Notable exceptions include the work of cross-cultural developmental psychologists Harwood, Miller, & Irizarry (1995) who made comparisons of maternal perceptions of attachment behaviours and related child qualities in Anglo and Puerto Rican cultures, highlighting differing emphases on an appropriate balance of ‘autonomy and relatedness’ and ‘respect and affection’. They found that for Anglo mothers:

Autonomy and emotional connectedness appeared to be opposite ends of a teeter-totter seeking a weighted balance. Too little autonomy, and the child would be enmeshed in overdependence, trapped in an ill-defined sense of self, or turned into a doormat for others; too much autonomy and the child would be emotionally isolated and barren, cut off from the world and unable to enjoy life. From this perspective the individual lives among others but is necessarily separate from them. Psychological health requires knowing how to balance and resolve this fundamental tension between self and other. (p.89)

By contrast, among Puerto Rican participants, unity, particularly that with the family was given greater emphasis:

A person who fulfils the requirements of *respeto* and lives a life of honour is *una persona de provecho*, a person who is worthy of trust and useful to society. *Provecho* encompasses a set of characteristics generally subsumed in English under the rubric of ‘integrity’ or ‘decency’: *Una persona de provecho* is responsible, honest, hard-working, morally upright, and God-fearing, and accepts the consequences of his or her own actions. In Puerto Rico, however, these qualities are viewed less as internalised principles of right and wrong, and more as the cohesive glue of society. (p.103).

Harwood et al. (1996) tie these cultural differences to a ‘sociocentric’ tendency (largely overlapping with a ‘vertically collectivistic’ tendency) among the Puerto Rican mothers contrasted to the ‘individualistic’ tendency among the Anglos. However, such meaning-

based consideration of attachment related behaviours in specific cultural settings has been rare, and variations in distributions of insecure classifications have tended to be superficially explained with the imposition of gross dichotomising variables, usually ‘Individualism and Collectivism’. Dasen and his colleagues (e.g. Segall et al., 1999) have described such oversimplifications as employing ‘great divide’ theories (such as primitive vs civilised, non-Western vs Western) which, somewhat dismissively, pretend to explain cultural differences without examining them. In his introductory chapter to the 2nd edition of ‘The Handbook of Chinese Psychology’³⁶ (in press) *The Continuing Prospects for a Chinese Psychology*, Blowers suggests that:

While much present-day Western psychology is welcomed for its utilitarian value, there is little evidence that the metaphysical assumptions of its rigid determinism, as evidenced in radical behaviourism and psychoanalysis, and its individualism, as evidenced in personality and intellectual assessment, are embraced in any fundamental way by Chinese people. Western psychology is seen to provide skills training in helping society solve a myriad of problems in child and adult development, health, and industry, but all in the service of an authoritarian, collectivist culture. (p.16 of pre-publication manuscript)

This depiction illuminates the stance toward Western psychology and perhaps, from this, an indigenous Chinese psychology begins to suggest itself. With least assumption, it would seem quite evident that the unparalleled scale and scope of historical-cultural integration with the contained chaos of material transformation would suggest that the peculiarly Chinese version of a psychological science, which is inevitably emerging, will

³⁶ It is interesting to note that the first edition of *The Handbook of Chinese Psychology* (1996) includes 32 chapters, 17 authored or first-authored by non-Chinese, and only 2 of 50 authors affiliated to a University or other institution within Mainland China.

find increasingly abundant streams of contribution and application. The studies presented here provide some suggestion that the attachment theory paradigm, which emphasises neither ‘rigid determinism’ nor ‘individualism’, is congruent with the Chinese cultural framework and outlook.

7.6. Shifts in Research Focus

Significant shifts in the patterns of institutionalisation, and overseas adoption, have implications for both the application of this study and the direction of future related research. Due to the relative scale and urgency of the problem of institutionalized infants, Romania was the leading sender in the early 1990s with a dramatic spike of over 2,500 in 1991. Massive reforms stemming largely from conditions set for EU membership led first to the suspension of international adoptions in 2001, followed by measures to return institutionalised infants to biological families, place them in foster or adoptive homes, and improve preventative mechanisms to reduce abandonments (Laffan, 2005). At the time of data collection for the present study China was the top sending country for international adoptions to the USA, with 5,453 children in 2007 alone (source: US Department of State). The findings from our research, consistent with those of attachment studies in Eastern European countries, present serious concerns for the vast numbers of children being adopted from Chinese institutional care. However, as has been emphasised in this thesis, the economic and social situation in China is changing rapidly, and there have already been dramatic shifts in welfare provision for abandoned infants and a move away from institutional care. There has also been a recent and dramatic slowing down of international adoption with, for example, the number of infants sent to the USA falling to

3001 for 2009³⁷. In parallel to a refocusing on domestic provision in China, it is worth considering where the next surge in international adoptions will come from. UNICEF estimates that of the 140 plus million orphans and abandoned infants worldwide approximately half are born in South and East Asia, while disease and poverty in Africa, and war in the Middle East, are creating vast numbers of genuine orphans, many with severe disabilities and special needs. As has been suggested for the population represented in this thesis, research in these diverse regions indicates specific cultural elements that must be considered when policy is being constructed and welfare interventions weighed (Christianson, 2005).

Certainly for the foreseeable future the continued use of both institutional childrearing and overseas adoption is probable, and so an understanding of the cultural matrices through which abandoned infants must navigate and struggle to form attachments demands careful consideration. In conceptualising the culture-specific developmental niche of these children, as for example delineated for the Chinese community sample in Study 1 (Chapter 2), whilst attending to the domestic situation, it is also important to consider a macrosystem that transcends national and cultural borders. As Azuma (2005) puts it:

In the contemporary world, cultures cannot remain as uncontaminated as they were in the past. People experience many different cultures through migration, travelling, reading, and information media..... human development now proceeds in interaction with functional culture. / Functional Culture is the total set of cultures

³⁷ http://adoption.state.gov/news/total_chart.html#

that constitute the milieu for the activities and development of a person or a group of people. (foreword, p.xii)

Having adapted to the specific socialisation environment of the institution, and in many cases foster care placement, all within the surrounding Chinese cultural milieu, thousands of children migrate overseas where they must then readjust. Thus, in weighing the implications of the attachment classifications found among our sample, and the much larger population of abandoned children across China and the developing world, we must consider adaptation to a probably trans-national 'functional culture'.

A decade ago Shang, Liu, and Cheng's (2001) UNICEF published report of abandonment, institutionalised care, and foster care included the following recommendations:

It is an important and urgent task to adopt the anti-child-abandonment legislation and to conduct anti-child-abandonment activities. / Institutional care is still an important form of alternative care. All abandoned children, no matter where they would be finally living, must be cared for in institutions for some time. Also, some children are not suitable for foster care at all. At the moment, state welfare institutions are not properly staffed. It is important that state welfare institutions are strengthened in terms of financial investment, personnel arrangements and technical improvement. (from Executive Summary)

Certainly there have been great advances since this investigation was undertaken and these recommendations outlined. It is extremely difficult to assess to what extent 'anti-

abandonment legislation' has been adopted, and 'anti-abandonment activities' conducted, however, the increasing scale of institutional facilities would seem to run counter to these measures, as well as be counter to increased use of foster care placements. The insistence that all abandoned infants must be cared for in institutions for some time is also questionable, and the present research has highlighted a possible heightened risk amongst those *most* suited to family placement for those children who are 'typically developing' (compared to those who have a 'visible deformity' but no serious internal illness or developmental delay). Paradoxically, it is suggested that those with least physical health problems are at highest risk of psychological health problems when placed in an institutional setting. In relation, as these children (by comparison to those with greater health needs) are more likely to be placed in foster care and/or adopted overseas, the related frequency of transitions between placements is likely to have a negative impact on children's socio-emotional development, specifically the formation of differential, organized, and discriminate attachment behavioural patterns.

In conclusion I would like to re-emphasise the two converging themes of this thesis – cultural specificity and institutional childrearing – and the complex way in which the infants at the centre of this research face extreme adversity in forming attachments to caregivers which are both adapted to their early environments and provide adaptational readiness for their future relationships. Among Bowlby's most far-reaching insights were his framing of the attachment behavioural system as a species-wide adaptation to a predictable social environment, and the configuring of internal working models which refine adaptiveness to the specific developmental niche of the individual. The findings of this study provide strong confirmatory evidence of both levels of adaptation, but they have also highlighted the extraordinary adversity and unpredictable series of

environments to which these children are subjected. As resilient as the human infant is, it is hoped that this research might provide some support for caregiving provision for abandoned infants which utilizes the wonderful strengths of these children to form loving relationships, rather than antagonistically stretching these to breaking point and beyond repair.

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Appendices

The Appendices are labelled according to the chapters and sections with which they are associated rather than following an independent numeric sequence:

	<i>page</i>
Appendix 0.1. * <i>A Joyful Visit with the Aunties and Children in [Provincial Capital]*</i> by the Director of Funding Agency's Adoption Resource Center	346
Appendix 0.2. Initial Research Proposal: <i>An investigation of the efficacy of the "Aunty" program in Chinese Child Welfare Institutes</i> by Miriam Steele & Howard Steele in collaboration with Xiaochun Jin	349
Appendix 3.1. Information Sheet & Consent Form (Study 1)	366
Appendix 6.1. Study 2: Health Status for each infant	374
Appendix 6.2. Daily Routine for State-Run and Independent-Run Units in Part-Enhanced Institution	383
Appendix 6.3. Caregiver Interview Form	386

Appendix 0.1.

A Joyful Visit with the Aunties and Children in [Provincial Capital]

by the Director of Funding Agency's Adoption Resource Center

For the past five years, we have been sponsoring an aunty program at the Child Welfare Institute in [Provincial Capital], China. I have visited four times to offer trainings to the aunties that would enable them to help with the children's development. This summer I returned with an occupational therapist and a special educator. I was extremely excited because one of our goals was to support an additional aunty program for children between the ages of three and five.

It was a joy to return to the CWI and see the children sitting on their aunties laps to hear a story read or grabbing their aunties' hand to pull them to see the new toys we brought. The obvious signs of attachment the children have with the aunties and the sense of comfort they derive from their presence makes me aware of the meaning and power of this program. It is particularly moving because I am conscious that most of these children will remain at the orphanage³⁸ and so having an adult who lights up when they come into the room or is completely interested in their painting is most important.

The success of the first aunty program for infants to age three is the reason we were determined to extend the aunty program to cover children who are between the ages of three to five. Continuity in care and attention is so important that it was clearly the right

³⁸ As indicated in Study 2 of this thesis, the majority of these children are in fact subsequently adopted overseas.

thing to do. We found children we recognized as having been in our Birth to Three Program now happily playing with aunts hired for the new program.

Our visit in July 2006 lasted two weeks. The first week we spent training the aunts and staff in the Birth to Three Program. Eleven out of fifteen aunts were new to the program so we reviewed basic developmental stages, how to encourage age appropriate skills and basics about how attachment forms.

The second week we focused on training the aunts and staff who work with the three to five year olds. Again, we reviewed basic child development, how to encourage creative play, interaction between the children, language and other age appropriate skills. Every time we passed the children's room, they started clapping and waving because the activities we did with them were so much fun.

When we asked the aunts to evaluate the training, their responses were very positive. One aunt said, "I am so happy that I know how to help my baby. Before all I could do was hold her because I thought she could not move on her own but now I am able to get her to crawl to me." The aunts were particularly interested in how to stimulate infants and how to help special needs children.

I had the opportunity to meet with government officials, notably the head of Child Welfare for the Province. He was very impressed with our program and asked that our agency consider opening more aunt programs in his province. When I asked how many he thought were needed he said he thought every orphanage in his province should have a program such as ours. That was quite a compliment and offer of support especially since

it came from a government official. He suggested that I visit a more remote orphanage to see the kind of need he was describing. So I took myself to [the Non-Enhanced CWI] — a days train ride followed by a long car ride—to see the orphanage.

I found [it] to be a fairly typical rural orphanage, situated in a new building which provides light and space for the children. However, there were only two caretakers for 38 children and no developmental toys or activities in their daily routine. A perfect place for us to consider establishing an aunty program.

Returning every year to China to support and train and grow the Aunty Program has been one of the most rewarding things I have ever done. A personal thank you to everyone who has enabled our agency to make such a profound difference in the lives of children.

Appendix 0.2

*An investigation of the efficacy of the “Aunty” program in Chinese Child Welfare
Institutes*

Center for Attachment Research

The New School for Social Research

Miriam Steele & Howard Steele in collaboration with Xiaochun Jin

March 13, 2006

Overview

This brief proposal outlines a rationale and program of research for investigating the benefits of the ‘Aunty’ program introduced by the funding agency. The aunty program is aimed at improving developmental outcomes for orphaned children living in the [Provincial Capital] Institute. The ‘aunty’ program initiated a fundamental change from large caregiver to child ratios (20:1) to providing more-or-less continuous and specific caregiver-child relationships (2:1) for infants under 3 years of age. This change is consistent with the assumptions of attachment theory and research (Bowlby, 1951, 1958, 1967, 1973, 1980, 1988) which has demonstrated the unique impact that a child’s tie to a specific caregiver will have on all aspects of the child’s development.

While the benefits of such a program are assumed to be manifold, and a number of internally generated anecdotal reports (e.g. reports from China to The funding agency in March and October 2002) support this assumption, this proposal aims to empirically demonstrate these presumed beneficial consequences of the ‘Aunty’ program. The proposed research is an extension of the investigators earlier attachment research including a longitudinal study of intergenerational patterns of attachment (Steele, Steele, & Fonagy, 1996; Steele & Steele, 2004; Steele & Steele, 2005); a longitudinal study of attachment in previously maltreated children in new adoptive and foster care families (Steele, Hodges, Kaniuk, Hillman, & Henderson, 2004; Hodges, Steele & Kaniuk, 2004) and with infants living in institutional care in Athens, Greece (Vorria, Steele, et al. 2002). The special attention to the cultural context of the proposal is enhanced by the collaboration with Dr. Xiaochun Jin, also of the New School for Social Research, who has an interest in attachment research in Chinese families and well established ties in China.

Background

Consequences of early deprivation in the caregiving environment

Long before the current interest in inter-country adoption, early research consistently revealed the adverse impact of institutionalization on the development of children. For example, studies of children raised in orphanages in the United States until the mid-20th century indicated that these children experienced lasting delays in language and physical development (Provence & Lipton, 1962). They also suffered lifelong difficulties forming healthy emotional attachments and relationships with others (Goldfarb, 1945), and displayed continuing delays in cognitive development long after adoption (Provence & Lipton, 1962). The challenges faced by these formerly institutionalized children seem to hold remarkably constant despite the country of origin or time frame (Meese, 2002). For example, at the time of their adoption, children reared in institutions abroad frequently evidence delays or deficits in language and cognitive, behavioral and motor skills (Glennen, 2002; Johnson & Dole, 1999; Miller & Hendrie, 2000). In addition there have been studies showing substantial long-range problems in developing healthy attachment behavior (Chisolm, 1998; O'Connor & Rutter, 2000; Zeanah, 2000).

Developmental catch-up

One may summarize the effects of early institutional care upon later development

(post-adoption) in terms of rates of ‘catch-up’ to normative levels of development. Catch-up is quickest and rather remarkable in the physical/motor realm, somewhat slower in the cognitive realm, and slowest in the social (attachment) realm. At the same time, O’Connor & Rutter (2000) point out that grossly poor care is not a sufficient condition for attachment disorders to develop. We surmise that this is the case because even in a fairly pervasively neglectful institutional environment, the infant imperative to seek out and maintain an attachment is likely to strike a responsive chord with one or other of the admittedly strained caregivers. This was apparent in the study conducted within a major Greek orphanage in Athens, where infants abandoned by birth parents spend two years prior to adoption. Vorria, Steele et al (2002) observed that 24% of their sample of 84 Greek orphans showed secure attachment to their primary caregiver in the institution alongside 66% who expressed behaviors indicative of insecure-disorganized attachments. In some ways these frequencies are not surprising, but if we consider the 24% who demonstrated secure patterns of attachment, despite the less than optimal caregiving arrangements we have cause to ponder issues of risk and resilience. Indeed we have further evidence of some childrens’ capacity to seek out attachment relationships and make the most of what is on offer. Independent studies of infants in foster care show a remarkably quick rebound to secure attachment behaviors *but only* if the new foster parent has an organized secure state of mind (Dozier, Stovall, Albus & Bates, 2001). Our own results have confirmed this amazing capacity in older children (aged 4-7 yrs), who have known little else but impoverished care and maltreatment, to respond quickly and positively to the offer of a secure base from an adoptive parent (Steele et al, 2003, 2005). What these studies highlight is the importance of the **quality** of what is on offer.

The caregiving environment in the orphanage

Far more research has been devoted to child development *after* foster or adoptive placement, rather than investigating developmental considerations within the orphanages, and attempting to improve the circumstances of institutional care. The most dramatic recent exception has been the work pursued in Russian orphanages by Rivkat Muhamedrahimov and colleagues (e.g. Muhamedrahimov, Palmov, Nikiforova, Groark & McCall, 2004). Through a sustained program of evaluation and intervention begun in 1992, these researchers have initiated a process that is likely to bring about long-lasting positive changes in the more than 250 orphanages or ‘Baby Homes’ in the Russian Federation. In their 2004 paper, they highlight changes implemented in one Baby Home in St. Petersburg. The crux of their efforts has involved the establishment of a ‘familial’ environment for each baby within the institution. This has included re-apportioning the internal space (and walls) so that no more than 6 or 7 babies share the same living space, and in which two caregivers (one primary the other secondary) administer to the children’s needs. When one caregiver is not physically present, the other one is. Preliminary indications suggest that these radical changes have led to substantial improvements in the physical, cognitive and social functioning of the orphans, and a decline in anxiety and depression among the staff of the Baby Home. Notably, they did not attempt to assess the children’s attachment status prior to the intervention, assuming that the orphans had not been given the opportunity to establish a relationship with any of the very many ‘strange’ caregivers looking after all the children. In this respect, a potential for empirically demonstrating change (e.g. from insecure/disorganized to secure attachments) after their intervention was unavailable.

The current study

It is remarkable how many advances in toddler development, e.g. self-feeding and curiosity in learning, have been observed since the introduction of the ‘aunty’ program (October, 2002 Training Report from Enhanced CWI). Notably, one aunty was identified early on as a potential coach to new recruits given her exceptional caregiving and teaching skills (linked to her status as a retired school teacher). Children under 30 months of age appear to be most at risk, as it has been assumed that these are ‘babies’ who do not require structured activities, opportunities for creative play or early learning experience. Developmental studies of language acquisition point to the unquestionable importance of a primary caregiver being available to a baby by six months of age, if not sooner, to stimulate language, cognitive and social development by speaking to the baby *as if* she was a person capable of understanding. Indeed, the six-month old is a rapidly developing person, but one who depends on appropriate social care from a wiser and stronger adult or ‘attachment figure’.

Culture and attachment

Though attachment theory was developed in the West (England) by John Bowlby (1958), one of its first research applications was in Uganda (Ainsworth, 1967) where it was observed that most mothers seek out (or respond to the child’s wish for) and maintain tender loving contact with their babies. Bowlby (1951) had specified this to be both normal and desirable from a mental health perspective. By the late 1960s, Mary Ainsworth had conducted many hundreds of hours of home observation documenting the kind of sensitive and responsive caregiving that normally infused interactions between

mothers and babies over the first year. Sensitive responsiveness she defined as prompt and effective attention to infant distress. After carrying out 1000s of hours of home observations, Ainsworth thought of a way to extend her understanding of the early infant-mother attachment relationship by devising a laboratory-based observation that she called the Strange Situation. This led to the book, *Patterns of Attachment: A psychological study of the Strange Situation* (Ainsworth, Blehar, Waters & Wall, 1978). Within 10 years of the book coming out, there was a meta-analysis published on cross-cultural patterns of attachment, including reports from communities across the English speaking world, northern and southern Europe, Israel and Japan (van IJzendoorn & Kroonenberg, 1988). Secure infant-mother attachment was reported to be modal across the world with 65% of infants observed showing this pattern of pleasure upon the mother's return (after being left alone) and a joyful return to exploration. The remainder of infants either avoided their mothers upon reunion or cried inconsolably and were thus called resistant (i.e. resistant to being settled). While infants seem invariably to develop secure attachments to their caregivers at a rate of 65%, there are some cultural differences observed in the distribution of the 'insecure' patterns, with insecurely attached infants in northern Germany being primarily avoidant, and insecurely attached infants in Israel and Japan tended to be primarily resistant. It would appear that in cultures that emphasize communal bonds and the primacy of the social group over the self, insecurity expresses itself as amplified dependence or resistance. While in cultures that emphasize individual rights and the goal of self-reliance, insecurity may be more likely to express itself as amplified independence or avoidance. This is by no means a fully understood phenomenon and there is urgent need for further cross-cultural work (van IJzendoorn & Sagi, 1999).

For example, there have been only two small Strange Situation studies involving infants in China and these studies both seem to confirm the cross-cultural validity of this observational technique. For example, in a study of 31 infants from Peking, living in middle-class circumstances with parents and grandparents, Hu & Meng (1996) reported a distribution that included 68% secure, 16% avoidant and 16% resistant. A most 'normal' distribution that applied equally to the boys and girls in their sample, each making up 50%. Trnavsky (1998) carried out the other Chinese Strange Situation study involving 29 infants (17 male) in daycare at a university located in Shenyang (formerly Muken, Manchuria), a major industrial center with a population exceeding 3 million. The infants attended the nursery 6 days a week from 6:00am – 7:00pm, on a schedule including two naps and three meals. The Strange Situation was conducted following the afternoon nap. Rating discrete infant behaviors that were then examined in a cluster analysis. Three groupings were identified. The first was broadly similar to the secure group identified by Ainsworth and this comprised 19 (65%) infants. Only three infants (10%) fit with a group that was decidedly resistant. And, interestingly, the remaining group of 7 (25%) infants are described by Trnavsky as showing a moderate amount of crying on separation and settled on reunion with the mother, interacting with her across a distance. In some work, this may qualify to be called avoidant, but Trnavsky claims that this group is best described as calm and independent, not insecure.

Given that these babies were being raised primarily in group care, they may comprise a useful comparison to the babies we now propose to study who are receiving group care, in a similar Northern China context, but within the orphanage or Child Welfare Institute comprising the [Enhanced CWI]. Still, the strongest possible comparison to the situation of child care we observe at the [Enhanced] Institute will be another Child

Welfare Institute (or orphanage) where an aunty program has not yet been introduced (but where it is perhaps soon to be introduced).

Hypothesis

Against this background, we aim to investigate the following core hypothesis that includes three anticipated outcomes:

That the introduction of more optimal caregiver to infant ratios (from 1 to 20 to 1 to 2), such as is embedded in the aunty program, will result in increases across three domains of child functioning:

1.1 cognitive development;

1.2 psychomotor development; and

1.3 social-emotional development

Method

Design

The research is to be a six-month test-retest design, based at the [Enhanced] Institute where an program aimed at increasing the quality of care has begun to be introduced at the initiative of [the funding agency]. We aim to conduct observations of 36 infants' cognitive and social development at the [Enhanced] Institute on two occasions three months a part. At each occasion, we plan to observe each caregiver-child pair in a

brief 3-minute face-to-face free play session and then to observe them in the Ainsworth Strange Situation. We aim for the first visit to take place at between 12-15 months and the second visit to take place at 15-18 months in the infant's life. We want to repeat these same assessments in another Child Welfare Institute with 36 babies and their most familiar caregiver. This proposal is based on the assumption that an aunty program may be introduced in this second Child Welfare Institute for the 36 babies we observe *soon after* the first observation. In this way we may be able to observe the difference that even two months of one-to-one specialized attention can make (i.e. attention such that an aunty can provide).

Measures

Demographic characteristics

We will obtain information concerning age, gender, weight of the children, and any information in the orphanage files concerning their developmental history. We will also consider the age, marital status, previous experience with children, and education of the grannies.

Cognitive and motor development

Bayley Scales of Infant Development, 2nd edition (BSID-II)- is a widely accepted tool to assess the development of children aged 1 to 42 months with acceptable psychometric properties. The Bayley Scales are divided into the Mental Development Index (MDI) which assesses cognitive and communicative ability and to performance in the Psychomotor Development Index (PDI) which assesses fine and gross motor skills. Scores on the MDI and PDI are then averaged to the nearest integer to derive a composite score.

We predict that increases in cognitive development will be observed between time one and time two assessments, with significantly greater increases to be observed in the group of infants who have received ‘grannies’ providing high quality care.

Emotional Development:

Temperament: We will obtain from the main caregiver and any others familiar with the child to rate infant fussiness and difficultness in accord with the widely used and previously validated Infant Characteristics Questionnaire (Bates, Freeland, & Lounsbury, 1979). The scale is appropriate for infants aged 6-24 months. We do not expect temperament to account for any shifts in social or cognitive development, but it is important to consider this possible influence on developmental outcome.

Attachment security: The Strange Situation (Ainsworth, Blehar, Waters & Wall, 1978) is the most widely used, and extensively validated, measure of an infant’s attachment to her caregiver. The procedure takes 20 minutes to administer and is filmed. Over the 20 minutes an infant (between 12 and 20 months of age) is escorted into a playroom by a primary caregiver (in this case from the orphanage). The playroom is equipped like a waiting room in a clinic (with toys on the floor and magazines for the caregiver to read). Over the 20 minutes that follow, the caregiver is signaled to leave the room twice, first time leaving the infant with another (unfamiliar) adult, and second time, leaving the child entirely alone. Research has demonstrated that how the baby behaves upon reunion with the caregiver provides a valid and reliable window into the child’s inner sense of confidence, trust and security in the caregiver. Proximity seeking to (and avoidance of) the caregiver, as well as contact maintenance (and resistance to contact) on

reunion, are rated on 7-point interval scales. Finally, an overall classification is given to the quality of the infant-caregiver attachment. An infant receives one of three possible classifications: secure, insecure-avoidant, or insecure-resistant. We predict an increase in security *at follow-up* assessments after the introduction of, or after spending more time in, the aunty program.

A further consideration is the extent of fear shown in the presence of the caregiver, and this is rated on a separate 9-point scale assessing extent of disorganized attachment behavior (based on the assumption that security, avoidance and resistance all reflect ‘organized’ strategies for maintaining a relationship with the caregiver. The infant with a disorganized attachment will make organized attempts at maintaining a relationship with the caregiver, but this breaks down into fear, freezing, or anomalous behavior at times in the presence of the caregiver, and this is scored on the relevant 9-point scale. Score of 6 or more lead the trained rater to regard disorganization as the primary classification, while an alternate best-fitting (secure, avoidant or resistant) assignment is also made. We expect a decrease in disorganization to follow from an infant’s introduction to, or spending more time in, the aunty program.

The fact that the aunty program does not provide for extended one-on-one time between a given aunty and the two children she is primarily responsible for should not diminish the possibility of observing the special nature of this attachment. Even in the communal environment of the orphanage, where an aunty interacts with many children, and children are encouraged to interact with each other, each child—we predict—will also know who aunty is. The sensitivity and specificity of the Strange Situation will allow us to observe the quality of this relationship, and the contribution made to it by each

partner.

The Strange Situation (Ainsworth et al, 1978) not only affords us a view of the child's attachment to the caregiver, but also permits a view of the quality of care provided by aunty or caregiver. This is achieved by having a rater (someone different from the rater reviewing the child's behavior) carefully review the filmed behavior of the caregiver in the 20 minute sequence, applying previously the previously validated approach suggested by Britner, Marvin & Pianta (2005). As a warm-up to the Strange Situation observation we will also film each caregiver and baby in a 3-minute session of face-to-face free play (after Beebe, 2005). This will afford a further view of the nature of the relationship between child and caregiver.

Implementation of the study

The project would begin with a trip to China (early June 2006 is proposed date) when the team (Howard Steele, Xiaochun Jin and [the funding agency lead]) plan to visit the [Enhanced] Institute where [the funding agency lead] has visited previously and [the funding agency] have a relationship. During our visit, we would recruit sensitive and competent graduate and/or post-graduate developmental psychology or clinical psychology or medical students to work with us while we are there and commit to one day a week for 6 months. During the June visit, we would select and train the team (two people to work together). They would be trained to set up, conduct, and film the free-play sessions, the Bayley assessments, and the Strange Situation observations. Between July and December, we will be in contact with the team via email as they proceed to collect observations of infants and toddlers prior to or soon after an

aunty has been assigned to them. There will need to be some flexibility as to when the follow-up observations are made, given that some children will be leaving the orphanage into an adoptive home, and in this case the follow-up visit should take place prior to this move. Ordinarily, the team would wait six months 'til the follow-up visit. The NY-based team would themselves plan a follow-up visit for January 2007 to take stock of data gathered to that point, and consolidate the initiation of the second follow-up wave of assessments. Digital cameras for filming the Strange Situation will be required, and these may also be used for filming the administration of the Bayley MDI (Mental Development Index).

Sample size: On the assumption that in a given day when the pair of researchers visit the Orphanage, they may film 3 infants or toddlers, and a team visits once a week, 12 children could be seen in a given month, and over 6 months 72 children. Some of these visits may be follow-up visits in respect of children seen 3 months previously or children soon to leave one of the Child Welfare Institutes we are studying. The budget detailed below is based on 72 children being observed on two occasions (on average 3 months between observations), being drawn equally from two Institutes, one where an aunty program is established (the enhanced CWI) and one where it is in the process of being introduced.

Statistics and write-up: The data will yield both categorical and continuous results. Repeated Measures ANOVA, and pair-wise comparison of means (related samples t-tests) will be relied upon to inspect for the hypothesized change across time in children's social and cognitive development, as a possible function of care provided by the grannies. Stability or change in attachment categories, and as related to categories of caregiver quality, will be examined in a series of cross-tabulations, relying on Chi Square

and Kappa as estimates of extent of association. The sample of 72 cases allows us sufficient power to detect moderate to large effects. The write-up of results will be completed in December 2007.

An budget appears in the attached file., and further delineation of the study, follows immediately below:

Round trip tickets to [provincial capital] (for Dr H. Steele & Dr. X. Jin) : $2 \times \$ 1500$
= \$3000

Daily Transportation: 2×7 (including airport to the city) $\times \$ 30 =$
\$420

Hotel: 2×5 (5 nights) $\times \$ 150 = \1500

Food: 2×5 (5 days) $\times \$ 30 = \300

Total travel cost for 1st visit to China for team of two: \$5220

Payment for our Chinese researcher: \$ 65 /day

Between July and end of December 2006, and then between January and June 2007, we anticipate two researchers visiting the [Enhanced] nstitute one day a week, and within that day we expect them to film three infants in the Strange Situation, as well as administer the Bayley Mental Development Scales. Thus, we calculate over six months (July – Dec. 2006) that the Research Team in China will work 24 days ($\times \$65 = \$1560 \times 2 = \$3,120 \times 2$), and a further 24 days in 2007 to carry out the follow-up visits. Plus 3×2 days when we are there in June, 2006 (and then again in Jan, 2007) ($\$390 \times 2 = \780).

Total costs for Chinese team: \$7020

Equipment cost of camera, tripod, digital video tapes, test materials (Bayley Test, ICQ, toys for Strange Situation filming room), and postage of materials to/from China and NYC is approximated at **\$3500**.

Once the Strange Situation tapes are back in NYC, at the Center for Attachment Research, each to be coded by a trained rater with specialized skills (\$50.00 for each tape) with a total cost of **\$3600** for the primary first ratings. Twenty-five per cent (18) of these tapes, at least, should be coded independently by a second trained rater: **\$900**. **Total cost for coding first 72 tapes: \$4500**.

Regarding the tapes of the Bayley sessions where the aunty or primary caregiver holds the infant or toddler on her lap while the cognitive task is administered (MDI ratings to be noted at time of filming, but tapes are to provide a 'back-up' available for coding of non-verbal attentional capacity of infant and social skills).

The team of three will return to China in January 2007 to collect the Strange Situation tapes, and The Chinese team will continue collecting follow-up data (a further 96 cases) over first 8 months of 2007 prior to completion of data collection.

Total travel cost for 2nd visit to China for Drs. Steele & Jin: **\$5220**

Total costs:

Travel of NY-based researchers Dr. Steele & Dr. Jin in June 2006 and Jan 2007:

\$10,440

Salary costs in China for research team of two
over study period: **\$7020**

Test materials, equipment, postage: **\$3500**

Coding costs re: filmed Strange Situations: **\$9000**

Total costs for two-year project: \$29,960

Attachment in China References:

Trnavsky, P. (1998). Strange situation behaviors in Chinese infants. *Child Study Journal*, 28, 1-13.

Hu, P. & Meng, Z. (1996). An examination of infant-mother attachment in China. Poster presented at the meeting of the International Society of the Study of Behavioral Development, Quebec City, Quebec, Canada.

Appendix 3.1. (Chinese version below)

INFORMATION SHEET & CONSENT FORM

(16Mar2007)

[City name] Parent-Child Study

You are being invited to take part in a research study conducted by a team of psychologists. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with me if you wish.

What is the purpose of the study?

The aim of this study is to learn more about 'normal' patterns of relating between one year old children and their caretakers in a Chinese community. We will also compare this with observations that are currently being collected at a range of Child Welfare Institutes. We are asking about 60 parents and their children to be involved in this study. The study will last for about 3 months between April and June 2007.

Taking part in the study

If you do decide to take part you will be given this information sheet and a signed copy of the consent form to keep. The study will involve you and your child taking part in a couple of video-filmed activities lasting about 25 minutes that will be recorded and then assessed. These methods have been widely used in other countries but have so far not been applied in China in any published study. We will also ask you some questions that

should take about 5-10 minutes. If you decide to take part you are still free to withdraw at any time and without giving a reason.

What are the possible benefits of taking part?

We hope that you will enjoy the activity and perhaps learn a little about your child. We will also pay you for your time, compensate any transportation costs, and give you a DVD of the procedure to keep.

What if I have a complaint?

If you wish to complain, or have any concerns about any aspect of the way you have been approached or treated during the course of this study, you can contact Professor LLJ of the Department of Psychology at [the local Teaching] University who is overseeing this study.

Will my taking part in this study be kept confidential?

All information which is collected about you during the course of the research will be kept strictly confidential.

What will happen to the results of the research study?

The results of the study will be written up and may be published. If you are interested, we can send you a copy of any published results. The study will not identify individual participants.

Who is organising and funding the research?

[The local Teaching] University and The New School for Social Research of New York (USA) are collaborating in organising the research. The study is being funded by ----- (also of New York, USA).

Who is involved in the study?

There are 3 of us involved in the running of this study in [the city]:

Professor LLJ, representing Shaanxi Normal University (tel: ****), Marc Archer, representing The New School (tel.***), [RA name], project administrator (tel: ****)

What happens next?

If you agree to take part, please sign the attached consent form to show you have read about the purpose of this study and give permission for the information you give to be used in our study.

CONSENT FORM

Participant Identification Number:

Title of Project: [City] Parent-Child Study

Name of Researcher:

Please initial box

1. I confirm that I have read and understand the information sheet dated 16 March 2007 for the above study and have had the opportunity to ask questions.
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.
3. I agree to take part in the above study.

Name of Participant

Date

Researcher

Date

1 for participant; 1 for researcher

项目说明与知情同意书

(2007年3月16日)

[City name] 亲子研究

各位家长，欢迎您及您的孩子共同参加此项由心理学工作者开展的跨文化亲子研究项目。下面是有关本研究的一些基本情况介绍，请您认真阅读以下信息，如有问题请与我们联系及时联系并商讨。

本研究的目的是什么？

本研究的目的是想了解中国一岁龄的婴儿及其家长或照料者之间的行为互动模式，本项目还将在中国部分儿童福利机构进行对比研究。本项目近期将邀请 60 对父（母）与婴儿参与此项研究。

本研究将持续三个月，时间为二零零七年四月至六月。

研究过程描述：

如果您愿意参加此实验，请签署背面的知情同意书。此项研究将采用摄像方式记录下您及您的孩子的活动，并对结果进行评估，持续时间约为 25 分钟。这一行为观察方式在国外已被广泛使用，已被证明是非常科学有效的，而在中国目前尚未见报道有研究采用此手段。之后，研究者会与您交谈 5-10 分钟。

本研究完全是自愿的，只有在您签署知情同意后才会安排您参与实验。假如你决定参加，你仍然可以随时自由退出而不需要提供任何理由。

参与研究可能对您的好处：

希望您能够乐于参与本项目并增进您对自己孩子的了解。在实验结束时，项目组会向您赠送您一份礼品，支付您的路费，赠送一份您及您的孩子参与实验过程的光盘。

如何提出投诉及建议？

在参与研究期间，如果您有投诉或建议，可以向监督本研究的[Province name]师范大学心理系[LLJ]教授反馈。

参与本研究的个人信息能否得到保密？

关于您个人的基本资料都会绝对保密，并只用于科学研究。

研究结果会如何使用？

研究的结果将根据所有实验对象的结果进行统计分析，并以书面形式报告，但内容并不针对单独的实验参与者。如果您有兴趣，我们可以将发表的结果复本寄送给您。

研究的组织者及赞助者是谁？

此项研究由[Province name]师范大学和位于美国纽约市的新学院大学社会科学研究院联合开展。本研究并得到了位于美国纽约市的-----家庭研究会赞助。

研究队伍有哪些成员？

- 1.项目监督者：[LLJ] 教授，陕西师范大学心理系，电话：-----;
- 2.项目实施者：Marc Archer，来自美国纽约市的新学院大学社会科学研究院情感研究中心（简称 CAR，负责人为新学院的 H. & M. Steele），电话：****;
- 3.项目协调员：[RA name]，研究生，电话：****

如何参与本研究？

如果您同意参加，请签署背面所附的知情同意书，以表示您已经阅读并了解此项研究的目的，允许在此研究中使用您所提供的信息。

知情同意书

参与者编号:

项目标题: [City name] 亲子研究

研究者姓名:

1. 我确认我已经阅读并且理解 2007 年 3 月 16 日关于上述研究的信息表, 并且给我机会就关

于本实验及我的参与提出问题。

2. 我知道我的参与是自愿的并且我有权在任何时间随时退出实验。

3. 我同意参加上述研究。

参与者姓名: _____

日期:

—

研究员姓名: _____

日期:

—

Appendix 6.1. Health Status for each infant, by CWI

Table 6.1.11. Health Status, experience of foster care, age, and 4-way SSP classification by infant for the Enhanced CWI sample.

IDSITE	health	health_bin	foster_exp	T1_age_months	4-way Strange Sitn class time 1
X002	very good	low-no dev delay	yes	13.78	avoidant
X013	neonate pneumonia (severe)	med-hi dev delay	yes	15.36	avoidant
X010	hermaphroditism	med-hi dev delay		12.89	avoidant
X014	Hirschsprung's disease (post-operation)	med-hi dev delay		13.26	avoidant
X003	cleft palate	low-no dev delay		13.62	avoidant
X015	has had an operation for heart disease	med-hi dev delay		14.08	avoidant

X057	cleft palate	low-no dev delay		17.01	avoidant
X016	congenital heart disease	med-hi dev delay	yes	18.03	disorganised
X054	congenital glaucoma	med-hi dev delay		12.60	disorganised
X001	very good	low-no dev delay		12.60	disorganised
X018	deformed left ear	med-hi dev delay		13.29	disorganised
X009	normal	low-no dev delay		13.42	disorganised
X005	normal	low-no dev delay		16.09	disorganised
X022	normal	low-no dev delay		18.13	disorganised
X023	normal	low-no dev delay	yes	18.82	avoidant
X037	missing left arm	low-no dev delay	yes	28.65	avoidant
X036	cleft palate	low-no dev delay	yes	28.72	avoidant

X032	hypospadias	med-hi dev delay	yes	30.53	avoidant
X040	ptosis right eye	low-no dev delay	yes	30.99	avoidant
X039	missing right hand	low-no dev delay	yes	32.57	avoidant
X020	gastroschisis - repaired	med-hi dev delay		19.38	avoidant
X027	low intelligence/mental retardation?	med-hi dev delay		23.22	avoidant
X041	occipital mass	med-hi dev delay		25.00	avoidant
X038	dev delay susp	med-hi dev delay		26.15	avoidant
X035	congenital heart disease/cateract	med-hi dev delay		31.58	avoidant
X031	low intelligence/mental retardation?	med-hi dev delay		35.10	avoidant
X017	normal	low-no dev delay	yes	24.44	disorganised
X058	cleft palate	low-no dev delay		12.34	disorganised

X025	normal	low-no dev delay		22.07	disorganised
X043	deaf mute	med-hi dev delay		24.61	disorganised
X030	congenital heart disease	med-hi dev delay		24.64	disorganised
X034	cleft palate	low-no dev delay		25.95	disorganised
X033	hearing impaired	med-hi dev delay		29.80	disorganised
X044	cleft palate	med-hi dev delay	yes	25.39	disorganised
X012	epilepsy	med-hi dev delay		16.58	secure
X024	missing left hand	low-no dev delay		18.03	secure
X026	congenital heart disease	med-hi dev delay		22.80	disorganised
X028	normal	low-no dev delay	yes	28.88	secure
X029	closed left ear	low-no dev delay	yes	30.59	secure

Table 6.1.12. Health Status, experience of foster care, age, and 4-way SSP classification by infant for the Independently-Run Unit of the Part-Enhanced CWI sample.

IDSITE	health	health_bin	foster_exp	T1_age_months	4-way Strange Sitn class time 1
H026	premature birth, malnourished	med-hi dev delay		14.74	avoidant
H028	heart disease	med-hi dev delay		12.24	disorganised
H015	congenital heart disease	med-hi dev delay		12.47	disorganised
H013	normal	low-no dev delay		12.96	disorganised
H010	cleft palate	low-no dev delay		15.59	disorganised
H014	adenoid hyperplasia	med-hi dev delay		15.13	disorganised
H009	cleft palate	low-no dev delay		15.20	secure
H007	cleft palate	low-no dev delay		17.37	secure

H008	club feet	low-no dev delay		18.78	secure
H006	cleft palate	low-no dev delay		22.34	secure
H005	cleft palate	low-no dev delay		24.41	secure
H003	malnutrition/slight right thorocolumbar scoliosis	med-hi dev delay		28.55	secure

Table 6.1.13. Health Status, experience of foster care, age, and 4-way SSP classification by infant for the State-Run Unit of the Part-Enhanced CWI sample.

IDSITE	health	health_bin	foster _exp	T1_age_ months	4-way Strange Sitn class time 1
Y019	premature delivery	med-hi dev delay	.00	16.58	avoidant
Y011	brain membrane swelled	med-hi dev delay	.00	18.45	avoidant
Y013	back membrane swollen with low waist	med-hi dev delay	.00	14.54	disorganised
Y004	premature delivery	med-hi dev delay	.00	15.99	disorganised

Y017	premature delivery	med-hi dev delay	.00	16.91	disorganised
Y008	'big head' (brain paralysis)	med-hi dev delay	.00	32.57	avoidant
Y005	the right feet towards	low-no dev delay	.00	36.05	avoidant
Y003	cleft palate, corrected	low-no dev delay	.00	18.95	disorganised
Y010	both eyes have cataract	med-hi dev delay	.00	21.71	disorganised
Y009	left breast has a swelling	low-no dev delay	.00	27.37	disorganised
Y014	top of the head is swelled	med-hi dev delay	.00	13.19	disorganised
Y012	normal	low-no dev delay	.00	17.93	disorganised
Y018	normal	low-no dev delay	.00	21.74	disorganised
Y001	normal	low-no dev delay	.00	36.84	disorganised
Y020	normal	low-no dev delay	.00	16.09	disorganised

Y006	disability with r hand	low-no dev delay	.00	28.75	secure
Y002	congenital heart disease	med-hi dev delay	.00	30.46	secure

Table 6.1.14. Health Status, experience of foster care, age, and 4-way SSP classification by infant for the Non-Enhanced CWI Sample.

IDSITE	health	health_bin	foster _exp	T1_age_ months	4-way Strange Sitn class time 1
A011	normal	low-no dev delay	.00	12.17	avoidant
A006	deformed hand	low-no dev delay	.00	15.30	avoidant
A014	normal	low-no dev delay	.00	14.51	disorganised
A005	Developmental delay	med-hi dev delay	.00	13.36	disorganised
A015	normal	low-no dev delay	.00	13.36	disorganised
A003	cleft palate	low-no dev delay	.00	13.91	disorganised

A007	normal	low-no dev delay	.00	15.20	disorganised
A017	cleft palate	low-no dev delay	.00	21.32	disorganised
A001	cleft palate	low-no dev delay	.00	21.41	disorganised
A002	spine problem	med-hi dev delay	.00	17.27	secure

Appendix 6.2. Daily Routines for State-Run and Independent-Run Units in the Part-Enhanced CWI.

State-Run Unit X Daily Routine:

作息
Xiangyang - Activities 7.1.19

Time 时间	Content 内容	Notes 备注	PS.
6:00 - 6:30	起床 get up	刷牙	洗脸手 washing
7:00 - 7:30	早餐 breakfast	喝奶	drink milk
8:00	户外活动 outdoor activity	晒太阳等	sunbath. Class in the sun
8:00 - 8:30	加餐养教 meal		
9:00	睡觉 go to bed		
10:00	起床 get up	洗脸手 washing	喝奶 drink milk
10:30	室内活动 outdoor activity	学说话 听音乐等	learn speaking listen to the music
11:30	午睡 set sleeping		
12:30	起床 get up 洗脸手 washing	喝奶	drink milk
14:00	室内活动 outdoor activity	玩游戏	play games watch cartoon make
15:00	加餐养教 eat food	吃东西	eat some food. fruit.
16:00	户外活动 outdoor activity		
17:30	喝奶 drink milk		
18:00 - 19:00	自由活动 free activity	洗澡	wash
19:00 - 19:30	睡觉 sleeping		

第 页
2006. 8. 24

Independently-Run Unit Daily Routine

Infants:

Lily's

DAILY ROUTINE	
7:30	Rising, nappy changing, bath time.
8:00	Breakfast—milk formula (7 scoops mixed with 210 ml water) with bread/ steamed eggs/ oats/ baby rice.
8:30	Play time.
10:00	Nappy changing, nap time.
11:00	Rising, nappy changing.
11:30	Milk formula: 6 scoops mixed with 180 ml water.
12:30	Lunch—Rice/ noodles/ vegetables/ meat.
13:00	Play time, nappy changing.
14:00	Afternoon nap time.
16:00	Nappy changing.
16:30	Fresh fruit, vegetables, snacks, fruit juice.
17:30	Dinner—Rice/ noodles/ vegetables soup/ steamed bread.
19:30	Milk formula: 6 scoops mixed with 180 ml water
20:00	Bath, nappy changing.
20:30	Bed time.

Note: Our children haven't tried any western-food yet, all they have is fresh vegetables, meat, fruit, rice, noodles. So when you start her new food, please introduce gradually, but do not be afraid to try out new foods.

Toddlers:

Rubof's

DAILY ROUTINE

7:30	rise, potty time, nappy change, brush teeth, wash face, get dressed
8:00	breakfast – milk formula (7 scoops mixed with 210 ml water) and bread/ warm custard/ boiled eggs/ oats/ baby cereal
8:30	group play and small group learning (potty time and nappy change in between hours)
10:00	snack time – biscuits/ cookies/ cakes and water/ juice/ yoghurt drink
10:15	play time (outdoor activities) and potty time
11:00	lunch – pasta or thick rice porridge with chopped veggies and mince meat /thick soup and bread
11:20	playtime (potty time, nappy change) before afternoon nap
11:50	nap time
14:30	rise, potty time, nappy change, milk (150 ml)
15:00	fresh fruit or blended fresh fruit
15:20	group play and small group activities
16:00	snack time (fruit juice) and potty time
17:00	dinner – vegetable soup/ sweet soup/ pasta/ bread
18:30	milk before bed (5 scoops mixed with 150ml water)
18:45	potty time, brush teeth, shower
19:15	prayer and praise before bed

*Note: When a child has a temperature or flu, there is additional fluid of 120-150ml
juice twice in the morning and twice in the afternoon. Our children have not
been introduced to western food. Please introduce gradually when you start
her on western food.*

Appendix 6.3

Caregiver Interview Form

1. Age:
2. Marital Status:
3. Education/Schooling:
4. Job History:
5. Last job held:

6. Children of their own? Ages? Grandchildren?

7. Why did you decide to apply to work as a 'Aunty' for the orphanage?

8. How long have you been a 'Aunty'?

9. How many children have you cared for in the 'Aunty' Program?

10. Do you still see any of these children?

11. With respect to the child we will be filming you with, how long have you been looking after him?

12. Do you think the orphanage chose well when they gave you this child to look after?

13. What were your first feelings when the orphanage recommended you look after him/her?
14. Have your feelings changed?
15. What is your aim in this work of yours as an Aunty with the child?
16. How do you feel when you think about the child going on to an adoptive home, or into the institution for older children?
17. Do you plan to see the child if s/he is adopted? If s/he goes to the Institution for older orphans? What do you see as the future for this child?
18. What would you say are the most important qualities that a 'aunty' should have in order to do their job well for the children?
19. What do you see as the strengths of the orphanage, and how it is organized?
20. What do you see the areas for improvement?
21. What specific suggestions do you have for how the 'aunty' program may be improved?

照顾孩子者问表

1. 年龄:
2. 婚姻现状:
3. 教育程度:
4. 工作经历:
5. 最后的工作:

6. 有没有自己的孩子? 几岁? 有孙子孙女吗?

7. 你为什么决定来孤儿院做“奶奶或阿姨”这个项目?

8. 你做“奶奶或阿姨”多久了?

9. 你在这个“奶奶或阿姨”项目里照顾过几个孩子?

10. 你还在见这些孩子中的任何一个吗?

11. 你跟那个我们将和你一起录像的孩子相处多久了?

12. 你是否觉得儿童福利院把这个孩子交给你照顾的选择做得不错?

13. 当儿童福利院建议你照顾这个孩子时，你的第一感觉是什么？
14. 你的那种感觉改变了吗？
15. 你做这个作为照顾孩子的奶奶或阿姨的工作的目标是什么？
16. 当你想到这个孩子会去一个领养家庭或去一个照顾更大年龄的孩子的机构时，你的感觉是怎么样？
17. 假如这个孩子被领养或去另一个机构，你有计划去探望这个孩子吗？你是怎样看这个孩子的将来的？
18. 你觉得做好一个能照顾好孩子的“奶奶或阿姨”应该具有的最重要的品质是什么？
19. 你觉得这个儿童福利院的长处是什么？这些长处是怎样形成的？
20. 你觉得可以改进的地方是什么？
21. 你对怎样改进“奶奶或阿姨”这个项目有什么具体的建议？