

The Minimum Age of Criminal Responsibility in Aotearoa New Zealand

Thematic Report
to the
United Nations Committee on the Rights of the Child,
6th Periodic Review of Aotearoa New Zealand
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This thematic report was prepared by Dr Enys Delmage to support the development of the Children's Rights Alliance Aotearoa New Zealand's Comprehensive Alternative Report on Aotearoa New Zealand: Written Inputs to State Report (SRP)

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The Minimum Age of Criminal Responsibility is the age at which tamariki/children can be held liable for criminal offending. The age is currently set at 10 in Aotearoa New Zealand, though there are restrictions on the prosecution of younger tamariki/children between the ages of 10 and 14.

Nevertheless, Aotearoa New Zealand is now markedly behind a number of other comparable countries internationally and needs to examine this issue with some urgency.

Criminalisation of our rangatahi/young people and their acquisition of an antisocial identity as a result of systemic labelling is the greatest public health, sociological, criminological and welfare crisis of this century.

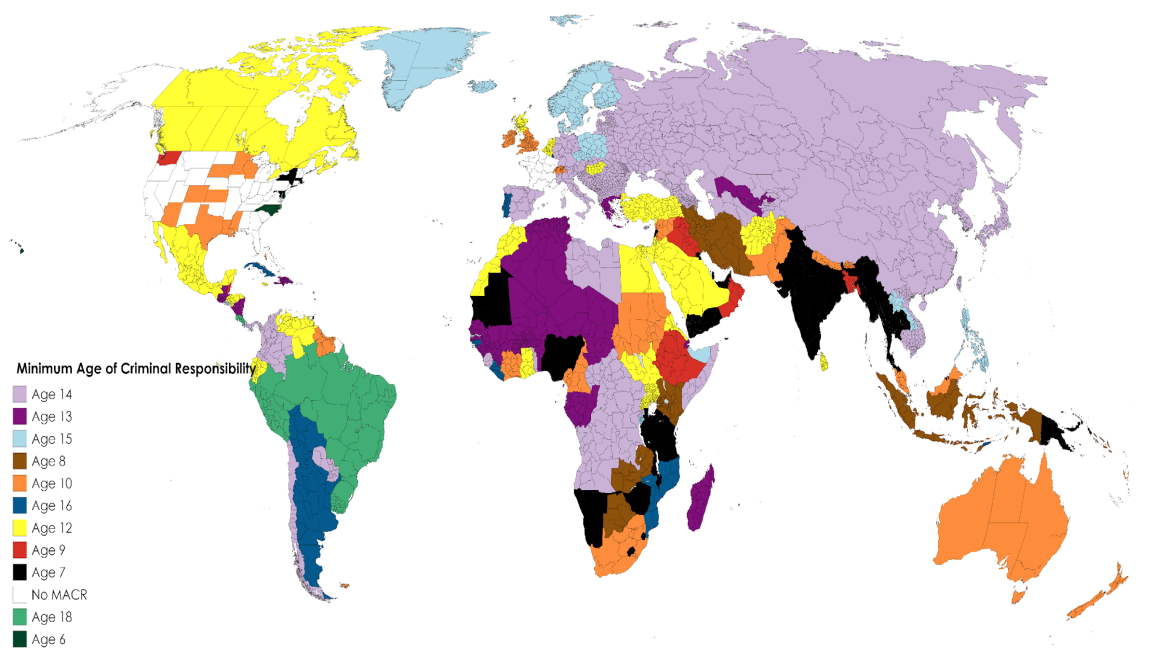
This thematic report examines the position in Aotearoa New Zealand with respect to the international picture, the obligations under the UNCRC and the information we have gleaned from modern neuroscience in relation to childhood brain development.

Introduction

The United Nations Committee on the Rights of the Child: General Comment Number 24 (2019) on children’s rights in the child justice system stated the following: “In the original General Comment No. 10 (2007), the Committee had considered 12 years as the absolute minimum age. However, the Committee finds that this age indication is still too low. States parties are encouraged to increase their minimum age to at least 14 years of age”.

Aotearoa New Zealand is coming under increasing pressure to raise its minimum age following a commitment to increase the Minimum Age of Criminal Responsibility in the Australian Capital Territory from 10 to 14 (due later in 2022), considerations in Queensland about a similar step, an increase in the age of detention in Tasmania from 10 to 14 and discussions for the Attorneys General on a commonwealth level about raising the age. Aotearoa New Zealand is now significantly behind other comparable countries internationally, as the map below demonstrates.

The International Picture



What can be seen from the above map is that there is wide variation in the setting on the minimum age of criminal responsibility. The true picture is even more complicated, with 26 countries (including Aotearoa New Zealand) varying their minimum age of criminal responsibility according to the seriousness of the offence (a strategy advised against by the UN General Assembly in 2019) and with 66 countries (including Aotearoa New Zealand) running a rebuttable presumption of “doli incapax” – a position in which it is presumed a child does not know that what they did was seriously wrong unless the contrary is proved – for those children at the extremely young end of the spectrum. In addition, 10 countries set

different ages for girls versus boys, 5 countries operate Sharia law alongside state law, and 13 countries (and a number of states in America) have no minimum age of criminal responsibility.

There are 4 compelling reasons why the Minimum Age of Criminal Responsibility must immediately be raised to at least 14 years in Aotearoa New Zealand.

1 Our human rights obligations

Aotearoa New Zealand has ratified the UN Convention on the Rights of the Child. As stated, the Committee on the Rights of the Child's General Comment Number 24 (2019) on children's rights in the child justice system reflects the prevailing international standard: "States parties are encouraged to increase their minimum age to at least 14 years of age." Aotearoa New Zealand is now noticeably out of step with our international peers, where the average Minimum Age of Criminal Responsibility is 12 years of age.

Aotearoa New Zealand has a challenging history in relation to its treatment of tamariki/children, as the Royal Inquiry into Abuse in Care, and the investigations into the Lake Alice psychiatric hospital demonstrate. It is also important to recognise that the vast majority of young people in contact with the youth justice system are of Maori/Pacific Island backgrounds, groups often already beleaguered by racism, socioeconomic deprivation and poverty of opportunity from birth.

The issue of the low Minimum Age of Criminal Responsibility in Aotearoa New Zealand has already been highlighted by the Office of the Children's Commissioner, the Royal Australian and New Zealand College of Psychiatrists and Amnesty International, and is set into even starker relief by successful efforts in other countries to raise their Minimum Age of Criminal Responsibilities (Australian Capital Territory, Scotland, Pakistan and South Africa).

2 Neuroscientific research strongly supports raising the minimum age of criminal responsibility

Early adolescence represents a phase of brain development characterised by increased impulsivity and sensation-seeking,¹ a gradually developing ability to empathise² and

¹ van Leijenhorst L, Moor B, Op de Macks Z, Rombouts S, Westenberg P, Crone E (2010), "Adolescent risky decision-making: neurocognitive development of reward and control regions", *Neuroimage* Vol 51, No 1, pp 345-55; Baird, A., Fugelsang, J., & Bennett, C. (2005, April). "What were you thinking?": An fMRI study of adolescent decision making. Poster presented at the annual meeting of the Cognitive Neuroscience Society, New York; Steinberg L (2007), "Risk Taking in Adolescence: New Perspectives From Brain and Behavioral Science", *Association for Psychological Science* Vol 16 No 2

² Strayer J (1993), "Children's concordant emotions and cognitions in response to observed emotions", *Child Development* Vol 64 No 1 pp188-201

heightened vulnerability to peer influence.³ All of these have major impacts upon decision-making. Also of relevance to offending behaviour, adolescents often have reactive and intense emotional responses to threatening or rewarding stimuli when compared with adults.⁴

As commented by the United Kingdom's Royal Society,⁵ the frontal lobes of the brain which are responsible for planning, decision making, and inhibiting impulsivity, develop much later than the amygdala, the part of the brain responsible for reward and emotion-processing,⁶. This imbalance in the stages of development between the frontal lobes and the amygdala is thought to account for increased arousal and risk-taking behaviour in adolescence.⁷

The development of the frontal lobes of the brain is ably demonstrated by the image below, which uses grey and white matter ratios to demonstrate the way in which the brain matures. What can be seen is that the frontal lobes are some of the last parts of the brain to mature, and in fact even at age 20 there is still further to go until peak maturation.

Dynamic mapping of human cortical development



Source: "Dynamic mapping of human cortical development during childhood through early adulthood," Nitin Gogtay et al., Proceedings of the National Academy of Sciences, May 25, 2004; California Institute of Technology.

The frontal lobes of the brain play a key part in various cognitive skills society expects to see in adults: having judgement, empathy, consequential thinking, inhibition of impulses and coherent planning. The brains of those aged 10-14 years are thus manifestly ill-equipped to manage their impulses and fully comprehend potential consequences to the standard of a reasonable adult.

³ Steinberg L, Monahan K (2007), "Age differences in resistance to peer influence", *Developmental Psychology* Vol 43 No 6 pp 1531-43; Sebastian C (2010), "Social brain development and the affective consequences of ostracism in adolescence", *Brain and Cognition*, Volume 72, Number 1, 134-45

⁴ Pfeifer, J. H. et al. Entering adolescence: resistance to peer influence, risky behavior, and neural changes in emotion reactivity. *Neuron* 69, 1029–1036 (2011); Somerville, L. H., Hare, T. & Casey, B. J. Frontostriatal maturation predicts cognitive control failure to appetitive cues in adolescents. *J. Cogn. Neurosci.* 23, 2123–2134 (2011); Johnson, C. & Wilbrecht, L. Juvenile mice show greater flexibility in multiple choice reversal learning than adults. *Dev. Cogn. Neurosci.* 1, 540–551 (2011)

⁵ The Royal Society (2011), "Neuroscience and the law: Brain Waves Module 4" Excellence in Science publications

⁶ Gogtay (2004) "Dynamic mapping of human cortical development during childhood through early adulthood", *Proceedings of the National Academy of Sciences* 101, 8174-8179

⁷ The Royal Society (2011), "Brain Waves Module 2: Neuroscience: implications for education and lifelong learning", Excellence in Science publications

The past thirty years have witnessed a surge of research in the area of functional brain scanning - this new technology has allowed scientists to begin to understand brain activity and start to map causal links with certain types of behaviour. Through the course of adolescence, it is evident from multiple research studies that young people develop an increasing ability to exert control over their thoughts and actions as they mature⁸.

Also of relevance to the commission of offences, adolescents often display an intensification of emotional processing in response to threatening or rewarding stimuli when compared with adults⁹. Adolescents also tend to be less future-orientated with their decisions¹⁰ and tend to weight gains more heavily than losses compared to adults¹¹.

Physical brain development continues at a rapid rate into the early twenties¹². This frontal lobe executive functioning increases gradually over the course of adolescence, and has been linked with development of the brain's prefrontal cortex¹³, in tandem with an emerging ability to engage in consequential thinking¹⁴.

The simplistic model of frontal lobe immaturity in contrast with other more developed brain areas as an explanation for emotional lability and problematic antisocial behaviour may not adequately take into account the impact of changes in social and emotional processing in teenage years, in the context of influences on the brain from the external environment¹⁵. During the course of brain development, it has been demonstrated that certain frontal lobe brain areas (for instance the medial pre-frontal cortex) may show higher activation than in adults, as the adolescent brain is potentially acquiring skills in social reasoning. In contrast, other regions (for instance the temporoparietal junction, an area toward the back of the brain) show lower activation than in adults¹⁶ which puts the immature brain of the child at a functional disadvantage.

⁸ Asato MR, Sweeney JA and Luna B (2006) Cognitive processes in the development of TOL performance. *Neuropsychologia* 44(12): 2259-2269; Case R (1992) *The mind's staircase: exploring the conceptual underpinnings of children's thought and knowledge*. Hillsdale New Jersey: Erlbaum Publishing; Dolan C, Huizinga M and van der Molen M (2006) Age-related change in executive function: Developmental trends and a latent variable analysis. *Neuropsychologia* 44(11): 2017-2036; Zelazo PD, Craik F, Booth L (2004) Executive function across the life span. *Acta Psychologica (Amst)* 115 (2-3): 167-183

⁹ Johnson C and Wilbrecht L (2011) Juvenile mice show greater flexibility in multiple choice reversal learning than adults. *Developmental Cognitive Neuroscience* 1(4): 540-551; Pfeifer JH, Masten CL, Moore WE et al (2011) Entering adolescence: Resistance to peer influence, risky behaviour and neural changes in emotion reactivity. *Neuron* 69(5): 1029-1036; Somerville LH, Hare T and Casey BJ (2011) Frontostriatal maturation predicts cognitive control failure to appetitive cues in adolescents. *Journal of Cognitive Neuroscience* 23(9): 2123-2134

¹⁰ Greene AL (1986) Future time perspective in adolescence: The present of things future revisited. *Journal of Youth and Adolescence* 15(2): 99-113; Nurmi JE (1991) How do adolescents see their future? A review of the development of future orientation and planning. *Developmental Review* 11(1): 1-59

¹¹ Benthin A, Slovic P and Severson H (1993) A psychometric study of adolescent risk perception. *Journal of Adolescence* 16(2):153-68; Furby L and Beyth-Marom R (1992) Risk taking in adolescence: A decision-making perspective. *Developmental Review* 12(1): 1-44

¹² Anderson VA, Anderson P, Northam E et al (2001) Development of executive functions through late childhood and adolescence in an Australian sample. *Developmental Neuropsychology* 20(1): 385-406; Sowell ER, Thompson PM, Tessner KD et al (2001) Mapping continued brain growth and gray matter density reduction in dorsal frontal cortex. Inverse relationships during postadolescent brain maturation. *Journal of Neuroscience* 21(22): 8819-8829

¹³ Blakemore S-J and Choudhury S (2006) Development of the adolescent brain: implications for executive function and social cognition. *Journal of Child Psychology and Psychiatry* 47(3-4): 296-312

¹⁴ Steinberg L (2009) Adolescent development and juvenile justice. *Annual Review of Clinical Psychology* 5: 27-73

¹⁵ Crone E and Dahl R (2012) Understanding adolescence as a period of social-affective engagement and goal flexibility. *Nature Reviews Neuroscience* 13(9): 636-650

¹⁶ Crone E and Dahl R (2012) Understanding adolescence as a period of social-affective engagement and goal flexibility. *Nature Reviews Neuroscience* 13(9): 636-650

Another area of interest to neuroscientists and child clinicians is the susceptibility of the adolescent to peer influence – rangatahi/young people’s social cognitions (their self-awareness, and abilities to see the perspectives of others) are evolving into their mid-twenties¹⁷, and their rejection-related distress is greater than that experienced by adults¹⁸. Adolescents have long been known to seek peer acceptance to a greater extent than adults or indeed younger children¹⁹. The degree of interest and/or concern in relation to self and to others also undergoes a shift during adolescence, from self-orientation in early adolescence to other-orientation with a transition phase in mid-adolescence (12-16 years of age). This heightened susceptibility to peer influence may have the effect of overriding considerations of consequences.

Adolescents also demonstrate higher risk-taking behaviour when with peers compared to adults and younger children²⁰ and when in states of high emotion²¹, and it has been suggested that this effect may be linked with hormonal changes²². Research is under way in relation to this impact of hormones on the brain – through puberty the brain begins to release gonadotrophin-releasing hormone, which signifies activation of the hypothalamic-pituitary-adrenal axis. This axis is responsible for the production of oestrogen and testosterone, the full neurological impact of which is currently unclear, though several research teams have been investigating this²³.

Studies have demonstrated that oestradiol (the major sex hormone in females, although also present at lower but not insignificant levels in males) has an impact upon prefrontal lobe functioning²⁴ and further work is under way to investigate the impact of the body’s other natural hormones (for instance oxytocin) which can have an impact on social connection and affiliation²⁵. Testosterone is also being scrutinised, which can have an impact on perception

¹⁷ Choudhury S, Blakemore S-J and Charman T (2006) Social cognitive development during adolescence. *Social Cognitive and Affective Neuroscience* 1(3): 165-174

¹⁸ Masten CL, Eisenbrger NI and Borofsky LA et al (2009) Neural correlates of social exclusion during adolescence: understanding the distress of peer rejection. *Social Cognitive Affective Neuroscience* 4(2): 143-157

¹⁹ Newcomb AF, Bukowski WM and Pattee L (1993) Children’s peer relations: A meta-analytic review of popular, rejected, neglected, controversial, and average sociometric status. *Psychological Bulletin* 113(1): 99-128

²⁰ Steinberg L (2011) *The Science of Adolescent Risk-Taking: Workshop Report*, National Academies Press, Washington, DC

²¹ Figner B, Mackinlay RJ, Wilkening F et al (2009) Affective and deliberative processes in risky choice: Age differences in risk taking in the Columbia Card Task. *Journal of Experimental Psychology: Learning, Memory and Cognition* 35(3): 709-730

²² Crone E and Dahl R (2012) Understanding adolescence as a period of social-affective engagement and goal flexibility. *Nature Reviews Neuroscience* 13(9): 636-650

²³ Blakemore S-J, Burnett S and Dahl RE (2010) The role of puberty in the developing adolescent brain. *Human Brain Mapping* 31(6): 926-933; Bramen JE, Hranilovich J, Dahl R et al (2012) Sex matters during adolescence: testosterone-related cortical thickness maturation differs between boys and girls. *PLoS One* 7(3): e33850; Forbes EE and Dahl RE (2010) Pubertal development and behaviour: hormonal activation of social and motivational tendencies. *Brain and Cognition* 72(1): 66-72; Sisk CL and Zehr JL (2005) Pubertal hormones organize the adolescent brain and behavior. *Frontiers in Neuroendocrinology* 26(3-4): 164-174; Spear LP (2009) Heightened stress responsivity and emotional reactivity during pubertal maturation: implications for psychopathology. *Development and Psychopathology* 21(1): 87-97; Van Wingen G, Mattern C, Verkes RJ et al (2010) Testosterone reduces amygdala-orbitofrontal cortex coupling. *Psychoneuroendocrinology* 35(1):105-113

²⁴ Jacobs E and D’Esposito M (2011) Estrogen shapes dopamine-dependent cognitive processes: implications for women’s health. *Journal of Neuroscience*. 31(14): 5286-5293

²⁵ Gordon I, Martin C, Feldman R et al (2011) Oxytocin and social motivation. *Developmental Cognitive Neuroscience* 1(4): 471-493

of the value of social status²⁶ and reward processing²⁷, as well as the way in which threatening situations are managed²⁸. There is also evidence that pubertal changes are linked with the way in which the brain processes reward²⁹, and the methods by which the individual can exert control over their emotions³⁰, processes which again are of importance when an adolescent is considering their actions and the consequences in comparison with an adult's thinking.

The aforementioned studies relate to neurotypical brain development – but what of the child at risk of offending? Do their brains differ structurally and functionally? In fact, children in contact with the justice system may indeed be at a biological disadvantage as many have sustained a form of brain trauma (through factors like direct acquired brain injury, malnutrition, exposure to alcohol and other drugs in utero and through abuse) in comparison to neurotypical children³¹. Reasons for this difference may include poor prenatal care, a lack of early life access to appropriate physical and mental health support from families (including healthy diets which allow the brain to grow normally), exposure to violence and other traumatic experiences, limited access to other healthcare resources and access to prosocial education experiences, as well as exposure to things that may damage brain development such as head injuries, drugs and alcohol, and the effect of poor socio-economic conditions.

In contrast with neurotypical children, studies relating to children suffering with conduct disorders (a group who also commonly find themselves in contact with the criminal justice system) demonstrate deficiencies in grey matter volumes in the brains of children with the disorder in comparison to those without³². Conduct disorder is the most common mental disorder in childhood and one which is strongly associated with offending behaviour. For example, rates of conduct disorder average 62% in juvenile detention and correctional facilities³³, which is much higher than the community incidence. This potentially makes

²⁶ Bos PA, Panksepp J, Bluthé RM et al (2012) Acute effects of steroid hormones and neuropeptides on human social-emotional behavior: a review of single administration studies. *Frontiers in Neuroendocrinology* 33(1) 17-35; Carney D and Mason M (2010) Decision making and testosterone: When the ends justify the means. *Journal of Experimental Social Psychology* 46(4): 668–671; Eisenegger C, Haushofer J and Fehr E (2010) The role of testosterone in social interaction. *Trends in Cognitive Sciences* 15(6): 263–271

²⁷ Forbes EE and Dahl RE (2010) Pubertal development and behaviour: hormonal activation of social and motivational tendencies. *Brain and Cognition* 72(1): 66-72; Forbes EE, Neal RD, Phillips ML et al (2010) Healthy adolescents' neural response to reward: associations with puberty, positive affect, and depressive symptoms. *Journal of the American Academy of Child and Adolescent Psychiatry* 49(2): 162–172; Op de Macks Z, Bregtje GM, Overgaauw S et al (2011) Testosterone levels correspond with increased ventral striatum activation in response to monetary rewards in adolescents. *Developmental Cognitive Neuroscience* 1(4): 506–516

²⁸ Cooke BM and Shukla D (2011) Double helix: Reciprocity between juvenile play and brain development. *Developmental Cognitive Neuroscience* 1(4):459–470

²⁹ Galván A (2010) Adolescent development of the reward system. *Frontiers in Human Neuroscience* 4: 1-9

³⁰ Casey B, Jones RM and Somerville LH (2011) Braking and accelerating of the adolescent brain. *Journal of Research on Adolescence* 21(1): 21–33

³¹ Sarkar S, Craig MC, Catani M et al (2013) Frontotemporal white-matter microstructural abnormalities in adolescents with conduct disorder: a diffusion tensor imaging study. *Psychological Medicine* 43(2): 401-411; Sarkar S, Dell'Acqua F, Walsh SF et al (2016) A whole-brain investigation of white matter microstructure in adolescents with conduct disorder. *PLoS One* 11(6): e0155475; Sebastian CL, De Brito SA, McCrory EJ et al (2016) Grey matter volumes in children with conduct problems and varying levels of callous-unemotional traits. *Journal of Abnormal Child Psychology* 44(4): 639-649

³² Fairchild G, Passamonti L, Hurford G et al (2011) Brain structure abnormalities in early-onset and adolescent-onset conduct disorder. *American Journal of Psychiatry* 168(6): 624-633; Fallon J (2006) Neuroanatomical background to understanding the brain of the young psychopath. *Ohio State Journal of Criminal Law* 3(2): 341-367

³³ Beaudry G, Rongqin Y, Langstrom M et al (2020) An updated systematic review and meta-regression analysis: mental disorders among adolescents in juvenile detention and correctional facilities. *Journal of the American Academy of Child and Adolescent Psychiatry*

children with conduct disorder more developmentally immature and more vulnerable than their neurotypical counterparts in terms of their capacities and reasoning skills.

It is important to note that children suffering with conduct disorders are also frequently children who have experienced abuse and trauma. Brain structure abnormalities have been found in those experiencing childhood trauma³⁴, as well as functional differences³⁵ which are themselves linked to violent crime³⁶, with some studies showing an 11-fold increase in the likelihood of being arrested for an aggressive offence for young people traumatised in early life³⁷, alongside cognitive, educational and employment challenges³⁸. Mistreatment is also associated with psychological problems, and with changes in the hypothalamic-pituitary-adrenal axis – overactivity of this hormonal axis can result in an increase in impulsive aggression, whilst underactivity can result in non-responsiveness to punishment and increased instrumental aggression (namely aggression to serve a separate purpose)³⁹. Whilst not all children experiencing mistreatment will commit offences, they may be especially vulnerable to poor decision-making and impulsive judgements and therefore more susceptible to negative learning from antisocial settings.

Punishment, as opposed to care and support, for repeatedly traumatised children as a method of shaping their behaviour is very rarely an effective strategy. Traumatized children have experienced lifelong punishment through early-life trauma which has not been contingent upon whether they have been good, bad, or have done nothing. As such, for children in this group (childhood abuse being highly prevalent among young people committing offences) a system of positive incentives is often effective, whereas punishment as a shaping mechanism tends to fail⁴⁰ and in effect may serve only to retraumatise the individual (especially where it involves removal from home, distancing the child from that home, removing their liberty and placing them in often brutalising settings at a formative age in terms of brain development)⁴¹. The consequences of periods of incarceration add to

³⁴ De Brito SA, Viding E, Sebastian CL et al (2012) Reduced orbitofrontal and temporal grey matter in a community sample of maltreated children. *Journal of Child Psychology and Psychiatry* 54(1): 105-112; Kolla NJ, Gregory S, Attard S et al (2014) Disentangling possible effects of childhood physical abuse on gray matter changes in violent offenders with psychopathy. *Psychiatry Research* 221(2): 123-126; Lim L, Radua J and Rubia K (2014) Gray matter abnormalities in childhood maltreatment: A voxel-wise meta-analysis. *American Journal of Psychiatry* 171(8): 854-863; Malhi GS, Pritha D, Outhred T et al (2019) The effects of childhood trauma on adolescent hippocampal subfields. *Australian and New Zealand Journal of Psychiatry* 53(5): 447-457

³⁵ McCrory EJ, De Brito SA, Kelly PA et al (2013) Amygdala activation in maltreated children during pre-attentive emotional processing. *The British Journal of Psychiatry*, 202(4): 269-276

³⁶ Kolla NJ, Malcolm C, Attard S et al (2013) Childhood maltreatment and aggressive behaviour in violent offenders with psychopathy. *Canadian Journal of Psychiatry* 58(8): 487-494

³⁷ Boswell G.R. (1995) *Violent Victims. Report*, The Prince's Trust, London; English DJ, Widom CS and Bradford C (2002) *Childhood victimization and delinquency, adult criminality, and violent criminal behaviour: A replication and extension (Final Report)*. (NCJRS 192291) Washington, DC: U.S. Department of Justice

³⁸ Mills R, Kiskey S, Alati R et al (2019) Cognitive and educational outcomes of maltreated and non-maltreated youth: A birth cohort study. *Australian and New Zealand Journal of Psychiatry* Volume: 53(3): 248-255

³⁹ Kiehl KA, Smith AM, Hare RD et al (2001) Limbic abnormalities in affective processing by criminal psychopaths as revealed by functional magnetic resonance imaging. *Biological Psychiatry* 50(9): 677-84

⁴⁰ De Valk S, Van der Helm G, Beld M et al (2015) Does punishment in secure residential youth care work? An overview of the evidence. *Journal of Children's Services* 10(1): 3-16

⁴¹ Lambie I and Randell I (2013) The impact of incarceration on juvenile offenders. *Clinical Psychology Review* 33(3): 448-459

pre-existing disadvantages and disengage the individual from their family and community, which can hinder the processes of social reintegration thought to reduce recidivism⁴².

Any decision to punish a child must also factor in the impact of labelling – children passing through adolescence are essentially in a stage of identity acquisition, in which they learn about what they are good at and what they are not, and in which social groups they can place themselves, as a means of working out who they are. Even low-intensity impact with the justice system can have an unfortunate and unintended consequence of signalling to the child that offending, and being a “young offender”, is part of their identity and thus can increase the risk of recidivism⁴³. This is especially true for comprehensive lifestyle changes like being imprisoned. As such, the direct harms from the punishment itself may be compounded by an enduring sense of injustice both for an individual child who has experienced it and for onlookers who may form the view that it is unfair to impose punishment on vulnerable children with the aim of deterring others.

Aotearoa New Zealand has a disproportionate dependence on youth justice beds with higher per-capita numbers when compared with other similar countries⁴⁴.

3 Children appearing before criminal courts require bespoke treatment and greater levels of support due to higher rates of neurodevelopmental difficulties

The above limitations on decision-making in adolescents are true in neurotypical populations of teenagers, but in studies examining children who end up before criminal courts, these decision-making deficits are more pronounced.

Brain structure abnormalities are reported in those who experience childhood trauma⁴⁵ (which, along with resulting post-traumatic stress disorder, is sadly rife in children who

⁴² Bateman T, Hazel N and Wright S (2013) Resettlement of young people leaving youth custody: lessons from the literature. Report, Beyond Youth Custody, UK, March

⁴³ Farrington DP, Osborn SG and West DJ (1978) The persistence of labelling effects. *The British Journal of Criminology* 18(3): 277-284; Krohn MD, Lopes G and Ward JT (2014) Effects of Official Intervention on Later Offending in the Rochester Youth Development Study In: Farrington D and Murray J (eds) *Labeling Theory: Empirical Tests, Advances in Criminological Theory Volume 18* Transaction Publishers, New Brunswick, pp.179-207; McAra L and McVie S (2007) Youth justice?: The impact of system contact on patterns of desistance from offending. *European Journal of Criminology* 4(3): 315-345; Murray J, Blokland A, Farrington D et al (2014) Long-Term Effects of Convictions and Incarceration on Men in the Cambridge Study in Delinquent Development. In: Farrington D and Murray J (eds): *Labeling Theory: Empirical Tests, Advances in Criminological Theory Volume 18*. Transaction Publishers, New Brunswick, pp.209-235; Petrosino A, Turpin-Petrosino C and Guckenburg S (2010) The impact of juvenile system processing on delinquency. In: Farrington D and Murray J (eds) *Labeling Theory: Empirical Tests, Advances in Criminological Theory Volume 18* Transaction Publishers, New Brunswick, pp.113-149

⁴⁴ Souverein F, Hales H, Anderson P, Argent S, Bartlett A, Blower A, Delmage E, Enell S, Henriksen A, Koomen K, Oostermeijer S (2022). Mental health, welfare or justice: An introductory global overview of differences between countries in the scale and approach to secure placements of children and young people. *Criminal Behaviour and Mental Health*.

⁴⁵ Lim L, Radua J, Rubia K (2014) Gray Matter Abnormalities in Childhood Maltreatment: A Voxel-Wise Meta-Analysis. *American Journal of Psychiatry*, 171(8), pp 854-863; De Brito, S. A., Viding, E., Sebastian, C. L., Kelly, P. A., Mechelli, A., Maris, H., & McCrory, E. J. (2012). Reduced orbitofrontal and temporal grey matter in a community sample of maltreated children. *Journal of Child Psychology and Psychiatry*; McLaughlin K, Sheridan M, Lambert H (2014). *Childhood Adversity and Neural Development: Deprivation and Threat as Distinct Dimensions of Early Experience. Neuroscience & Biobehavioral Reviews Volume 47, November 2014, Pages 578-591*

offend⁴⁶), as well as functional differences⁴⁷ which are themselves linked to violent crime.⁴⁸ Some studies show an 11-fold increase in the likelihood of being arrested for an aggressive offence for children traumatised in early life.⁴⁹ Childhood mistreatment is associated with psychiatric problems, and with toxic changes to the hypothalamic-pituitary-adrenal axis. Overactivity of this hormonal axis results in an increase in impulsive aggression, whilst underactivity can result in non-responsiveness to punishment and increased instrumental aggression.⁵⁰

Conduct disorder is the most common mental disorders in childhood. It is a form of mental disorder strongly associated with offending behaviour. Rates of conduct disorder can be as high as 60-70% in young offender institutions.⁵¹ Studies demonstrate differences in grey matter volumes in the brains of children with conduct disorder in comparison to those without,⁵² making them more developmentally immature and vulnerable in terms of their decision making capacities. Impaired socialisation abilities may result from amygdala dysfunction which can lead children to behave in an antisocial manner – this amygdala dysfunction is frequently seen in those with conduct disorder.⁵³

Research into the ethnicity of tamariki/children under 14 who are coming into contact with the youth justice system highlights that indigenous children were younger than non-indigenous children in court, were less likely to be given a diversionary option, were more likely to be arrested and be refused bail, and to have their matter dealt with in court⁵⁴.

4 Economic arguments strongly support raising the minimum age of criminal responsibility as a low-impact and easily-achievable objective

The numbers of children aged 10-13 who are involved with the youth justice system are very small, as a result of concerted diversionary efforts, often at the level of the police. The numbers of children who offend are reducing (5012 children in 2010 versus 2330 in 2018) and the numbers of children committing very serious offences is extremely small (10- and

⁴⁶ Moore, E. Gaskin, C, Indigae, D (2013). Childhood maltreatment and post-traumatic stress disorder among incarcerated young offenders. *Child Abuse & Neglect* Volume 37, Issue 10, pages 861-870

⁴⁷ McCrory, E. J., De Brito, S. A., Kelly, P. A., Bird, G., Sebastian, C. L., Mechelli, A., ... Viding, E. (2013). Amygdala activation in maltreated children during pre-attentive emotional processing. *British Journal of Psychiatry*, 202(4), 269-276

⁴⁸ Kolla N, Malcolm C, Attard S, Arenovich T, Blackwood N, Hodgins S. (2013) Childhood Maltreatment and Aggressive Behaviour in Violent Offenders with Psychopathy. *Canadian Journal of Psychiatry*, 58(8), pp 487-494

⁴⁹ English et al (2002), "Childhood victimization and delinquency, adult criminality, and violent criminal behaviour: a replication and extension", National Institute of Justice, Rockville, MD; Boswell (1995), "Violent Victims", Prince's Trust report

⁵⁰ Keihl (2001). Limbic abnormalities in affective processing by criminal psychopaths as revealed by fMRI. *Biological Psychiatry*, Vol. 50, No. 9

⁵¹ See for example Beaudry G et al (2021). An Updated Systematic Review and Meta-regression Analysis: Mental Disorders Among Adolescents in Juvenile Detention and Correctional Facilities. *Journal of the American Academy of Child & Adolescent Psychiatry* Volume 60, Issue 1, January 2021, Pages 46-60

⁵² Fairchild, G., Passamonti L., Hurford, G, Hagan, C., von dem Hagen, E., van Goozen, S., Goodyer, I., Calder, A. (2011). "Brain Structure Abnormalities in Early-Onset and Adolescent-Onset Conduct Disorder" *American Journal of Psychiatry*, 168 (6); 624-633. doi: 10.1176/appi.ajp.2010.10081184; Fallon J. Neuroanatomical background to understanding the brain of the young psychopath. *Ohio State Journal of Criminal Law*. Vol 3. 341-367

⁵³ Blair R (2006). Genes, Brain and Cognition: A Roadmap for the Cognitive Scientist. The emergence of psychopathy: Implications for the neuropsychological approach to developmental disorders. *Cognition*, Volume 101, Issue 2, September 2006, Pages 414-442; Blair R (2007). The amygdala and ventromedial prefrontal cortex in morality and psychopathy. *Trends in Cognitive Sciences*. Volume 11, Issue 9, September 2007, Pages 387-392

⁵⁴ Cunneen, C. (2017). Arguments for Raising the Minimum Age of Criminal Responsibility, Research Report, Comparative Youth Penalty Project, University of New South Wales, Sydney

11-year-olds committing murders are very rare – for data captured up to 2020, there was no known example of charges being laid in the last 40 years)⁵⁵. Of this small group of tamariki/children who offend aged 10-14, the majority are already involved with care and protection services, such that raising the minimum age of criminal responsibility should not meaningfully increase the numbers of people being referred to care and protection services. What it does do is focus the attention on those tamariki/children for whom current care and protection and health arrangements are failing.

The Future

We can intuitively expect there to be an increased requirement for health and welfare services to intervene with tamariki/young people at risk of offending if the minimum age of criminal responsibility is raised. Many of these tamariki/children are already known to and actively engaged with Oranga Tamariki (child welfare) services, health services and supportive Non-Government Organisations, but the raising of the age does call for increased multi-agency working and transparency across teams, and needs to be inclusive of education and the individual's whānau/aiga/family, as well as utilising cultural supports and local networks to assist the tamariki/children. In terms of the numbers, this increase is likely to be very small for each region as serious crimes committed by under-14s are fortunately, as we have shown, very rare.

Summary

Children at risk of offending behaviour are some of the most vulnerable and disadvantaged children in our society. Not only do they face significant inequality in relation to their childhood adversities, but their stage of brain development combined with the challenges faced by some tamariki/children starting even before they are born argues for a tailored supportive approach. These sequential and interacting periods of trauma to their developing brains have widespread physical and mental health, welfare, education and vocational impacts. It is in the interests of society to see our tamariki/children living safe and supported lives in settings which assist healthy brain development, quite aside from the importance to the individual and their whānau/aiga/family. The ways in which these children are subsequently treated by society is arguably one of our biggest public health issues today. Raising the minimum age of criminal responsibility in Aotearoa New Zealand to 14 represents a significant step in the right direction to address this.

Position

The authors of this thematic report firmly believe that, at 10 years old, the minimum age of criminal responsibility in Aotearoa New Zealand is incompatible with the current scientific and medical understanding of the developing brain. We strongly endorse the proposed Minimum Age of Criminal Responsibility change to 14 years of age, commensurate with the

⁵⁵ Children with Offending Behaviour – Office of the Children's Commissioner – August 2020

science, the international average, the UN position and the moral and economic arguments for raising the Minimum Age of Criminal Responsibility.

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