

Childcare: Is it in a child's best interest?

A literature review

In my work practice I have seen a dramatic rise in problematic preschool child behaviour and I see anecdotal evidence that the longer the hours a child is in childcare the more frequent and intense the child's symptoms. If childcare is so good, as Early Childhood Task Force (2011) suggests, then why would more hours not show better indicators? This, along with the early childhood education media reports of our child crime and social issues¹ bring me to question if childcare is in children's best interests.

While reading a report by the children's commissioner, *Through Their Lens* (Carroll-Lind and Angus, 2011) that documented positive outcomes for underprivileged children in early childcare, I became uncomfortable with the assumption that therefore Early Childhood Education would be beneficial to all preschool children regardless of background, i.e. assuming that an educational institution was more beneficial than good or even average parental care. I began to seek research in this area to find what research had been done.

There are two prevailing worldwide thoughts regarding early childcare (Scheiwe, 2009).

- a) One follows the idea of universal care for all preschool children. The rationale is that early childhood education gives students an academic, social and behavioural advantage over non early childhood educated children and that therefore it is in a child's best interests, and society's too, to provide early childhood education to all children.
- b) The second thought is that early childhood education is simply a means to allow women to be in the workforce - ideologically this takes on three streams 1) productivity - the idea that if we can 'double' the workforce our economy will be better off, thus a financial reason for early childhood education; 2) the emancipation of women - women should not be tied to the 'apron strings' simply by virtue of being female in gender and they deserve the right of a career equal to the rights of their male counterparts and childcare assists this, and 3) the necessity of early childhood education because of the financial need for

¹ New Zealand Herald articles from 2011: "Misbehaviour by kids rated No. 1 social issue", "Courage needed to dig us out of worsening mire", "Our child alcoholics: 190 treated in Auckland last year, and that's just the tip of the iceberg", "Crime shock: NZ's little thugs"

dual income families in today's society, or the reality of single parent families, therefore this necessitates the provision of early childhood education.

The first view sees early childhood education as a merit good, universally beneficial to all, while the second view sees early childhood education as a means to an end, perhaps even a necessary 'evil', not necessarily in a child's best interests, but in the best interests of a select group (be it feminism, productivity, financial survival), or in the interests of the majority.

It would seem from the recent two early childhood education reports: Early Childhood Education Task Force (2011) and Children's Commission report (2011) that NZ has adopted the universalist paradigm². The assumption is that if early childhood education can help underprivileged children, then it can therefore assist all children. This is backed up by reports such as the Competent Children's Project (Wylie, 2001) which showed that early childhood education continued to have important bearings on children's performance at age 10. It should be noted that in the USA where the most 'famous' research projects were carried out they are more prone to adopting the second stream of thought and that therefore we are using research founded on one assumption to support an ideology founded on quite a different assumption!

Feeding my interest in this topic was radio talk back discussions surrounding planned government cuts to early childhood education funding. It seems that our current government may be leaning away from the universalist approach to early childhood education in that they are wanting to target early childhood education funding more towards lower socio economic families. This may simply be dollar saving or it could signal a change in political thinking. This proposed change is naturally being greeted with opposition from those who have been schooled in the universalist approach, and who have never doubted that this is the path

² The New Zealand Herald editorial commenting on these reports: "Counting the Cost of Kid's Care" fully supports the notion that childcare is a beneficial, merit good to all society and therefore should be paid for by the government and the tax payer.

New Zealand society should take. It is the approach which our Colleges of Education promote³, as they believe that early childhood education is advantageous to all children and should be a right of all children⁴ (May, H and Mitchel, L (2009:4). Historically in New Zealand, early childhood “changed hands”, so to speak, from the ministry of social welfare in 1985 to the ministry of education, thus demonstrating the adoption of an educationally focussed universalist style approach to childcare as opposed to a care taking, “help the Mum's work,” mind set. This was followed by a rapid increase in government funding to the early childhood education sector and greater emphasis on the trained teacher as opposed to a nurturing “mother replacement” type figure. The radio debates I refer to showed a tension between these two ways of thinking with some groups saying that children would now be disadvantaged due to funding cuts, while other groups saying why should society pay for something parents should be doing themselves. Significantly, emotion was highly charged in the radio debate, with various groups incredulous that the government’s commitment to a fully trained workforce had been scaled down, and that this would therefore lower the quality of the education preschool children would receive and quality is deemed so important.

On a third side of the debate, is recent research asserting early childhood education neuroscience findings, that a child's attachment to their primary caregiver (usually Mum) is pivotal to not only academic but also emotional, moral and social development⁵. This research therefore goes against the prevailing New Zealand belief in universalism and considers institutionalized care a necessary, but far less than ideal, outcome for children. Supporting this perspective is the increasing social, academic and behavioral problems of today's youth⁶, following approximately 25 years of government funded early childhood care under the ministry of education. Newspaper headlines are recurrent with the themes of crime, substance abuse and academic failure in today's youth. Could there be a link to their early childhood roots?

³ “Working in Early Childhood education and care will offer you a challenging and rewarding career, enhancing the lives of infants, toddlers and young children” from University of Canterbury website

“Early childhood teachers are among the most influential and important members of the community. The teaching and care that they offer lay the foundation for success in education, and in life. Our Early Childhood programmes prepare graduates to take on this responsibility with confidence, and enjoy the excitement, creativity, and challenge of working with young children”. from Victoria University Website

⁴ “Every child has a right as a citizen to participate in free early childhood education.” (May, H and Mitchel, L (2009:4).

⁵ See literature review summaries below for more detail

⁶ See NZ Herald article review summaries below

Literature Review:

Carroll-Lind and Angus, in their Children's Commissioner report (2011) state "I think it's time we revisited the mix of parental leave entitlements and subsidized child care to see how they can be structured to best meet the needs of very young children." They have recognised the demographic changes to New Zealand childcare enrollments and are linking the dots between this and *a child's best interests*.

New Zealand early childcare experience is descriptively and statistically different from the major studies showing benefit from attendance. The vast bulk of early childhood suppliers in New Zealand are private, for profit groups (Farquar, 2010) that offer a full day, curriculum centered, educational approach to early childhood. In most cases the children attending these centers have full time working parents - suggesting the childcare fits under the work-care model, but they promote themselves as educational centers for a child's intellectual and social betterment⁷. The government funding given for every child would further suggest an educational model, as would the educational emphasis of the centers themselves in their marketing, promotional material, websites and information for parents⁸. The full time hours offered by the centers better reflect a work-care model and the long hours of this model of childcare are not supported by the research as being beneficial for children, and indeed have not been subject to specific research per se. The limited research that does exist suggests that long hours in daycare are detrimental to a child's wellbeing (Carroll-Lind and Angus, 2011). There is seldom an acknowledgement or even a hint that full time childcare may not be in a child's best interests or in any way detrimental to a child's wellbeing and development, but instead early childhood centres promote themselves as giving children an advantage, a head start⁹.

⁷ A brief survey of ABC, Kindercare, Lollipops websites etc. share this philosophy

⁸ *ibid*

⁹ A selection of quotes from the Auckland Yellow Pages Childcare and Education section all firmly suggesting that childcare is an undisputed positive advantage for preschool children: "Kindercare advantage", "outstanding care and education", "cherishing children", "premium educational adventure", "Because children matter", "full potential", "making a difference in the lives of children", "Stimulating and educational", "quality educational program", "qualified staff", "good beginnings that last a life time", "extensive learning program", "an inquisitive mind and a lifetime love of learning", "from the day your baby is born, until the day they go to school . . ."

Journals

Journal Title	Summary
Shpancer, Noam (2006), The effects of daycare: Persistent questions, elusive answers <i>Early Childhood Research Quarterly</i> , Vol 21, Issue 2, 2nd Quarter, 2006: 227-237	This article explores the difficulties and challenges associated with researching early childhood. A good article to take advice from when evaluating the weaknesses in research.
Brandtjen, H (2001), Short and Long Term Effects on Infants and Toddlers in Full Time Daycare Centres, <i>Birth Psychology</i> , Vol 14, Issue 4	This research document summarises the effect of full time day care on the normal maturation functions of the human brain. Significant delays and enduring problems are postulated as a result of what is known of attachment and it's impact on brain development. This needs to be considered along side the positive educational aspects of childcare.
Lowenstein, A.E. (2011), <i>Early Care and Education as Educational Panacea: What do we really know about it's effectiveness?</i> <i>Journal of Education Policy</i> , January 2011:25:92	An examination of the legitimacy of early childhood claims to promote children's long term success. Lowenstein argues well that the research that makes such claims is flawed and easily refuted, however her summation, that elementary school, therefore, is the answer to children's long term success may be short sighted or too narrow.

<p>Belfield, C.R. et al (2006), The High/Scope Perry Preschool Program: Cost-Benefit Analysis Using Data from the age 40 Followup</p>	<p>The most successful of all researched childcare pilot programs the Perry Preschool Project showed a return of \$12.90 for every \$1 spent on childcare over a 40 year period. The gains, however, are subject to much criticism (identified in other cited articles) and came mostly from reduced crime by males and the other, hoped for benefits, did not eventuate. The dollar figure is enticing, but it needs to be considered along side America's high incarceration rate, and other factors involved. When these are considered the dollar value reduces significantly (see other articles critiquing this project).</p>
<p>Nickman, L.N. (2006) Who Should Care for Our Children? The Effects of Home vs. Centre Care on Child Cognition and Social Adjustment. <i>Journal of Family Issues</i> 27, May 2006: 652-684</p>	<p>This research article points out the way research can get two different results. Using both cross-sectional and longitudinal analysis of data, Hickman came up with differing results. She concludes that the benefits of children in childcare are significantly less than previously thought and that while the issue of childcare is still widely debated the research is now outdated and overruled by more significant and reliable findings.</p>
<p>Locurto, Charles, (1991), Beyond IQ in Preschool Programs, <i>Intelligence</i> 15:303-304</p>	<p>A look at the key research into the advantages of preschool programs: Perry, Chicago, Head Start etc. and considers the significance of the results in terms of the financial and other costs. Gains / advantages have been modest and given the limits of these projects to lower socio economic groupings and the depth of these models compared to standard early childhood settings, Locurto questions their effectiveness and the defenders of this as a model. In conclusion Locurto asks a significant question: "In the light of such modest (to nil) gains from early child care and education, the efficacy of preschool programs should be challenged so that the search for more successful forms of intervention is not obscured, by the one eyed approach to daycare."</p>

<p>Puma, M et al. (2010), Head Start Impact Study: Final Report. <i>US Department of Health and Human Services, Administration for Children and Families, Office of Planning, Research and Evaluation.</i></p>	<p>Head Start is a widely lauded, longitudinal US program for disadvantaged children aimed at better preparing them for school. It focused only on 3 and 4 year olds, and therefore the data, while widely used to support universal childcare for any age, is wrongly used in this way. While there is small scale improvement of initial outcomes, most of these were not present one year after starting school. The most significant improvement seems to be in the dental hygiene and health insurance coverage and in a little less spanking of children by parents in the home (perhaps due to them being in parental care less hours?). Natural questions that arise from these findings include: a) is this a good enough result for the time, effort, resources and money that have been used? and b) is there a different kind of intervention that would make a more quantum improvement in the futures of disadvantaged children? Is childcare the best intervention?</p>
<p>Jeynes, W.H. (1999) The Effects of Religious Commitment on the Academic Achievement of Black and Hispanic Children, <i>Urban Education 34:458</i></p>	<p>A study of 20,000 High School students showing that Black and Hispanic students from intact families and who were religious, had no achievement gap when compared to white students. This is, reportedly, the only research showing a complete erasure of the achievement gap based on family characteristics and individual religious commitment without any discussion of government early childhood intervention. In other words, this study shows that intact families within a religious context overcame the academic gap between racial groupings without the costly need for early childhood education. However, it naturally raises other issues, but is interesting and should be included in the study for its originality and also for the sample size.</p>

<p>Barnett, W.S (1995), Long Term Effects of Early Childhood Programs on Cognitive and School Outcomes, <i>The Future of Children</i>, Vol 5:3 pgs 1 - 24.</p>	<p>A report considering the dichotomy of research surrounding the effects of childcare. It makes recommendations about the sustainability of 'quality' care and how this can be maintained, having concluded that if the childcare is 'quality' then it will benefit rather than harm. "Quality" however, is ill defined and not evidence based.</p>
<p>Weilin, Li et al (2011) Which Combination of high Quality Infant Toddler and Preschool Care Best Promotes School Readiness? <i>Society for Research on Educational Effectiveness</i>, pp 13.</p>	<p>The authors argue that a combination of quality infant and preschool care gives the best school readiness result. Outcomes measure only cognitive and academic achievement as tested by the Woodcock-Johnson Applied Problems. The review admits that the children experienced different forms and hours and duration of this 'quality care' and therefore there is a weakness in comparability. Since the research is so inconsistent and lacking obvious controls it cannot be used as evidence in any way. However, it is pseudo-research like this that is so often quoted.</p>
<p>Vandell, D et al, (2010), Do Effects of Early Child Care Extend to Age 15 Years? Results from the NICHD study of Early Child Care and Youth Development, <i>Child Development</i>, May/June, 2010, Vol 81, No. 3:737-756</p>	<p>This well written and comparatively unbiased article acknowledges that the effects of childcare are minimal by the age of 15, be they positive or negative.</p>

Research Articles / Literature Reviews / Reports

Article title / reference	Summary
<p>http:// www.community.nsw.gov.au/ docswr/_assets/main/ documents/ research_qualitychildcare.pdf</p>	<p>Focusing on the aspects of childcare that are able to be regulated, group size, ratios, qualifications of teachers, staff turnover and wages, the physical environment, this group reviewed pertinent literature as to the importance of these to quality outcomes for children.</p>
<p>www.taskforce.ece.govt.nz, (2011), An Agenda for Amazing Children for the Ministry of Education.</p>	<p>Widely regarded as a political white wash, and narrow in scope and outlook and significantly biased, this report still alludes to the now widely recognised problems surrounding institutionalised care for under 2 year olds. It's recommendations are weak, scattered and minimal, and fail to reach the depth or the heights suggested by the ambitious title of their report.</p>
<p>Belsky, Jay (2006), Effects of Childcare on Child Development in the USA, <i>Institute for the Study of Children, Families and Social Issues</i>, London</p>	<p>Using statistics from a large survey of the National Institute of Child Health and Human Development, the author analyzed the effects of daycare on different aspects of child behaviour, cognition, socialisation and emotion. The survey found that greater risk to child healthy development coincided with greater hours in care and earlier attendance at daycare, while there were some academic benefits. It was pointed out that both the risks and advantages of daycare were small in their effect, but that due to the increasing numbers of children involved, that even a small change would have larger societal effects. The article concludes with a recommendation for longer paid parental leave and / or other options to allow parents to be at home with their children during the preschool years.</p>

<p>Carroll-Lind, J. and Anges, J, (2011), <i>Through their Lens: An inquiry into non-parental education and care of infants and toddlers</i>, Office of the Children's Commissioner</p>	<p>A thorough report into the effect of childcare on under two year olds considering a broad spectrum of literature and research with some brave conclusions. The writers consider the prevalence of infant care rates in New Zealand and their rapid rise, the suitability of childcare centres to cater to these children's developmental needs, recent neuroscience (although I believe this could have been done deeper and wider), and issues of quality. The authors conclude saying that parents need to be better supported to care for their children at home during these years, and where this is not practical significant changes need to be made to the way childcare is offered to these families.</p>
<p>Fagan, P and Garrett, J (2002) <i>Dollars for Daycare, Pennies for Marriage?</i> www.heritage.org</p>	<p>This article argues that since daycare is being shown to have negative or neutral affects on child's health, aggression and other factors, and since an intact family is a strong indicator of childhood success that governments should focus their subsidies on supporting traditional families. A very one eyed agenda, but nevertheless, their research is thought provoking - are there better, alternative intervention models? Is the daycare approach necessarily best?</p>
<p>Various contributors (2005), <i>Family Structure and Children's Educational Outcomes</i>, Centre for Marriage and Families, Research Brief No. 1, November 2005</p>	<p>A review of academic research showing that family structure is a significant contributor to children's academic performance, suggesting that this, above other factors such as government funded childcare (for example) is a better focus for societal change.</p>

<p>Effrem, K (2011), <i>Preschool is Not the Panacea Portrayed in Study</i>, http://edlibertywatch.org/2011/06/preschool-is-not-the-panacea-portrayed-in-study/#more-434</p>	<p>A critique of the outcomes of childcare research and the way in which it is reported. The article points to the deceiving headlines media has used when suggesting that the research shows good results from early childhood education when in fact, while the results showed some improvement, the children were still ‘failing’ in the school system, just not failing so bad. “The overall results for these kids are still dismal”. Also called into question is the causal factors of these small advancements. While their attendance at childcare was considered the cause, data suggests that the parental involvement in these programs may be the catalyst, not the program nor the childcare itself. This may explain why results cannot be replicated in typical early childhood settings. With the US federal government spending over \$2 Trillion on preschool education and \$85 Billion on Head Start over the last 30 - 40 years with no real narrowing of the achievement gap it may be worth considering and researching the suggested alternatives of this report even if they are not politically expedient or the current social norm.</p>
<p>Effrem, K (2011), <i>Studies on Effectiveness of Early Childhood Programs</i>, Edlibertywatch.org</p>	<p>Effrem considers the ‘fade out’ effect of early childhood programs citing growing evidence that the beneficial effects disappear the longer a child is at school. Further she notes the brain research literature and asks whether this is being given due consideration in educational policy. Effrem then goes on to highlight evidence from the very research which is used to support early childhood education that shows academic and emotional harm and suggests governments consider other research that indicates that parental involvement may be better at closing inequality gaps in children’s outcomes than early childhood education.</p>

<p>http://tvnz.co.nz/national-news/children-under-one-should-home-report-4074200</p>	<p>A leading news article referring to the Children’s Commissioner’s report “Through their Lens”, a look into the care of under 2 year old’s in New Zealand. While a little sensational in it’s headline, it is, nevertheless an accurate summation of the report.</p>
<p>http://www.timesonline.co.uk/tol/life_and_style/health/child_health/article5321524.ece</p>	<p>TIME magazine article quoting a UNICEF report which supports the notion that children under 12 months should be at home with a parent. The article goes on to comment that Children born today into the “rich world” are part of the first generation in which a majority will spend a large part of their early childhood in childcare. In Britain about 80 per cent of those aged 3 to 6 are now in some form of formal childcare or education. For those under 3, the proportion is now 25 per cent. This article is important as it seems to me that if we are experimenting with our children it should be based on good, solid research.</p>
<p>http://www.earlychildhoodaustralia.org.au/early_childhood_news/april_2008_stress_levels_of_children_in_child_care.html</p>	<p>An article by a Pro-childcare group in Australia critiquing the research regarding higher cortisol levels in children in daycare. The article points towards the “insignificantly small” differences in the cortisol levels and questions whether such a small difference should be given such loud attention. However, the cortisol increase is in the realm of 80 - 90% in some studies, so is this article based on good research or bias?</p>
<p>http://www.smh.com.au/news/national/day-care-is-bad-for-babies-biddulph/2006/03/17/1142582520873.html</p>	<p>A Sydney Morning Herald book review and interview of a leading psycho-educational thought person in Australia who has published a book stating that children under 3 years old should not be in daycare.</p>

<p>http://www.psychologytoday.com/blog/insight-therapy/201010/is-non-parental-daycare-bad-children</p>	<p>An insightful article by Psychology Today summarizing the childcare debate. In short it says that research is so wide and varied in what it shows that it cannot really be trusted. As a leading example they cite that research has shown both cognitive benefits and deficits from attending daycare, shows better and worse social competencies, hinders or does not hinder parent-child relationships etc. Pointing out these inconsistencies the article speaks to me saying there is a need for robust research that truly compares ‘apples with apples’ as much of the research quoted about ‘daycare’ per se does not define the type of daycare being studied nor does it necessarily research full time institutionalized, non-parental care daycare, which is the most prevalent daycare in New Zealand. Thereby, research, for example, showing no effect of daycare on parent-child relationships, for example could be researching home-based or parent led childcare, and this significant detail is omitted in the headlines. An insightful article for pointing to the inadequacies and deficits of research and it’s subsequent reporting.</p>
<p>http://www.slate.com/id/2162876/</p>	<p>A fascinating, frustrated mother’s blog article about her views of childcare as a full time working Mum and what she thinks of this so called “negative” cortisol, behaviour and academic research on daycare children. A good article to get a range of literature types as the mother writes eloquently and passionately, with research and reason to back her position.</p>
<p>http://www.canada.com/topics/lifestyle/parenting/story.html?id=67637476-488d-420a-ae04-cf53525fadeb</p>	<p>This article does it’s best to balance both sides of the research equation and argues that childcare is okay, so long as it is quality childcare, but it fails to give a robust definition of this.</p>

<p>http://aspe.hhs.gov/hsp/ccquality-ind02/</p>	<p>This article by the US Department of Health and Human Services describes what the authors believe to be the 13 determining factors of quality early childhood education. To me this document is the epitome of a bureaucracy gone mad. The emphasis on ‘equipment’, ‘buildings’, ‘cleanliness’, ‘emergency evacuation plans’, ‘immunizations’, ‘hand-washing’ . . . in my opinion puts the preciousness of children and basic developmental psychology way down the list. If you really followed this list you would have to believe that no child who was brought up in Central Africa, South America etc, had any chance of achieving happiness and success in life (whatever that really means)! If this document is used to assess quality care then our children are in dangerous hands (albeit, I <u>do</u> think that washing hands etc. is important, it is not “THE” test of quality, and certainly not up there in my top 13 tests!). The concept and definition of “quality” needs much deeper examination.</p>
<p>http://psychcentral.com/news/2010/05/17/benefits-of-high-quality-child-care/13866.html</p>	<p>This is an example of quasi-academic research. What the article says, is then corrected saying there can be no proven relationship, and there are qualifications about it’s findings littered throughout the article. Having said this, it is refreshing that they openly admit these deficiencies, where other reports and articles don’t mention them and require digging with a fine tooth comb to find them.</p>
<p>http://www.washingtonpost.com/wp-dyn/content/article/2010/05/14/AR2010051400043.html</p>	<p>The effects of low quality care are spelled out in this article illustrating that there are potentially life long disadvantages for children who endure this poor quality childcare. However, the research also included poor quality parental care, so a deeper reading of the research details is needed to determine what specifically is being measured here. Another example of poor journalism muddling their reporting and thereby giving a false impression to readers.</p>

<p>http://www.washingtonpost.com/wp-dyn/content/discussion/2010/05/14/DI2010051401873.html?sid=ST2010051401954</p>	<p>The full interview regarding the above Washington Post article which demonstrates how newspapers sensationalize their articles. Rather demoralizing to realize how we are likely being hoodwinked daily on various issues, if this is standard journalism practice.</p>
<p>http://www.community.nsw.gov.au/docswr/_assets/main/documents/research_qualitychildcare.pdf</p>	<p>New South Wales document regarding what determines quality in childcare: a research review. Will be commented on in the Research articles section.</p>
<p>http://pn.psychiatryonline.org/content/46/13/1.1.full</p>	<p>Research with Romanian Orphans show that children with institutionalized and deprived origins have shorter “telomeres” which are linked to a host of negative health outcomes including cardiovascular disease, diabetes, and cognitive decline, amounting to an acceleration of the aging process. It would be interesting to research the same “telomeres” in children who were in full time, institutionalized early childhood education centres from infancy. Having worked in Romanian orphanages I have a personal interest in this.</p>
<p>http://www.bukisa.com/articles/227814_reactive-attachment-disorder-from-an-educators-perspective</p>	<p>Reactive attachment disorder is commonly recognised in orphaned and / or foster children. However, like the writer of this article, in my practice I am increasingly witnessing children (on a sliding scale of severity) with symptoms very much like Reactive Attachment Disorder, but without the expected maternal deprivation. They are typically children who spend long hours in daycare and who have been there from a young age. This needs researching.</p>

<p>http://www.radkid.org/fsnyder.html</p>	<p>Dr. Faye Snyder states in this article that she (a self confessed feminist) believes that Reactive Attachment Disorder and ADHD (Attention Deficit Hyperactivity Disorder) are strongly linked to children attending daycare as toddlers or younger. “ Some are wealthy children with a string of fired nannies,” some are the result of split parents and too early shared custody interrupting child-parent attachment, some are day care children.</p>
<p>http://thecausaltheory.com/articles/EFFECTS_OF_EARLY_CHILDCARE_EXPERIENCE_ON_QUALITY_OF_ATTACHMENT_AND_LATER_BEHAVIOR.pdf</p>	<p>Cortisol 70 - 90% higher in children in daycare regardless of daycare quality. Infants who experience non-maternal care for more than 20 hours per week are 1.6 times more likely to be insecurely attached to their parent.</p>
<p>http://www.nichd.nih.gov/research/supported/seccyd/biblio.cfm</p>	<p>The National Institute of Health and Human Development (USA) has conducted a raft of research into the costs, benefits and effects of early childhood education. This page summarises a large body of literature which I have not had time to review. In a true literature review I would need to read and consider these articles.</p>
<p>Mitchell, L et al (2008) Outcomes of Early Childhood Education: Literature Review. <i>Report to the Ministry of Education, New Zealand</i></p>	<p>A large overview of recent literature pertaining to outcomes for children from early childhood education. Many will be familiar with this recent report and should consider it together with other research such as those referred to in this paper.</p>

Books

Book Title	Summary
<p>Alison Clarke-Stewart and Virginia D.Allhusen (2005), <i>What we know about childcare</i></p>	<p>This book acknowledges that childcare outside the home is an unavoidable part of Western civilization and supports the feminist movement and a country's productivity. Childcare is promoted as acceptable and preferred in high quality situations. The book is focused primarily on parent needs rather than children's needs and does not give attention to a child's emotional needs nor to the effect of long hours in care. Focus is given to the intellectual and educational aspects of childcare. But this ignores the research that shows that the bulk of the time during this preschool age group is given to developing the right hand side (emotional) of the brain. Given this understanding it makes claims about developing the intellect of preschoolers rather ludicrous.</p>
<p>Chambliss, Catherine (Ed), (2009), <i>Maternal Employment: Marvel or Menace: the views of Children, Young Adults and Parents.</i> Nova Science Publishers, New York</p>	<p>Taking the opinions of teens, young adults and their parents this book concludes that Maternal work works, but "no one size fits all". Of most interesting note is the results of the attachment survey given to participants. Counter to many other studies quoted in this essay, this research shows that children of working mothers had a healthier adult attachment state (less anxiety, dependence and more closeness) than those of non-working mothers. The author acknowledges that this is an unexpected result and suggests further study, along with suggesting that a reason for this may be that the participants were first year at University and had just left home, maybe raising the insecurity of those who were (possibly) more attached to Mum and less 'street smart'. The results though are interesting.</p>

<p>Hertz, R and Marshall, N.L (ed) (2001), <i>Working Families: The Transformation of the American Home</i>, University of California Press, Berkeley</p>	<p>A collection of fascinating essays on the changing life of American Homes documenting irony regarding our focus on children - consumerism, care, clothing, toys, education and our neglect of their emotions, relationships and time with parents. Not passing comment - there is an obvious lack of a concluding chapter - this book gives a broad perspective of the situation American children now find themselves in.</p>
<p>Clarke-Stewart, K. Alison, Gruber, C.P and Fitzgerald, L.M (1994), <i>Children at Home and in Day Care</i>, Lawrence Erlbaum Associates, Hillsdale, New Jersey</p>	<p>Written in the era when the focus of child development was cognitive, behavioural and socialisation this book considers childcare beneficial to children on these three scales, while acknowledging that there are variances and questions within each of these categories. For example, in the socialisation section children were shown to be generally more socially competent if they had attended daycare, but specifically less competent in certain situations. This fits with more recent research which suggests that day care children exude a 'pseudo social confidence' which is likely a mask for dominance issues and peer attachment (Neufeld and Mate, 2006), rather than genuine social maturity.</p>
<p>Sunderland, Margot (2006), <i>The Science of Parenting</i>, Penguin Group, New York.</p>	<p>Focussing on brain research this book looks at the crucial role of parents and their relationship to their child for healthy brain development. This book alludes to what some psychologists are calling the 'sleeper effect' of childcare. That being that while the negative effects of daycare may not show up immediately in children, they will likely show up latter. The importance of an emotionally aware and attuned alternative caregiver is emphasized.</p>

<p>Cabrera, N.J., Hutchens, R. Peters, H.E. (2006), <i>From Welfare to Child Care: What happens to Young Children when mothers exchange welfare for work</i>, Lawrence Erlbaum Associates, Inc. New Jersey</p>	<p>A book typifying the traditional research into childcare as a support for working parents from lower socio economic groups, considering it's costs and benefits to society and families and how much governments should subsidise this.</p>
<p>Panksepp, Jaak (1998), <i>Affective Neuroscience: The Foundations of Human and Animal Emotions</i>, Oxford University Press: Oxford</p>	<p><i>Panksepp is a neuroscientist and Professor of Psychology at Washington State University.</i> His work is a study of the brain's emotional operating systems and the neuroanatomy of play. Panksepp's research has found that rough and tumble play, like young mammals engage in, has profound beneficial neural circuitry development. All play activities are not equal when it comes to developing functional emotional states. His research findings are highly relevant for the type of play children need in an early childcare setting and therefore are strongly indicative of 'quality'.</p>
<p>Brazelton, T.B and Greenspan, S. (2000). <i>The Irreducible Needs of Children</i>. Perseus Publishing, USA</p>	<p>Dr. Greenspan, a professor of psychiatry and pediatrics at George Washington University Medical School states, "<i>A warm, loving human relationship is very important for intellectual development. Children form their capacity to think and self-image based on these back-and-forth interactions. Fewer of these are happening, because families are so busy and more care is being done outside the home. Studies [show] that for all ages, 85 percent of day care is not high quality.</i>"</p>

<p>Greenblatt, Bernard, (1977), <i>Responsibility for Child Care</i>, Jossey-Bass Publishers, San Francisco</p>	<p>Presents research findings that identify that neural benefits of secure attachment. When children are securely attached they exhibit nine prefrontal cortex functions (prefrontal cortex is the executive centre of the brain). The nine proven functions are: 1) body regulation, 2) attuned communication, 3) emotional balance, 4) response flexibility, 5) fear modulation, 6) empathy, 7) insight, 8) moral awareness, 9) intuition. They are really a summary of the outcomes we want for our New Zealand children and Siegel's research has found they come through creating secure attachments with children.</p>
<p>Neufeld, G and Mate, G. (2006), <i>Hold On To Your Kids: why parents need to matter more than Peers</i>. Random House, Canada</p>	<p>A book that "joins the dots" between neuroscience, attachment and developmental research giving a thorough picture of the 'why' behind our increasing teen and childhood challenges as a society. Laying the cause of these ills firmly in 'attachment' roots, Drs Neufeld and Mate state their case for increased parental involvement in terms of both time and attunement, calling attention to the fact that today's children spend less time with their parents and more time with peers than ever before.</p>

<p>Porges, S (2011). <i>The Polyvagal Theory</i>. W.W. Norton & Company. New York</p>	<p><i>Porges is Professor of Psychiatry and Bioengineering and Director of the Brain Body Center, University of Illinois.</i></p> <p>The Polyvagal Theory provides some profound understandings for early childcare settings. Porges research has found there are three neural hierarchical systems that are activated by a process he terms neuroception. The child's brain is constantly scanning its environment for threats and danger. Neuroception, usually outside of conscious awareness, is the process how the brain assess potential risks. If it perceives there is no threat it activates the child's social engagement system so the child feels safe and will engage socially and emotionally with others. But if the brain perceives a risk the child's sympathetic nervous system takes control and activates a fight/flight response. If that doesn't help the child to feel safe, the brain recruits the third hierarchical stage he terms immobilisation. – the child emotionally and often physically shuts down. Porges' research has also identified bodily interventions that calm an aroused amygdala (fear centre of brain). From my clinical experience working within early childcare settings, many children presenting with misbehaviours are alarmed children exhibiting a fight/flight reaction to too much attachment separation. It's these experiences that have provided the catalyst for my research study.</p>
---	--

<p>Stern, D (1985). <i>The Interpersonal World of the Infant</i>.</p>	<p>Stern's significant contribution to research is his findings on how early maternal affective interactions create a sense of bonding for her child. A mother's emotional attunement with her baby, like synchrony, is what builds emotional bonds for her child. Stern found that mothers who can emotionally attune with their child's emotional state create a bonding state with her child. The child experiences diverse emotional states, but the bonded mother keeps in synchrony with her child, reflecting and leading her child through a process of engagement, disengagement, followed by reengagement. This sequential process builds strong emotional bonds. With video technology more recent researchers have been able to identify how these engagement, disengagement states work. Schore has a good summary of this research that has built on Stern's original work. If children are away from their mother for the bulk of their waking time, the question needs to be asked, "how and when are these emotional bonds being built?"</p>
<p>Siegel, D.J. (2010), <i>Mindsight: The New Science of Personal Transformation</i>, Bantam Books, New York</p>	<p><i>Siegel is clinical professor of psychiatry at UCLA.</i></p> <p>Presents research findings that identify that neural benefits of secure attachment. When children are securely attached they exhibit nine prefrontal cortex functions (prefrontal cortex is the executive centre of the brain). The nine proven functions are: 1) body regulation, 2) attuned communication, 3) emotional balance, 4) response flexibility, 5) fear modulation, 6) empathy, 7) insight, 8) moral awareness, 9) intuition. They are really a summary of the outcomes we want for our New Zealand children and Siegel's research has found they come through creating secure attachments with children.</p>

Websites

A collection of useful websites that influenced my thinking are:

Website	Summary of Significance
<p>www.neufeldinstitute.com</p>	<p>A world leader in early childhood developmental and neuroscientific insights. I am a member of the Neufeld Campus and their material is current and up-to-date regarding issues such as separation anxiety, alarm, aggression, frustration, pursuit, dry eyed syndromes in children to name a few. Grounded in Attachment theory, the Neufeld Institute works on the premise that the foundation of much of societies ills today are from early parent-child separation. Full time, institutionalised childcare is probably the number one venue in which this separation occurs. While Dr Neufeld and his team do not blame Early Childhood Education centres for these problems, they point instead to the overuse of these settings by parents and that this, therefore results in separation anxieties in children. So the Early Childhood Centres are not 'causal' of the problem, but their availability and their self and government promotion as 'excellent' places for children to be has created an unawareness in parents about their personal importance to their child's emotional wellbeing, in effect it has led to parents physically and emotionally giving away part of their job that is very important.</p>
<p>www.edlibertywatch.org</p>	<p>A lobby group in the USA aimed at keeping minimal government interference in the lives of American citizens they dedicate themselves to critiquing literature that supports increased government intervention. As such they have researched and criticized the key early childhood projects upon which New Zealand Early Childhood ideologies are founded. Their thorough investigation into the Perry Preschool Project, Head Start, Reading First, Chino, Alhambra, High Scope, Carolina Abecedarian Project, draws some interesting and thought provoking criticisms of the research findings and methodologies that are well worth considering. Thoroughly useful site as it sums up the key concerns succinctly.</p>

<p>www.goldwaterinstitute.org</p>	<p>Another USA lobby group which has, in a 43 page report, summarised and critiqued the research showing benefits of early childhood education and points out the flaws, weaknesses and leaps of assumption in some of the most often cited studies.</p>
<p>www.educationcounts.govt.nz</p>	<p>A government website providing statistical information on early childhood services, usage, government expenditure and training. Useful for data needed for the research.</p>
<p>www.nzcer.org.nz</p>	<p>A thoroughly interesting New Zealand based educational research organisation that has undertaken a number of early childhood research projects, mostly published in “Early Childhood Folio” (which is difficult to access as it’s not ‘online’. A very useful site for helping to find New Zealand based research.</p>
<p>www.minedu.govt.nz/ Researchers.aspx</p>	<p>A useful Ministry of Education page which points users in the direction of current research in the area of Education. Good for links to otherwise unknown sources.</p>
<p>www.taskforce.ece.govt.nz</p>	<p>The online access to the 2011 government taskforce on early childhood education in New Zealand. I have commented on this report, “Amazing Children” elsewhere in this paper. To summarise, it has received a lot of criticism from a wide field.</p>
<p>www.occ.org.nz</p>	<p>The Children’s Commission website which documents a number of research articles pertinent to early childhood and the needs and welfare of children. With specific regard to the 2011 report, “Through their Lens” by John Angus. Comments on this report can be found elsewhere in this paper. It is a well documented and thoroughly detailed report, just falling short of stating what is needed strongly enough.</p>

<p>www.childforum.com</p>	<p>A New Zealand website led by Early Childhood Professionals and Academics dedicated to providing up-to-date research commentary on all issues relating to preschool children. Of particular interest to me was their scathing review of the ECE Taskforce (2011). Further this site was extremely useful in listing specific masters and doctoral thesis and other research related to early childhood education in New Zealand while providing interesting commentary on current early childhood situations.</p>
---	---

Conclusion:

The available literature is wide, varied and complex. There is a significant lack of robust, quality research and research articles commonly conflict with one another, one researcher saying, for example, that childcare children are more aggressive and less social, but others saying they have better social skills and have no more aggression than others. Meta-analysis of similar data have concluded with conflicting results. It appears that the conclusions researchers come to are strongly linked to the initial bias and prejudice of the author or to the financier of the research. I have struggled with these apparent biases in the reviews, articles and research documents. It has been challenging to find research that is not conducted with an agenda in mind, be it the religious right of North America or the Feminist left or somewhere in between. Finding articles that are written objectively with a 'blank slate' approach, or even just with the child's best interests in mind (as opposed to considering taxation gains from women in work for example), has been very difficult for me. My initial approach to this research question was not from a religious or moralistic framework, but rather as a response to the increasing problems I see presenting themselves in children in early childhood settings. I had no intention of getting into an ideological debate on the role of mothers or the nature of family. I simply wanted to find out if what we are promoting through early childhood education is in the best interests of children.

This research bias is disappointing and problematic with few objective reports available for review. Further complicating the review, terminology for early childhood education is used without consistent definitions (e.g. preschool, day care, childcare, early childhood education, kindergarten) which significantly reduces the ability of the reader to compare, contrast and critique the studies, articles and books. Childcare can be full time, part time, for 3 - 5 years only or from birth. It can be in the home of a caregiver, in a large scale institutionalized centre, parent led or teacher led. It can involve the whole world of the child (health & dental care, parent education, social welfare services, home visitation) or it can simply be institutionally based. Even the word "quality" has varying definitions and is therefore useless as a descriptor. It is these types of variables that have made the research so conflicting in its results and so unscientific and open to cynicism.

However, the genesis of neuroscience as an explanation and engine of maturation and developmental growth in early childhood is robust, scientific and lacks the problematic pseudo-research characteristics that are so typical in early childhood research. This research has given a whole new set of eyes to those who wish to consider what is in the best interests of children in these early years. Only limited research conducted in the last seven years or so contain suitable reference to or acknowledgement of neuroscience and attachment findings. Neuroscience is a relatively new participant in the early childhood debate and given its scientific basis and it's MRI imaging evidence it is growing in the importance that it lends to the topic. Generally speaking, research and articles that take note of what neuroscience is telling us are recommending that Early Childhood Education is not suitable for children under three years of age. With this in mind, Western civilisation needs to rethink how we will care for our under three's and at what cost - financially, socially, and ethically.

There is a significant confusion in New Zealand society about what form childcare is good for children and what childcare is bad for children.

My own experience as a Parent and Teacher Consultant in Early Childhood Centres tells me that something must be done to alert parents, government agencies and centres themselves to the recognition that childcare is not an undisputed merit good to New Zealand society and that there are some real harms that may be happening that we must grapple with, measure, consider and do our best to overcome.

Bibliography:

BOOKS:

Aveyard, Helen (2011), *Doing a Literature Review in Health and Social Care: A Practical Guide*, 2nd Edition.

Open University Press

Biddulph, S (2006), *Raising Babies: should under 3's go to nursery?*, Harper Thorsons, London

Cabrera, Natahsa, J. and Hutchens, Robert. (Ed) (2006) *From Welfare to Child Care: What happens to young children when single mothers exchange welfare for work?*, Lawrence Erlbaum Associates, Publishers, London, 2006.

Blaxter, L., Hughes, C., and Tight, M., (2006). *How To Research*, 3rd Ed, Berkshire, England

Borkowski, John, G., Ramey, Sharon Landesman, Bristol-Power, Marie (2002). *Parenting and the Child's World: Influences on Academic, Intellectual, and Social-Emotional Development*. Lawrence Erlbaum Associates, Publishers, London

Campbell, D, T., Stanley, J.C. (1966), *Experimental and Quasi-Experimental Designs for Research*. Rand, McNally and Company, Chicago

Carew, Jean, V. (1981), *Experience and the Development of Intelligence in Young Children at Home and in Day Care*. Boys Town Center, Stanford University, USA

Chambliss, Catherine (Ed), (2009), *Maternal Employment Marvel or Menace: The Views of Children, Young Adults and Parents*. Nova Science Publishers, New York

Clarke-Stewart, K. Alison and Gruber, Christian, P. (1994), *Children at Home and in Day Care*. Lawrence Erlbaum Associates, New Jersey

Eberstadt, Mary, (2004). *Home Alone America. Home Alone America: The Hidden Toll of Day Care, Behavioral Drugs and Other Parent Substitutes*. Penguin Group, New York.

Greenblatt, Bernard (1977), *Responsibility for Child Care*. Jossey-Bass Publishers, San Francisco

Hertz, Rosanna and Marshall, N. L. (2001), *Working Families: The Transformation of the American Home*. University of California Press, Berkeley

Muijs, Daniel. (2011), *Doing Quantitative Research In Education with SPSS 2nd Edition*. Sage Publications Ltd. 2011

Mutch, Carol, (2005), *Doing Educational Research*, NZCER Press, Wellington

Sanders, M.R. (1992). *Every Parent: A positive approach to children's behaviour*. Addison-Wesley Publishing Company, Australia

Sunderland, Margot, (2006). *The Science of Parenting*. DK Publishing Inc. United States of America

Scheiwe, K., Willekens, H. (2009). *Child Care and Preschool Development in Europe: Institutional Perspectives*. Palgrave Macmillan Publishers, UK

JOURNALS

Barnett, W.S (1995), Long Term Effects of Early Childhood Programs on Cognitive and School Outcomes, *The Future of Children*, Vol 5:3 pgs 1 - 24.

Brandtjen, H (2001), Short and Long Term Effects on Infants and Toddlers in Full Time Daycare Centres, *Birth Psychology, Vol 14, Issue 4*

Gaffney, M. (2002) Research as a Journey: The New Researcher as a First-Time Traveller. *NZ Research in Early Childhood Education Journal, 2002, Vol. 5, pp. 1-11*

Jeynes, W.H. (1999) The Effects of Religious Commitment on the Academic Achievement of Black and Hispanic Children, *Urban Education 34:458*

Locurto, Charles, (1991), Beyond IQ in Preschool Programs, *Intelligence 15:303-304*

Lowenstein, A.E. (2011), *Early Care and Education as Educational Panacea: What do we really know about it's effectiveness?* *Journal of Education Policy, January 2011:25:92*

Nickman, L.N. (2006) Who should care for our children? The effects of Home vs. Centre care on Child Cognition and Social Adjustment. *Journal of Family Issues 27, May 2006: 652-684*

Puma, M et al. (2010), Head Start Impact Study: Final Report. *US Department of Health and Human Services, Administration for Children and Families, Office of Planning, Research and Evaluation.*

Shpancer, Noam (2006), The effects of daycare: Persistent questions, elusive answers *Early Childhood Research Quarterly, Vol 21, Issue 2, 2nd Quarter, 2006: 227-237*

Retherford, R.D. and Sewell, W.H. (1991), Birth Order and Intelligence: Further Tests of the Confluence Model. *American Sociological Review, Vol. 56. April: 141-158*

Vandell, D et al, (2010), Do Effects of Early Child Care Extend to Age 15 Years? Results from the NICHD study of Early Child Care and Youth Development, *Child Development*, May/June, 2010, Vol 81, No. 3:737-756

Weilin, Li et al (2011) Which Combination of high Quality Infant Toddler and Preschool Care Best Promotes School Readiness? *Society for Research on Educational Effectiveness*, pp 13.

Wylie, C. (2001) Early Childhood Education: An enduring legacy, *Early Childhood Folio* 5:2001 p. 3 - 5

WEB

Bazon, E (2007), *The Kids Are Alright: What the latest day-care study really found*. <http://www.slate.com/id/2162876/>

Bukisa, (Ed) (2010) *Reactive Attachment Disorder from an Educator's Perspective*. http://www.bukisa.com/articles/227814_reactive-attachment-disorder-from-an-educators-perspective

Burchinal, M. (2010), *Poor Child-care effects linger into adolescence*. Washington Post. <http://www.washingtonpost.com/wp-dyn/content/discussion/2010/05/14/DI2010051401873.html?sid=ST2010051401954>

Child Forum (Ed) (2011), *Commentary on ECE Taskforce, 2011 Report "Amazing Children"*. <http://www.childforum.com/political/375-ece-taskforce-2011-commentary-analysis-amazing-children.html>

Early Childhood Teacher Education. <http://www.victoria.ac.nz/home/study/undergrad/earlychildhoodteacheducation.aspx>

Editorial (2008) *Stress Levels of Children in Child Care*. http://www.earlychildhoodaustralia.org.au/early_childhood_news/april_2008_stress_levels_of_children_in_child_care.html
www.edlibertywatch.org

www.education.canterbury.ac.nz/earlychildhood/

www.educationcounts.govt.nz/

Farquhar, S(2010) *Making Big Business of Caring for Children*, www.childforum.com

Fiene, R. (2002) *13 Indicators of Quality Childcare: Research Update* <http://aspe.hhs.gov/hsp/ccquality-ind02/>

Frean, A (2008). *Childcare is bad for your baby, working parents are warned*. The Sunday Times, United Kingdom. http://www.timesonline.co.uk/tol/life_and_style/health/child_health/article5321524.ece

www.goldwaterinstitute.org

www.kea.massey.ac.nz

www.minedu.govt.nz/Researchers.aspx

Nauert, R (2010), *Benefits of High Quality Child Care*. Psych Central. <http://psychcentral.com/news/2010/05/17/benefits-of-high-quality-child-care/13866.html>

www.neufeldinstitute.com

www.nichd.nih.gov/research/supported/seccyd/biblio.cfm

www.nzcer.org.nz/

NSW Department of Community Services, (2008), *Determinants of Quality in Childcare: A review of the Research Evidence*. http://www.community.nsw.gov.au/docswr/_assets/main/documents/research_qualitychildcare.pdf

www.occ.org.nz

www.nzresearch.org.nz

One News (2011). *Children Under One Should be at Home*. <http://tvnz.co.nz/national-news/children-under-one-should-home-report-4074200>

Shpancer, N, (2010). *Is Non-Parental Daycare Bad for Children? Scientific research on the effects of daycare cannot provide definitive answers*. Psychology Today. <http://www.psychologytoday.com/blog/insight-therapy/201010/is-non-parental-daycare-bad-children>

Sinclair, L (2011) *Child's Telomeres May Tell of Early-Life Adversity*, Psychiatric News, Vol 46:13 American Psychiatric Association. <http://pn.psychiatryonline.org/content/46/13/1.1.full>

Sklar, M. (2007), *Effects of Daycare on quality of attachment and Later Behavior Problems*. Thesis. <http://thecausaltheory.com/articles/>

[EFFECTS_OF_EARLY_CHILDCARE_EXPERIENCE_ON_QUALITY_OF_ATTACHMENT_AND_LATER_BEHAVIOR.pdf](#)

Snyder, F (2009). *Reactive Attachment Disorder: Misdiagnosing Children who are RAD*. Writings: Professionals
<http://www.radkid.org/fsnyder.html>

Stein, R, (2010), *Study finds that effects of low-quality child care last into adolescence*. Washington Post. <http://www.washingtonpost.com/wp-dyn/content/article/2010/05/14/AR2010051400043.html>

Totaro, P. (2006), *Day Care is bad for Babies*, Sydney Morning Herald. <http://www.smh.com.au/news/national/day-care-is-bad-for-babies-biddulph/2006/03/17/1142582520873.html>

Vancouver Sun (Ed) (2008) *Is Daycare Good or Bad for Children? Researchers are a long way from being able to answer this definitively*. <http://www.canada.com/topics/lifestyle/parenting/story.html?id=67637476-488d-420a-ae04-cf53525fadeb>

REPORTS and ARTICLES

Belsky, Jay (2006), *Effects of Childcare on Child Development in the USA*, Institute for the Study of Children, Families and Social Issues, London

Carroll-Lind, J. and Anges, J, (2011), *Through their Lens: An inquiry into non-parental education and care of infants and toddlers*, Office of the Children's Commissioner

Editorial, "*Counting the cost of kid's care*" New Zealand Herald, June 5, 2011

Effrem, K (2011), *Studies on Effectiveness of Early Childhood Programs*, www.edlibertywatch.org

Effrem, K (2011), *Preschool is Not the Panacea Portrayed in Study*, <http://edlibertywatch.org/2011/06/preschool-is-not-the-panacea-portrayed-in-study/#more-434>

Fagan, P and Garrett, J (2002) *Dollars for Daycare, Pennies for Marriage?* www.heritage.org

George, G. (2011) "Courage needed to dig us out of worsening mire", New Zealand Herald, 7 April, 2011

Johnston, M. (2011) "Our child alcoholics: 190 treated in Auckland last year, and that's just the tip of the iceberg" New Zealand Herald, March 28, 2011

Leask, A. (2011) "Misbehaviour by kids rated No. 1 social issue". New Zealand Herald, April 5, 2011

Leask, A (2011) "Crime shock: NZ's little thugs" New Zealand Herald, April 4, 2011

May, H and Mitchell, L. (2009) *Strengthening Community-based Early Childhood Education in Aotearoa New Zealand*, Report of the Quality Public Early Childhood Education Project. www.NZEC.org.nz

Mitchell, L et al (2008) *Outcomes of Early Childhood Education: Literature Review. Report to the Ministry of Education*, New Zealand

Various unnamed contributors (2005), *Family Structure and Children's Educational Outcomes*, Centre for Marriage and Families, Research Brief No. 1, November 2005

Watson, D. (2011) News Talk ZB radio station, Danny Watson's afternoon program, 27th May, 2011

Wylie, C, Thompson, J, Lythe, C (2001) *Competent Children at Ten: Families, Early Education and Schools*. New Zealand Council for Educational Research, Wellington.

Gilling, Margaret, Massey Contact Course, April 2011

Research restrictions and definitions:

Definition “Childcare”

Full time care is defined as 30+ hours per week in non-parental, professional, institutionalized preschool environment.