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whakamana i te tamaiti

risk and protective factors in child development

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There is ever-increasing research regarding the potentially lasting impact of a child's early experiences. While evidence-based knowledge is an excellent thing, single studies, or even bodies of research on a particular topic, can ever only tell part of the complex story of infant and child development.[1] With apologies to Alexander Pope, a little research can be a dangerous thing, especially when it is taken out of context.

The biopsychosocial ecological model

The 'biopsychosocial ecological model' attempts to look in a comprehensive way at the many factors impacting on children's development. The child themselves, their parents, whānau, and wider social, political, and cultural contexts, all operate in a reciprocal way.[2] For example, while parents' interactions affect their child's development, the child's behavioural development, associated with their brain growth, also affects the developing relationship.[3]

Understanding development requires an awareness of the many influences.[4] This approach also combines knowledge from previously unrelated disciplines including education, developmental psychology, and neuroscience. This enhances our understanding of development to a greater extent than relying on one discipline alone.[5]

Risk factors

Risk factors are conditions that come before, and increase the likelihood of, poor outcomes.[6] Examples of poor outcomes include - behaviour difficulties, poor physical or mental health, low educational achievement, criminal offending, or substance abuse.

1. Sameroff, Gutman, & Peck, 2003
2. Sameroff, 2010; Witherspoon et al., 2020
3. Parsons et al., 2010
4. Sameroff, 2009 cited by Gach et al., 2018
5. Dalli et al., 2011; Shonkoff, 2010; Teeter, 2009
6. Rutter, 2006; Sameroff, 2000

Protective factors are those conditions that lead to a higher likelihood of positive outcomes – the things we typically want for our tamariki and rangatahi.

This involves a subtle but important shift in thinking. Risk factors increase the probability of a particular outcome, rather than causing it in a deterministic way. We already know this in some areas; for example, whilst smoking is a risk factor for lung cancer, not everyone who smokes develops lung cancer.

There are many identified risk factors; interestingly, these are studied much more frequently than protective factors. Examples include poverty, parental depression, toxic parental stress, family conflict or violence, emotional neglect, and alcohol and other drug use in pregnancy.

The population perspective

Research looks at risk from a 'population' rather than an 'individual' perspective and can indicate that being exposed to a particular risk factor increases the likelihood of poor outcomes. In other words, individuals vary greatly in their responses to factors, but there are trends within a large number of people that indicate higher 'risk' of poor outcomes or greater 'likelihood' of positive outcomes.

An individual perspective might go something like this: "My family didn't have much money when I was growing up and I turned out well." Which is the case for some people. However, from the population perspective, research clearly indicates that across a large group of people, those growing up in poverty are more likely to experience a range of difficulties than those who grew up with sufficient resources to meet their needs.[7] It won't be the case for all, but it is more likely.

This does not mean that one factor will lead to the same outcome for every child. Children whose early life was spent in orphanages, typically considered to be a significant risk factor, are an example of this. Whilst some of these children experience ongoing difficulties, others function normally, and some excel.[9]

Protective factors

Protective factors are at the positive end of the risk 'spectrum', so whereas poor family interactions increase risk, a family environment rich in positive interactions is protective.[10]

An important protective factor, supported by research across many disciplines, is that of a secure attachment between tamaiti and parent.[11] This attachment becomes even more important when there are risk factors present.[12]

Breastfeeding is also a protective factor which has been associated with improved child cognitive development.[13] To further illustrate the interactions between risk and protective factors, breastfeeding is associated with: more positive interactions between mothers who are depressed and their babies; and, reduced risk of asthma for children whose mothers smoked during pregnancy.[15]

Just as exposure to one risk factor does not automatically lead to negative outcomes, the presence of a particular protective factor does not guarantee positive outcomes either.

Risk and protective factors exist on many levels including the child, parent, family, and wider community influences.[16] Parental behaviour influences the occurrence of some of these (e.g. alcohol in pregnancy, breastfeeding, loving interaction, family conflict), but not all (e.g. genetic predisposition, serious family illness or death, natural disasters). Parental behaviour greatly influences how a child experiences events in terms of the support they provide their child, with wider social and political factors influencing parent's ability to do this.

Research looks at risk from a 'population' rather than an 'individual' perspective

The role of genes

A few words about genes might be useful at this point. Genes contain a set of possibilities, but how they are expressed can be influenced by the experiences a child has,[17] which helps the child adapt to their particular environment.[18] A child's genetic makeup may add risk or protective qualities. Intelligence, for example, is seen as protective.[19] Where they do increase risk, genes do not usually directly cause certain outcomes, such as behavioural difficulties, but they can make those outcomes more likely.[20] Some tamariki appear more sensitive to the effects of their experiences than others.[21] This partially explains why not all tamariki facing a similar risk have poorer outcomes.

Cumulative effects

Another important part of understanding individual difference in outcomes relates to the cumulative effect of risk.[22]

Tamariki who experience many risk factors are more likely to have difficulties later, than tamariki exposed to

7. Kim et al., 2018
8. Cicchetti, 2016
9. O'Connor, 2006
10. Sameroff, 2000
11. National Scientific Council on the Developing Child, 2014
12. Belsky & Fearon, 2002
13. Kramer et al., 2008; Quinn et al., 2001
14. Jones et al., 2004
15. Karmaus et al., 2008
16. Sameroff, 2010
17. Sameroff, 2009
18. Rutter, 2011
19. Owens & Shaw, 2003
20. Rutter, 2006
21. Belsky, 2016
22. Sameroff, 2000

only one risk.[23] For example, maternal depression is a risk factor.[24] However, if that is the only risk facing a tamaiti, positive outcomes are still likely. When other risks are also present, such as poverty or lack of social support, negative outcomes are much more likely.[25]
As the number of risks increases, the strength of each individual risk factor tends to increase.[26]

Protective factors also operate cumulatively, with tamariki who experience many protective factors having significantly better adolescent outcomes.[27]

Conclusion

The balance between the number of risk and protective factors tamariki experience increases the likelihood of a good or a poor outcome.[28] Genes play a part, but experience influences the way in which they are expressed. High numbers of risk factors, with few protective factors, lead to a greater likelihood of adverse outcomes.[29] Conversely, the more protective factors there are during children's early years, and the fewer risk factors, the more likely it is that tamariki grow up into the wonderful adults they are meant to be.

Glossary of Māori terms

Tamariki – children
Tamaiti - child
Whānau - extended family

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Our own set of scales: Risk and protective factors
https://brainwave.org.nz/article/our-own-set-of-scales-risk-and-protective-factors/

Why should we care? The neglect and abuse of children in New Zealand:
www.brainwave.org.nz/article/why-should-we-care-the-abuse-and-neglect-of-children-in-new-zealand/

A squishy wonder; brain structure & function:
https://brainwave.org.nz/article/a-squishy-wonder-brain-structure-and-function/

23. Gach et al., 2018
24. Lanza et al., 2010; Owens & Shaw, 2003
25. Sameroff, 2000
26. Kraemer et al., 1997; Rutter, 2006
27. Sameroff, 2010
28. Cicchetti & Valentino, 2006, cited by Egeland, 2009
29. Rutter, 2011

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