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The experience of poverty for infants and young children

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New Zealand has disturbingly high rates of childhood poverty that place our children at significant risk for adversity. Approximately 285,000 NZ children (27%) are estimated to live in poverty,¹ with Māori and Pasifika children twice as likely as Pakeha children to experience severe and persistent poverty.² "Child poverty is multi-faceted and complex, encompassing "those children who have insufficient income or material resources to enable them to thrive, achieve their full potential or participate as equal members of New Zealand society now and into the future".³

While some children living in poverty experience some measure of protective factors, population data indicates that a number of children from poor families may experience deprivation across many aspects of their lives. They may live in homes that are overcrowded, damp, mouldy and unheated. They may suffer from poor nutrition and compromised health. Their parents, struggling with hardship each day are at increased risk for maternal depression, parental psychological distress and parental adversity, including substance abuse and intimate partner violence.⁴ Sole parent families are more likely to experience poverty; a serious concern in NZ with our high rates of solo parenthood which are disproportionately high for Māori.⁵ The cumulative impact of multiple disadvantage increases the likelihood of poor outcomes for children.

It is of great concern that Infants and young children are more vulnerable to the effects of poverty than older children.⁶ Experience of poverty during the early years is considered to be more influential in predicting later

outcomes than experience of poverty at later stages of development. This vulnerability is thought to be partly due to the plasticity of development during the early years and the overwhelming influence of the family context in shaping early development.⁷

Socioeconomic status (SES) fluctuates over time. While for some families, poverty is a persistent state, other families may move in and out of economic hardship. The earlier a child experiences poverty and the longer the duration of the poverty, the stronger the likelihood of poor trajectories.⁸

Prenatal Risks

Adversity associated with poverty may begin before birth. Pregnant women living in poverty may be exposed to overcrowding, financial difficulties and unemployment with fewer social supports.⁹ Their nutrition and dietary habits may be poor, they may be more likely to smoke and are less likely to engage with antenatal services early in their pregnancy.¹⁰ The experience of poverty is linked with increased risk for pre-term birth, intrauterine growth restriction and neonatal and infant death.¹¹ Chronic maternal stress may also influence early programming of the fetal brain with potential for permanent changes to the stress regulation system and problematic behaviour post-birth.¹² Increased exposure to risk for Māori infants during the prenatal period and birth experience is of particular concern.¹³

¹ Turner & Asher, 2014

² Imlach-Gunasekara, 2012

³ Boston & Chapple, 2014, p.22

⁴ Knitzer & Perry, 2009

⁵ Simpson et al., 2014

⁶ Boston & Chapple, 2014

⁷ National Research Council and Institute of Medicine, 2000

⁸ Boston & Chapple, 2014

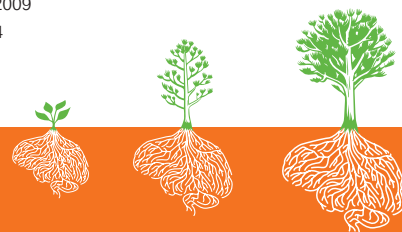
⁹ Kramer et al., 2000

¹⁰ Larson, 2007

¹¹ Larson, 2007

¹² Lester, 2013; Ministry of Health, 2009

¹³ Child Poverty Action Group, 2014



Parenting

Parenting may be the primary mechanism through which poverty exerts an influence on children's outcomes.¹⁴ The long-term consequences for infants and young children who experience chronic poverty may be significantly influenced by the quality of parenting they receive and the quality of care they receive when they are not with their parents.¹⁵ Lower quality parenting, a possible consequence of these challenges, has two key aspects; it may serve as the source of stress for young children and may also impact on a child's ability to develop self-regulatory capacity to offset the stress.¹⁶

Parental depression and psychological distress associated with economic hardship may contribute to reduced maternal attentional and emotional availability,¹⁷ non-optimal attachment relationships¹⁸ and lack of appropriate stimulation.¹⁹ In addition, parenting may become harsh and punitive with inconsistent disciplinary practices.²⁰

When children from low income families attend non-parental childcare, this is more likely to be of poor quality compared with the childcare available to their more affluent peers. In NZ, an Education Review Office (ERO) assessment raises concern that low quality childcare services are over-represented in more disadvantaged communities.²¹

Health Outcomes

"One of the most consistent associations in developmental science is between economic hardship and comprised child development".²² NZ children experiencing chronic poverty have significantly increased risk for poor health outcomes. They experience more severe and recurrent illnesses and have higher rates of hospitalisation for medical conditions and injuries from neglect, physical abuse and maltreatment.²³ Risk of sudden unexpected death in infancy is higher²⁴ and there is greater risk of dying during childhood.²⁵ Māori and Pasifika children are disproportionately represented across negative health outcomes.²⁶

The impact of early experiences of chronic poverty, in some cases linked back to prenatal experiences, can have lifelong consequences. New Zealand research has identified that disadvantage experienced in the preschool years is associated with poorer health at 26 years, poorer cardiovascular health, increased rates of dental disease and higher rates of substance abuse.²⁷ Adult health may be affected through accumulation of damage over time or through the biological embedding of adversity during early sensitive periods, thus altering biological and developmental outcomes.²⁸



Children who experience poverty in the early years may be less prepared for school, beginning their formal education already well behind their peers.

Educational Outcomes

Children's educational outcomes are strongly influenced by low income SES.²⁹ Children who experience poverty in the early years may be less prepared for school, beginning their formal education already well behind their peers.³⁰ A number of children continue to lose ground, as evidenced by lower maths and reading levels and higher rates of attention and behaviour problems, including externalising, aggressive behaviours and internalising, anxious behaviours.³¹ They complete fewer years of schooling and as adults, they may work less and earn less.³²

Chronic stress resulting from experience of childhood poverty is a key factor in influencing early development.³³ Frequent activation of stress response systems results in dysregulation that alters behavioural and physiological responses, including cognitive processes, memory, anxiety, aggression and mental flexibility.³⁴

¹⁴ Blair, et al., 2011; Knitzer et al., 2009

¹⁵ National Research Council and Institute of Medicine, 2000

¹⁶ Blair et al., 2011

¹⁷ Haley & Stansbury, 2003

¹⁸ De Haan et al., 1998

¹⁹ Hart & Risley, 1995

²⁰ Elder et al., 1985; National Research Council and Institute of Medicine, 2000

²¹ ECE Sector Advisory Group, cited by Ritchie, 2014

²² National Research Council and Institute of Medicine, 2000, p.275

²³ Craig et al., 2013

²⁴ Baker, 2011, cited by Child Poverty Action Group, 2014

²⁵ Shaw et al., 2005

²⁶ Expert Advisory Group on Solutions to Poverty, 2012

²⁷ Poulton et al, 2002

²⁸ Shonkoff et al., 2009

²⁹ Ferguson et al., 2007

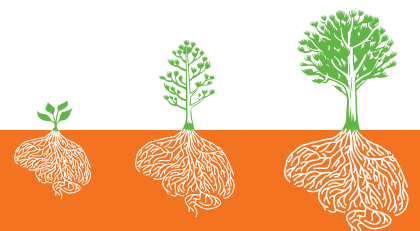
³⁰ The Connecticut Commission on Children, 2004

³¹ Duncan & Magnuson, 2011, cited by Duncan & Magnuson, 2013

³² Duncan & Magnuson, 2013

³³ Blair et al., 2011

³⁴ Shonkoff et al., 2012





These early years, from the first few weeks after conception, are a particularly sensitive period, during which poverty exerts its most deleterious influence and may generate consequences that extend well into adulthood.

A stimulating and enriching environment where young children are read to, engaged in interactive conversations⁴⁰ and exposed to new vocabulary⁴¹ may reduce the detrimental influence of poverty.

Interventions that strengthen parenting capacity through promotion of positive relationships and parenting skills may enhance outcomes for poor children.⁴² Strong marital relationships and good social supports provide further protection.⁴³

Quality and affordability of housing is a key component in mitigating adverse effects of poverty.⁴⁴ Although low quality housing is recognised as one of the main reasons for children's poor health,⁴⁵ a concerning number of low income families in NZ live in rental housing that may not meet minimum health and safety standards or in temporary accommodation such as garages⁴⁶ and vehicles.⁴⁷

Too many infants and young children in NZ are living in poverty. These early years, from the first few weeks after conception, are a particularly sensitive period, during which poverty exerts its most deleterious influence and may generate consequences that extend well into adulthood. Poverty, combined with a complex set of associated circumstances may have a profound effect across children's physical, cognitive and socio-emotional development, severely compromising children's capacity to reach their potential. The multi-factorial impact of low socio-economic environments on families cannot be underestimated. These families can experience significant hardship and distress. Importantly, there are protective factors that provide promise in negating the effects of chronic poverty.

Impact on Brain Development

Neurological changes, as evidenced by smaller volumes in the hippocampus and amygdala provide further explanation for disparities in stress regulation, emotion processing and memory performance between children from low and high SES families.³⁵ Smaller volumes of gray matter identified in poorer children may impact on the processing of information and the execution of actions.³⁶

Protective Factors

Many children who experience childhood poverty do well in later life. While the evidence highlights the negative outcomes associated with low SES, it is important to note that chronic poverty may hinder a child's chance of success rather than determine a path of diminished outcomes.³⁷

Quality of parenting may be one of the most significant mediators of the effects of poverty. Development of a secure attachment through nurturing, responsive and consistent care-giving is a widely recognised protective factor.³⁸ Within a secure attachment relationship, an infant develops increasing capacity to regulate physiological and emotional reactions in response to stress.³⁹

⁴⁰ Hanson et al., 2013

⁴¹ Hart & Risley, 1995

⁴² Landry, 2006, cited by Blair et al., 2011; Knitzer & Perry, 2009

⁴³ Kalil, 2003

⁴⁴ Expert Advisory Group on Solutions to Child Poverty, 2012

⁴⁵ Expert Advisory Group on Solutions to Child Poverty, 2012

⁴⁶ Tischler, 2013, cited by Asher, 2014

⁴⁷ Collins, 2014, cited by Asher, 2014

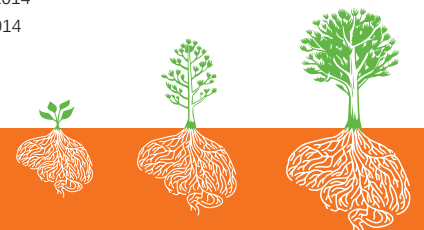
³⁵ Luby et al., 2013; Noble et al., 2012

³⁶ Hanson et al., 2013

³⁷ National Research Council and Institute of Medicine, 2000

³⁸ Fogel, 2009; Mares et al., 2011

³⁹ Mares et al., 2011



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References

Asher, I. (2014). *The State of the Nations' Children - Child Poverty in New Zealand. Opening Address*. Paper presented at the Paediatric Society of New Zealand's Annual Scientific Meeting, Napier, NZ.

Blair, C., Granger, D. A., Willoughby, M., Mills-Koonce, R., Cox, M., Greenburg, M. T., . . . Fortunato, C. K. (2011). Salivary cortisol mediates effects of poverty and parenting on executive functions in early childhood. *Child Development, 82*(6), 1970-1984.

Blair, C., Raver, C. G., Granger, D. A., Mills-Koonce, R., Hibel, L., & The Family Life Project Key Investigators. (2011). Allostatic and allostatic load in the context of poverty in early childhood. *Development and Psychopathology, 23*, 845-857.

Boston, J., & Chapple, S. (2014). *Child Poverty in New Zealand*. Wellington, NZ: Bridget Williams Books Ltd.

Child Poverty Action Group. (2014). *Our Children, Our Choice: Priorities for Policy*. Retrieved from Auckland:

Craig, E., Reddington, A., Wicken, A., Oben, G., & Simpson, J. (2013). *Child Poverty Monitor 2013 Technical Report* Retrieved from Dunedin, NZ:

de Haan, M., Gunnar, M. R., Tout, K., Hart, J., & Stansbury, K. (1998). Familiar and novel contexts yield different associations between cortisol and behaviour among 2 year old children. *Developmental Psychobiology, 33*, 93-101.

Duncan, G. J., & Magnuson, K. (2013). The importance of poverty early in childhood. *Policy Quarterly, 9*(2), 12-17.

Elder, G. H., Nguyen, T. V., & Caspi, A. (1985). Linking family hardship to children's lives. *Child Development, 56*, 361-375.

Expert Advisory Group on Solutions to Child Poverty. (2012). *Solutions to Child Poverty in New Zealand, Evidence for Action*. Retrieved from Wellington:

Ferguson, H. B., Bovaird, S., & Mueller, M. P. (2007). The impact of poverty on educational outcomes for children. *Pediatric Child Health, 12*(8), 701-706.

Fogel, A. (2009). *Infancy: Infant, family and society* (5th ed.). NY: Sloan Publishing, LLC.

Haley, D. W., & Stansbury, K. (2003). Infant stress and parent responsiveness: Regulation of physiology and behaviour during still-face and reunion. *Child Development, 74*, 1534-1546.

Hanson, J. L., Hair, N., Shen, D. G., Shi, F., Gilmore, J. H., Wolfe, B. L., & Pollack, S. D. (2013). Family poverty affects the rate of human infant brain growth. *Plos One, 8* (12). Retrieved from <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0080954>

Hart, B., & Risley, T. R. (1995). *Meaningful differences in the everyday experience of young American children*. Baltimore: P H Brookes.

Imlach-Gunasekara, F., Carter, K., & Blakely, T. (2012). *Dynamics of income in children in new Zealand 2002 - 2009: A descriptive analysis of the survey of family, income and employment* (SoFIE). Retrieved from Wellington:

Kalil, A. (2003). *Family Resilience and Good Child Outcomes: A Review of the Literature*. Retrieved from Wellington:

Knitzer, J., & Perry, D. F. (2009). Poverty and infant and toddler development: Facing the complex challenges. In C. H. Zeanah (Ed.), *Handbook of Infant Mental Health* (pp. 135-152). New York: The Guilford Press.

Kramer, M. S., Seguin, L., Lydon, J., & Goulet, L. (2000). Socio-economic disparities in pregnancy outcome: Why do the poor fare so poorly? *Pediatric Perinatal Epidemiology, 14*, 194-210.

Larson, C. P. (2007). Poverty during pregnancy: It's effects on child health outcomes. *Pediatric Child Health, 12*(8), 673-677.

Lester, B. (2013). Transforming the research landscape. In B. M. Lester & J. D. Sparrow (Eds.), *Nurturing children and families. Building on the legacy of T Berry Brazelton* (pp. 3-14). Oxford: Blackwell Publishing Ltd.

Luby, J., Belden, A., Botteron, K., Marrus, N., Harms, M. P., Babb, C., . . . Barch, D. (2013). The effects of poverty on childhood brain development: The mediating effect of caregiving and stressful life events. *JAMA Pediatrics, 167*(12), 1135-1142.

Mares, S., Newman, L., & Warren, B. (2011). *Clinical skills in infant mental health: The first three years* (2nd ed.). Camberwell, Victoria: ACER Press.

Ministry of Health. (2009). *A Focus on the Health of Maori and Pacific Children. Key Findings of the 2006/07 New Zealand Health Survey*. Retrieved from Wellington, NZ:

National Research Council and Institute of Medicine. (2000). *From neurons to neighbourhoods: The science of early childhood development* (J. P. Shonkoff & D. A. Phillips Eds.). Washington, DC: National Academy press.

Noble, K. G., Houston, S. M., & Kan, E., Sowell, E. R. (2012). Neural correlates of socio-economic status in the developing human brain. *Developmental Science, 15*(4), 516-527.

Poulton, R. B., Caspi, W. M., Thomson, A., Taylor, M. R., Sears, T. E., & Moffitt, T. E. (2002). Association between children's experience of socioeconomic disadvantage and adult health: A life-course study. *The Lancet, 360*, 1640-1645.

Shaw, C., Blakely, T., Crampton, P., & Atkinson, J. (2005). The contribution of causes to death in socio-economic inequalities in child mortality: New Zealand 1981-1999. *New Zealand Medical Journal, 118*(1227), 1-11.

Shonkoff, J. P., Andrews, S., Seigel, B., Dobbins, M., Earls, M. F., Garner, A. S., . . . Wood, D. L. (2012). The lifelong effects of early adversity and toxic stress. *Pediatrics, 129*(1), 232-246.

Shonkoff, J. P., Boyce, W. T., & McEwen, B. S. (2009). Neuroscience, molecular biology and the childhood roots of health disparities. Building a new framework for health promotion and disease prevention. *Journal of the American Medical Association, 301*(21), 2252-2259.

Simpson, J., Oben, G., Wicken, A., Adams, J., Reddington, A., & Duncanson, M. (2014). *Child Poverty Monitor 2014 Technical Report*. Retrieved from Dunedin, NZ:

The Connecticut Commission on Children. (2004). Children and the Long-term Effects of Poverty. Retrieved from www.cga.ct.gov/coc/PDFs/poverty/2004_poverty_report.pdf

Turner, N., & Asher, I. (2014). *Our children, our choice: Priorities for policy. Part one: Child poverty and Health*. Retrieved from Auckland, NZ:

