

Institution: University of Reading		
Unit of Assessment: 4 (Psychology, Psychiatry and Neuroscience)		
Title of case study: Promoting child cognitive and socio-emotional development in conditions of adversity.		
Period when the underpinning research was undertaken: Between January 2000 and July 2019		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Peter Cooper Lynne Murray	Professor Professor	Between October 1993 and April 2019 Between May 1998 and July 2019
Period when the claimed impact occurred: Between October 2014 and December 2020		
Is this case study continued from a case study submitted in 2014? No		
1. Summary of the impact		
<p>Research conducted by University of Reading academics has provided some of the first evidence from a low- and middle-income country (LMIC) setting of the considerable benefit that simple, early interventions such as supporting mothers postpartum or dialogic book sharing (DBS) can have on parenting and child development. Randomised controlled trials conducted by Professors Peter Cooper and Lynne Murray with deprived communities in South Africa are cited in key policy documents by the World Health Organisation (WHO) as evidence that improved caregiver-child interactions strongly benefit early childhood development (ECD) and can have long-lasting effects. Two age-specific interventions developed by Cooper and Murray have been adopted by the WHO into their Parenting for Lifelong Health initiative. Furthermore, the Mikhulu Trust (a UK charity Cooper and Murray established in 2014) and an affiliated organisation in South Africa have together provided training in parent-directed DBS to more than 30 organisations globally that support families in poor communities. They have also supported 11 international academic groups to trial or adapt their DBS programmes for specific local or developmental contexts.</p>		
2. Underpinning research		
<p>More than 200 million pre-school children in LMICs do not reach their developmental, educational, and economic potential, in part due to unstimulating home environments. Research conducted in a peri-urban settlement in South Africa by Cooper and Murray demonstrated that early parenting difficulties were associated with longer term insecurity in the mother-infant relationship [1]. A large international body of evidence has highlighted that such insecure attachment is associated with poor peer relationships and compromised socio-emotional adjustment throughout childhood as well as being strongly associated with adult mental health problems and poor lifestyle practices (e.g. smoking, drug use, and risky sexual behaviour). As a result, there is global interest in the development, evaluation, and delivery of early parenting interventions that aim to interrupt cycles of disadvantage. However, the interventions investigated to date that have been shown to be beneficial tend to be long term and expensive. Research conducted by Cooper and Murray has provided one of the earliest demonstrations of a simple and effective intervention that is readily deliverable in an LMIC context [2]. In a randomised control trial (RCT), the outcome of a home-based preventive intervention – supporting mothers from birth to five months postpartum – demonstrated a significant improvement in sensitive parenting of the same magnitude as that reported by studies of supportive interventions conducted in higher income countries. Furthermore, the effect on sensitivity was observed at 18 months postpartum, suggesting that early interventions have the potential to make an important contribution to reducing the rate of subsequent childhood disturbance.</p> <p>Demonstrating the efficacy of dialogic book sharing (DBS) in a deprived community: Research conducted in high income countries – mainly the USA – has shown that parent-directed DBS reliably improves child language development [3]. Cooper and Murray developed and tested a suite of parent-directed DBS interventions in a deprived community in South</p>		

Africa, providing some of the earliest evidence on the value of DBS in an LMIC setting [4].

There are three age-specific interventions within their programme – for carers of 12- to 20-month-old children, carers of 20- to 30-month-olds, and carers of 30- to 60-month-olds. Cooper and Murray have developed comprehensive training materials to support their age-specific DBS training manuals, including PowerPoints and demonstration videos. These are currently available in eight languages (English, isiXhosa, Sesotho, Afrikaans, Italian, Portuguese, French, and Spanish). In collaboration with the Mikhulu Trust SA, Cooper and Murray have also adapted parent-directed DBS for use with caregivers working in crèches and ECD Centres. They have established a definitive DBS-ECD programme, comprising four brief instructional films (available in English, isiXhosa, Sesotho and Afrikaans) in addition to instructional PowerPoints and videos. This programme is being piloted in ECD Centres in Lesotho, Namibia, and South Africa, with promising findings obtained from a completed study in Lesotho (unpublished).

Three RCTs, conducted in poor communities in South Africa, examined the efficacy of DBS with families of children aged 14 to 28 months of age [4,5,6]. Cooper and Murray have shown that **mothers who received an eight-week DBS intervention became significantly more sensitive to their infants during book sharing** and also during play. The researchers observed greater reciprocity between the mother and child compared to a group of children and parents who had no intervention. There were also medium- and large-sized benefits to the development of children's language and focal attention [4,5,6]. There was also preliminary evidence that children benefited from improved social understanding following the intervention. Notably, mediational analyses demonstrated that these benefits stemmed from enhanced sensitivity and reciprocity in the mothers [6]. These benefits to parenting, the mother-child relationship, and child developmental progress, were observed to be sustained at a six-month follow up. The outcomes were independent from socio-demographic factors, such as parental education and economic status. Of particular significance, **baseline child cognitive performance was inversely related to outcome: those with the poorest base-line performance benefited most from the intervention, suggesting that DBS could be a major force towards educational equity.**

3. References to the research

The international standing of Cooper and Murray's body of research has been recognised by the award, in 2016 and 2017, respectively, of Fellowship of the British Academy. The RCTs described in this case study were registered on the International Standard Randomised Control Trial database, e.g. Khayelitsha ([ISRCTN39953901](https://doi.org/10.1111/j.1467-8624.2005.00896.x)), BEBS ([ISRCTN71109104](https://doi.org/10.1136/bmj.b974)) and EPICC ([ISRCTN28513611](https://doi.org/10.1111/cdev.13225)). Research on the mother-infant relationship was supported by the Wellcome Trust (grant numbers B574100 and 053442/Z/98/Z). The Khayelisha trial was supported by the DG Murray Trust and a Felix Foundation Scholarship. The BEBS trial was supported by a competitively awarded grant from the South African Medical Research Council through the Sexual Violence Research Initiative.

1. Tomlinson M., **Cooper P., Murray L.** (2005). 'The mother-infant relationship and infant attachment in a South African peri-urban settlement'. *Child Development*. **76**(5), 1044-54. DOI: <https://doi.org/10.1111/j.1467-8624.2005.00896.x>.
2. **Cooper, P. J.**, Tomlinson, M., Swartz, L., Landman, M., Molteno, C., Stein, A. L., McPherson, K. and **Murray, L.** (2009). 'Improving quality of mother-infant relationship and infant attachment in socioeconomically deprived community in South Africa: randomised controlled trial'. *British Medical Journal*. **338**, 7701. B974. DOI: <https://doi.org/10.1136/bmj.b974>
3. Dowdall, N., Melendez-Torres, G.J., **Murray, L.**, Gardner, F., Hartford, H., & **Cooper, P.J.** (2019). 'Shared picture book reading interventions for child language development: a systematic review and meta-analysis'. *Child Development*. **91** (2), e383-e399. DOI: <https://doi.org/10.1111/cdev.13225>
4. **Cooper, P. J., Vally, Z., Cooper, H., Radford, T., Sharples, A., Tomlinson, M. and Murray, L.** (2014). 'Promoting mother-infant book sharing and infant attention and language development in an impoverished South African population: a pilot study'. *Early Childhood Education Journal*. **42** (2), 143-152. DOI: <https://doi.org/10.1007/s10643-013-0591-8>

5. **Vally, Z., Murray, L., Tomlinson, M. and Cooper, P. J.** (2015). 'The impact of dialogic book sharing training on infant language and attention: a randomized controlled trial in a deprived South African community'. *Journal of Child Psychology and Psychiatry*, **56** (8), 865-873. DOI: <https://doi.org/10.1111/jcpp.12352>
6. **Murray, L., De Pascalis, L., Tomlinson, M., Vally, Z., Dadomo, H., MacLachlan, B., Woodward, C. and Cooper, P.** (2016). 'Randomized controlled trial of a book sharing intervention in a deprived South African community: effects on carer-infant interactions, and their relation to infant cognitive and socio-emotional outcome'. *Journal of Child Psychology and Psychiatry*. **57** (12), 1370-1379. DOI: <https://doi.org/10.1111/jcpp.12605>

4. Details of the impact

Cooper and Murray's studies have informed international policies advocating for action to improve ECD by helping to close a significant knowledge gap on the benefits and effectiveness of early parenting interventions in an LMIC setting. This was corroborated by a 2015 report from the Inter-American Development Bank on childhood wellbeing and the role of public policy, which cited Vally *et al.* [5] as 'an exception' to the paucity of research in developing countries [E1]. Indeed, book sharing is being implemented by organisations that support families in poor communities around the world as a direct result of training programmes established by Cooper and Murray.

Evidence for policy change and action to improve ECD in developing countries

In 2016, the World Health Organisation (WHO) set out how it would prioritise early childhood development as part of the report 'INSPIRE: seven strategies for ending violence in children'. One of the seven strategies, on parent and caregiver support, cited Cooper *et al.* [2] as one of only two rigorous studies performed in LMIC countries that suggested parenting interventions may be feasible and effective in improving parent-child interaction and parental knowledge in relation to child development [E2]. The INSPIRE report also highlighted the collaborative Parenting for Lifelong Health (PLH) initiative, a suite of four prototype parenting programmes endorsed by the WHO. Two of the four age-specific PLH programmes – the infant programme (for children aged up to six months) and the toddler programme (for children aged one to five years) – were developed by Cooper and Murray based on their research from the University of Reading [E3]. Furthermore, the INSPIRE report cited two University of Reading-led RCTs [2,5], as 'preliminary evidence of effectiveness of these prototype programmes' in South Africa.

The 2018 WHO publication 'Nurturing Care for Early Childhood Development: a Framework for Helping Children Survive and Thrive to Transform Health and Human Potential' provides a roadmap for action for governments and organisations who work with families, built on 'state-of-the-art evidence about how child development outcomes are influenced and how they can be improved by policies and interventions'. The framework cites six publications from Murray and Cooper, as evidence that caregiver-child interactions are highly beneficial for ECD and have long-lasting effects, as well as evidence that quality time in the first few months after birth, through sharing and reading books, promotes brain development. Book sharing is also specifically mentioned in the framework as an intervention appropriate to early education [E4].

Building global capacity to deliver DBS programmes

The Mikhulu Trust UK – a charity established by Cooper and Murray in 2014 – is recognised by the WHO as the implementation partner for both the PLH infant and toddler programmes. The Mikhulu Trust UK has provided training to seven non-government organisations in the UK, Brazil, Italy, Cameroon, Lesotho, and South Africa to implement age-specific DBS in a variety of contexts (e.g. with families whose children have neuro-developmental problems, in poor rural communities, and with refugee populations). Three of these organisations have been endorsed by the Mikhulu Trust UK to deliver DBS training on the Trust's behalf, including the programme lead of the Parents and Children Together (PACT) project, part of the charity Citizens UK. Since May 2018, PACT has run book sharing courses with local community groups in Camberwell, an area of London known to have poor ECD outcomes. By training additional facilitators working across the project, PACT now offers book sharing courses to local community groups in Tyneside and Leeds [E5].

The Mikhulu Trust UK has also supported seven other research groups around the world to instigate trials of DBS as part of their own research programmes. For example, the 2018 PIÁ Trial in Brazil (involving 369 families and led by the University of Pelotas), is examining whether

improvements in socioemotional and cognitive development due to DBS are associated with reduced later child aggression. As an adjunct to this trial, between April 2018 and February 2020 over 200 teachers in the cities of Pelotas and Lajeado have been trained to deliver DBS in classrooms or with families. Furthermore, four international research groups are adapting Cooper and Murray's DBS programmes for specific populations: families with children with language delay in the USA; families of deaf children with cochlear implants in the UK and Netherlands; families with children with learning delay, including those with cleft palate due to chromosome deletion, in the USA; and families who have adopted young children in Italy [E5].

Since the Mikhulu Trust UK was established, by far the biggest demand has been for training in the DBS programme. **In October 2017, in response to this growing demand, an independent public benefit organisation was registered in South Africa to implement DBS with parents and primary caregivers of children aged one to six.** The Mikhulu Trust South Africa (SA) is managed by seven executive staff members, with Cooper and Murray acting as external consultants. Between October 2017 and December 2020, the Mikhulu Trust SA has trained staff from 22 non-government organisations that work with families to deliver DBS in South Africa. Fourteen of these organisations are actively implementing DBS in 19 communities across the country, from Cape Town in the Western Cape to Durban on the East coast, supporting families in villages, townships, and city suburbs [E6]. For example, Save the Children SA has included book sharing as one of four priorities within its positive parenting programme. Following training of its staff by the Mikhulu Trust SA, the charity is now implementing the programme with vulnerable communities, as confirmed on its website: *"In order to promote and maintain early life stage brain development, through our book sharing project, we focus on providing early learning opportunities for communities in need, like Setswetla, a temporary informal settlement in Alexandra, where approximately 2,000 children and their families benefit from the services of the Hlayisanani ECD Centre"* [E7].

Developing tailored DBS resources

In 2016, driven by a shortage of locally relevant picture books in South Africa, Cooper and Murray wrote the storylines for two books, 'Little Helpers' and 'All's well that ends well', and commissioned an established South African children's book illustrator, Lyn Gilbert, to produce the artwork. In 2018, with support from the Mila Foundation, the Mikhulu Trust SA recruited four local interns to be mentored by Gilbert to produce a further six books. These were launched at an event in November 2018 with celebrated UK illustrator Korky Paul (of the 'Winnie the Witch' series). Following a successful crowd-funding initiative, they printed 15,000 books. As a result, the Mikhulu Trust SA now provides two free books to every parent and ECD teacher in South Africa who graduates from one of its DBS training programmes [page 14, E8]. Furthermore, between April and May 2020, the Mikhulu Trust SA made four of these books available online as part of its #LockDownBookShare campaign, which reached approximately 80,000 people [E9].

Supporting ECD policy implementation across Western Cape province

Since 2017, the Mikhulu Trust SA has been working with the 'First 1,000 Days' Division of the Western Cape Department of Health (WCDoH) to expand the services that the Department provides to caregivers of children under three years old, beyond advice and support on nutrition and physical health. Between January 2019 and November 2020, 55 community health workers (CHWs) have been trained by the Mikhulu Trust SA to deliver key messages from the DBS programme on relationship building and how to use the picture books. In total, 90 CHWs who support families across three districts in the Western Cape (Saldanha Bay, Drakenstein and Eden Karoo, total estimated population 920,000 according to 2011 census data) will be trained by the Trust over the next two years as part of a contract with WCDoH. In addition, the WCDoH has printed 50,000 copies of one of the Trust's picture books to give to families to take home and keep. Additionally, the Mikhulu Trust SA and WCDoH have expanded their partnership to fully integrate support for DBS in the community, by connecting every local clinic to a local library [page 8, E8]. Once a mother has been introduced to the basic principles of book sharing at the clinic, they are signposted to the library, where key messages are reinforced. Following 'introduction to book-sharing' training by Mikhulu Trust SA, all 100 libraries across the city of Cape Town included DBS as part of their summer programmes in 2019. In June 2020, 10 of the city's librarians took part in full book-sharing training, which was provided online by the Trust due to COVID-19. The training enabled those enrolled to think about the wider influence of their role. As one recalled: "As

librarians we always read books with the children and do story telling – that was nothing new. But I've never really looked at my part as a trainer for parents before. The connection between the parent and child is what we need to strive for as librarians: not just reading to the child but preparing the parent for how they can do it when they get home" [E10].

Measuring the value of DBS to caregivers

The Mikhulu Trust SA monitors and evaluates the impact of the training they offer, and the response from trainee facilitators has been universally excellent. Recently they have also made direct assessment of subsamples of children whose parent has received book sharing coaching from recently trained facilitators. The findings have been highly positive. Thus, with one recent training course 19 parent child dyads were observed book sharing before and after receiving instruction; and a marked increase was apparent in both the number of words spoken by the child and the number of conversational turns. However, these hard measurements do not reflect the holistic value of DBS observed by families: *"While book-sharing has incredible proven impacts on child development, parents are drawn to the tangible benefits they feel when they start feeling closer to their children and start learning about their children through book sharing,"* CEO of the Mikhulu Trust SA [E6]. Examples of typical feedback from parents are provided below.

Parent based in Western Cape: *"When my daughter was little, she would ask me to assist her with her reading homework. Most of the time her reading would be in Afrikaans and I cannot read in Afrikaans, so I would avoid her. After being trained in the book sharing programme, now with my younger son, I understand that he and I have the freedom to create our own story, in our own words. I am able to learn more about my son and he is able to know me better as his mother."* [E6]

Parent based in Lesotho: *"I used to have the most stubborn child. I would tell him what to do, and it would be like he never even heard me. I would shout at him – nothing. I would threaten to hit him – nothing. I would hit him – still nothing. But now [since we have been doing book sharing], when I want him to do something, we sit down and talk about it, and then he does it. Now, I realise that I have been the stubborn one."* [E6]

Summary: Evidence from Cooper and Murray's studies – showing that simple, cost effective interventions to support parent-child interactions can improve ECD outcomes – has informed policy development by the WHO as well as influencing international, national and local organisations who are responsible for ECD policy implementation. Through the charity they established, and affiliated organisations, their dialogic book sharing programmes have been used to train NGOs across the world and in a variety of contexts, building global capacity to improve the lives of deprived children and their families and steer them on a course towards happier, more successful lives.

5. Sources to corroborate the impact

- [E1] [The early years: child well-being and the role of public policy](#), a report by the Inter-American Development Bank (2015)
- [E2] [INSPIRE: seven strategies for ending violence against children](#), WHO 2016
- [E3] [Parenting for Lifelong Health website](#), December 2020
- [E4] [Nurturing Care for Early Childhood Development: a Framework for Helping Children Survive and Thrive to Transform Health and Human Potential](#), WHO 2018.
- [E5] List of organisations supported by the Mikhulu Trust UK since 2014, incorporating testimonials from users
- [E6] Testimonial from the CEO of Mikhulu Trust SA
- [E7] Website detailing [Save the Children's book sharing project in South Africa](#)
- [E8] [Mikhulu Trust SA 2019 Annual Report](#)
- [E9] #Lockdownbookshare impact report, Mikhulu Trust SA 2020
- [E10] Mikhulu Trust SA web page describing the [launch of online DBS training](#), October 2020