

<b>Institution: Institute of Education</b>
<b>Unit of Assessment: 25</b>
<b>Title of case study: Infant crying and sleep research: soothing babies and helping parents</b>
<b>1. Summary of the impact</b> (indicative maximum 100 words)

Parents, healthcare professionals and policy makers across the globe have benefited from Professor Ian St James-Roberts's research and writing on understanding infant sleep and crying. His findings over 20 years underpin government and third-sector guidance for health staff in the UK, US, Canada and Australia. His research has also informed – and eased the minds of – countless parents in these and many other countries. It features in the practical advice provided by the National Childbirth Trust (NCT), the UK's biggest parenting charity, and is cited on many other authoritative websites for parents around the world.

<b>2. Underpinning research</b> (indicative maximum 500 words)
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**Context:** For many years parents, particularly in the West, have been offered conflicting advice on how to respond to very young babies who cry excessively or have problematical sleep patterns. Many parents have consequently not known whether to try to stick to a predetermined sleeping and eating schedule or react to their child's every demand. Nevertheless, until Professor St-James Roberts of the IOE conducted his breakthrough study (see reference **R1**), researchers had struggled to identify a methodology that would provide the reliable answers that parents craved.

**Research methods:** The 2006 study led by St James-Roberts compared the crying and sleeping of three groups of infants whose parents had elected to adopt different forms of care. The researchers focused on mothers in:

- 1) London (who indicated that they were most likely to follow a schedule)
- 2) Copenhagen (who were expecting to be more responsive to their babies) and
- 3) a 'proximal' group drawn from both countries who planned to hold their infants for much of the time that they were awake and respond rapidly if they cried.

Mothers in the first two groups were recruited via maternity wards within three days of their babies' birth while those in the third group were identified through natural parenting networks. All the mothers (275 in total) were asked to keep a diary of their infants' crying and night waking as well as their own responses at 8-14 days, 5-6 weeks and 10-14 weeks of age. They also completed questionnaires on their babies' feeding and sleeping patterns. Researchers made home visits and carried out observations.

**Key findings:** The study revealed that the 'proximal' parents held their infants for 15 to 16 hours a day and were more likely than the other two groups to sleep with them. They also fed their babies more often. London parents had 50 per cent less physical contact with their infants and stopped breastfeeding earlier than the other groups. They also left their crying babies for longer. Copenhagen parents fell between the other groups in terms of the amount of contact they had with their infants. The study also found that:

- comforting babies may work better than leaving them to cry – at least during the first few weeks of life. The London infants cried 50 per cent more than babies who received more attention at two and five weeks of age.
- colicky crying (unexplained bouts of crying that affect between one in five and one in seven healthy children) at 5 weeks are unaffected by parental care.
- As the infants got older, switching from comforting on demand to care that emphasised routines was beneficial: it helped to reduce crying out in the night, probably because it helped infants to learn to remain settled at night. (This finding is supported by controlled trials by St James-Roberts and others (**R3**).

St James-Roberts and his colleagues concluded that different parenting styles are associated with different sets of advantages and disadvantages. Overall, it was the Copenhagen parents who followed a middle path – neither remaining 'hands off' nor responding to every demand – and their infants who fared best.

## Impact case study (REF3b)

**Researchers:** The work of St James-Roberts and his colleagues sits within a highly-respected body of health education and family research at the IOE's Thomas Coram Research Unit (TCRU). This includes influential work on sex education, family breakdown, parenting, childhood wellbeing and children from care backgrounds.

The study described here was conducted by Professor St. James-Roberts (PI), Emese Csipke, Tanya Abramsky and Jennifer Goodwin (all TCRU) and Marissa Alvarez and Esterh Sorgenfrei (both University of Copenhagen).

**Related research:** More recently, St James-Roberts and his IOE colleague Emma Peachey have sought to distinguish prolonged crying behaviour from sleep-waking problems. They demonstrated that most colicky infants at 5-6 weeks were no more likely than other children to be unsettled in the night by 12 weeks (**R2**). St James-Roberts has also helped to dispel the myth that colicky crying in early infancy is attributable to gastro-intestinal disturbance. He has summarised evidence that such disturbances affect only about 1 in 100 infants. Many infants who are taken to see doctors are simply at the extreme of the normal range of crying behaviour. At the same time, St James-Roberts has acknowledged that many parents are left seriously distressed by their babies' crying (**R3**). In extreme cases, this has been known to trigger 'shaken baby syndrome', resulting in brain damage or death. He and his fellow researchers have also highlighted the hidden financial costs of infant crying and sleep problems. A 2001 study he co-authored estimated that the professional time devoted to discussing such issues with parents of infants was costing the NHS about £65 million per year (**R4**).

### 3. References to the research (indicative maximum of six references)

- R1: St James-Roberts, I., Alvarez, M., Csipke, E., Abramsky, T., Goodwin, J., & Sorgenfrei, E. (2006) Infant crying and sleeping in London, Copenhagen and when parents adopt a 'proximal' form of care, *Pediatrics* 117(6), e1146-e1155.
- R2: St James-Roberts, I. & Peachey E. (2011) Distinguishing infant prolonged crying from sleep-waking problems, *Archives of Disease in Childhood (BMJ group)*, 96, 340-344.
- R3: St James-Roberts, I., Sleep, J., Morris, S., Owen, C. & Gillham, P. (2001) Use of a behavioural programme in the first 3 months to prevent infant crying and sleeping problems, *Journal of Paediatrics and Child Health*, 37, 289-97.
- R4: Morris, S., St James-Roberts, I., Sleep, J. & Gillham, P. (2001) Economic evaluation of strategies for managing crying and sleeping problems, *Archives of Diseases of Childhood*, 84, 15-9.
- R5: St James-Roberts, I. (2012) *The origins, prevention and treatment of infant crying and sleeping problems: an evidence-based guide for healthcare professionals and the families they support*, London: Routledge.
- R6: St James-Roberts, I. (2007) Infant crying and sleeping: helping parents to prevent and manage problems, *Sleep Medicine Clinics*, 2, 363-375.

#### Indicators of quality:

IQ1: St James-Roberts's British Psychological Society fellowship citation says one of his assessors "was led to comment that 'no psychologist could tackle the issue of infant crying without drawing heavily on Dr St James-Roberts' work' ". (See Impact source **S1**)

IQ2: The Crying Patterns questionnaire, which St James-Roberts developed, has been used by researchers around the world.

**Indicative funding:** St James-Roberts was the grantholder for each of these studies (**G1**) and Co-Applicant for **G2**.

G1: Wellcome Trust: £187,000 to assess the aetiology and outcome of persistent infant crying (1993-5); £118,000 to assess whether the crying of infants with colic is distinct (1998-2001); £204,000 for a comparative, cross-cultural study of infant crying and sleep (2002-5); £314,000 to assess the role of infant learning in the development of 'sleeping through the night' (2009-12).

G2: NHS Executive grant of £176,000 for a randomised controlled trial of the effects of a parental intervention package on infant crying and sleeping (1996-8).

<b>4. Details of the impact</b> (indicative maximum 750 words)
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**Reach and significance:** Research by St James-Roberts, conducted over several decades, has helped to achieve a paradigm shift in the understanding and treatment of infant colic, crying and sleep problems. It has informed millions of parents and has paved the way for the development of interventions to help families and substantially reduce governments' health costs. It is also contributing to the work of others designed to prevent shaken baby syndrome.

**Principal beneficiaries and dates:** Parents around the world who visit authoritative websites, clinics or healthcare professionals to seek information on infant crying or sleeping. Healthcare and medical professionals have benefited too as they now have more reliable evidence to offer parents. The impact began before 2008 and continues to accumulate as more and more guides for parents and guidelines for professionals cite St James-Roberts's research.

**Impact on policy and practice:** Colicky crying: His work has added to evidence that different parenting approaches have little effect on colicky crying, which is common in early infancy. This has provided reassurance that parents are not to blame for this type of infant crying. In the UK, this evidence has resulted in a move towards health services that focus on providing parents with information and practical support in managing infant crying. For example the wording of the National Institute for Health Research's 2012 call for research to underpin an intervention package for parents of infants who cry excessively shows the influence of this research, by focusing directly on supporting parents rather than trying to treat an infant presumed to be unwell (**S2**). In 2012, St James-Roberts was also invited by the Rome Foundation, a charity concerned with Functional Gastrointestinal (GI) Disorders, to join the expert panel that is developing international guidelines for clinicians diagnosing paediatric GI disorders.

Shaken baby syndrome: Findings from his research form part of the body of work that is helping to combat this syndrome. The Period Of Purple Crying website, sponsored by the US National Center on Shaken Baby Syndrome, includes three Infant Sleep pages by St James-Roberts (**S3**), which have had more than 60,000 views since publication in October 2009. One parent emailed: "You have no idea how difficult it is to find an un-biased summary of ways to deal with night waking ... It is very easy to find information on how to execute the methods, but next to impossible to find a backgrounder that simply describes the problem so that as a parent you can assess the behaviour before deciding how to deal with it" (**S11**). A paper St James-Roberts published in *Child Abuse Review* (**S4**) also appears in the section on parent education and child abuse prevention in the library of the US National Criminal Justice Reference Service. The reach of his research is enhanced by the citation of his work in *A Journalist's Guide to Shaken Baby Syndrome* (**S5**). This guide is published by the US Department of Health and Human Services Centres for Disease Control and Prevention. The guide says: "The key here is that crying is *normal* and is not the problem. The problem is how caregivers respond to a baby's cry."

**Professional and public engagement:** St James-Roberts works closely with organisations that educate new parents about infant sleep and crying issues – and the professionals who advise them. For example, his 2012 guide for professionals and families (**R5**) is helping to underpin an Institute of Health Visiting sleep campaign designed to update practitioners (**S6**); it is recommended in the Institute's practitioner training sessions, including those run jointly with NetMums.

NCT adviser: St James-Roberts has been a member of the NCT's Research Advisory Panel since 2010. Mary Newburn, NCT head of research (**S7**), says: "Ian understands our commitment to being both parent-centred and evidence-based. We are using two questions on persistent crying from his earlier research in our longitudinal study of parents, as this is an aspect of parenting that causes considerable stress and concern. We ... feel it is invaluable to have his support, based on his detailed empirical comparative research". St James-Roberts is cited in the NCT's information for health workers (**S8**) and its web articles for parents and professionals.

Trusted websites: His findings also substantiate advice on the most widely-trusted national and international websites, including those of NHS Direct and Unicef (**S9**). Leading commercial organisations such as Mothercare also cite his research.

**Impact case study (REF3b)**

*International reach:* Articles both by St James-Roberts and about his work are included in the *Encyclopedia on Early Childhood Development* (S10). Produced by Montreal University, the *Encyclopedia* has been translated into French, Spanish and Portuguese and is presented in three levels of language for different needs. His work is also cited by many parents' organisations and health websites in countries including the US, Australia, Canada and Singapore, as well as the UK. He is, for example, an 'expert panellist' on websites for new parents such as babycentre.co.uk. His advice for parents has been translated into many languages, including French, Spanish, Romanian, Croatian and Turkish.

**5. Sources to corroborate the impact<sup>1</sup>** (indicative maximum of 10 references)

- S1: BPS Fellowship citation (2002)  
[http://www.thepsychologist.org.uk/archive/archive\\_home.cfm/volumeID\\_15-editionID\\_83-ArticleID\\_449-getfile\\_getPDF/thepsychologist%5C0802soci.cfm.pdf](http://www.thepsychologist.org.uk/archive/archive_home.cfm/volumeID_15-editionID_83-ArticleID_449-getfile_getPDF/thepsychologist%5C0802soci.cfm.pdf)
- S2: NIHR Health Technology Assessment programme specification  
[http://www.hta.ac.uk/funding/standardcalls/12\\_150.pdf](http://www.hta.ac.uk/funding/standardcalls/12_150.pdf)
- S3: <http://www.purplecrying.info/sleeping.php>
- S4: <https://www.ncjrs.gov/App/publications/Abstract.aspx?id=239430> : National Criminal Justice Reference Service, US Dept. of Justice. Part of NCJRS library collection.
- S5: [http://www.cdc.gov/Concussion/pdf/SBS\\_Media\\_Guide\\_508\\_optimized-a.pdf](http://www.cdc.gov/Concussion/pdf/SBS_Media_Guide_508_optimized-a.pdf): Journalists' Guide to Shaken Baby Syndrome: A Preventable Tragedy (CDC)
- S6: Statement from Maggie Fisher, Institute of Health Visitors and NetMums (available)
- S7: Statement from Mary Newburn, head of research and quality, NCT (available)
- S8: Semple, A. (2011) Self-regulated sleep and unsettled babies – what can we usefully tell parents', in *Perspective* (NCT journal), June 2011, pp 14-15  
[http://www.nct.org.uk/sites/default/files/related\\_documents/Semple%20Self\\_regulated%20sleep%20and%20unsettled%20babies%2014-15\\_0.pdf](http://www.nct.org.uk/sites/default/files/related_documents/Semple%20Self_regulated%20sleep%20and%20unsettled%20babies%2014-15_0.pdf)
- S9: Unicef health professional's guide for use with parents' guide:  
[http://www.unicef.org.uk/Documents/Baby\\_Friendly/Leaflets/HPs\\_Guide\\_to\\_Coping\\_At\\_Night\\_Final.pdf](http://www.unicef.org.uk/Documents/Baby_Friendly/Leaflets/HPs_Guide_to_Coping_At_Night_Final.pdf) (see p 11)
- S10: <http://www.child-encyclopedia.com/en-ca/child-crying-behaviour/according-to-experts.html>
- S11: Two emails available from a parent and a health worker (2012)

<sup>1</sup> All web links accessed 13/10/13