

<p>Institution: University of Cambridge</p>
<p>Unit of Assessment: UoA4</p>
<p>Title of case study: Assisted reproductive technologies and the family.</p>
<p>1. Summary of the impact (indicative maximum 100 words) Professor Susan Golombok's research has made a significant contribution to policy formation and legislation regarding families created by assisted reproductive technologies. Her research has directly informed the Human Fertilisation and Embryology Act (2008); the policies of the Human Fertilisation and Embryology Authority (HFEA); and recommendations of the Nuffield Council on Bioethics, in relation to assisted reproductive technologies involving the donation of eggs, sperm or embryos and surrogacy, and with respect to families with single and same-sex parents. Moreover, her research has been widely recognised as having made a fundamental contribution to public debate on the social and ethical implications of assisted reproduction for individuals, families and society.</p>
<p>2. Underpinning research (indicative maximum 500 words) Susan Golombok has been Professor of Family Research at the University of Cambridge, since January 2006. She has pioneered research on new family forms, conducting the first in-depth studies worldwide of the psychological wellbeing and family relationships of children born through donor insemination, egg donation and surrogacy.</p> <p>Since the birth of the first baby through <i>in vitro</i> fertilization [IVF] in 1978, more than 5 million children have been born through assisted reproductive technologies. When the mother's egg and father's sperm are used in IVF and the mother undergoes the pregnancy, the parents have both a genetic and gestational link to the child in the same way as parents of naturally conceived children. However, a growing number of children are being born through the donation of sperm, eggs, embryos or surrogacy. It has been argued that the creation of families by these procedures may have negative consequences for child development and parent-child relationships, resulting either from the absence of a genetic and/or gestational connection between one or both parents and the child, or from secrecy about the child's biological origins.</p> <p>A particular focus of Golombok's research has been on the consequences for parenting and child adjustment of whether or not parents have disclosed the nature of the conception to the child. In 2007 Professor Golombok received a grant from the US National Institutes for Health to investigate egg donation, donor insemination and surrogacy families in the United Kingdom. Data were obtained, when the children were aged 7 and 9 years, on parental psychological wellbeing, the quality of parent-child relationships and child adjustment using a multi-method (interviews, questionnaires and observations of parent-child interaction) and multi-informant (mothers, fathers, children and teachers) approach.^{1,2,3} Professor Golombok's research demonstrated that although the families were generally functioning well, the mothers who had kept their child's donor conception secret showed higher levels of emotional distress and less positive relationships with their child than those who had disclosed the donor conception to their child.</p> <p>In a related, ground-breaking investigation, conducted in 2007, into the experiences of 800 parents of donor-conceived children and 165 donor-conceived adolescents and adults in the US who were searching for their donor and donor siblings (i.e. genetically related half-siblings conceived using the same donor but growing up in different families), Susan Golombok revealed the large number of children being born from individual donors. Many donor offspring found more than 10 siblings, and one donor-sibling constellation numbered 55. Contrary to expectations, donor-conceived children were found to be more interested in forming a relationship with their donor siblings than with their donor.⁴</p> <p>Professor Golombok's other recent investigations in this area, conducted between 2007 and 2009, have focused on the psychological development of children born by donor insemination to lesbian couples and to single heterosexual women,⁵ and on the psychological outcomes of egg-sharing whereby a women undergoing IVF donates a portion of her eggs to another woman in return for reduced-cost treatment.⁶ Despite the controversies surrounding these non-traditional routes to parenthood, adolescents with lesbian or single heterosexual mothers were found to show high levels of psychological adjustment, and women who donated eggs through an egg sharing scheme</p>

were positive about having done so even when their own treatment did not result in a child.

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

1. Golombok, S., Readings, J., Blake, L., Casey, P., Mellish, L., Marks, A. & Jadva, V. (2011) Children conceived by gamete donation: The impact of openness about donor conception on psychological adjustment and parent-child relationships at age 7. *Journal of Family Psychology*, 25, No. 2, 230-239.
2. Golombok, S., Casey, P., Readings, J., Blake, L., Marks, A. & Jadva, V. (2011) Families created through surrogacy: Mother-child relationships and children's psychological adjustment at age 7. *Developmental Psychology*, 47, No. 6, 1579-1578.
3. Golombok, S., Blake, L., Casey, P., Roman, G., & Jadva, V. (2013) Children born through reproductive donation: A longitudinal study of child adjustment. *Journal of Child Psychology and Psychiatry*, 54, 653-660
4. Freeman, T., Jadva, V., Kramer, W. & Golombok, S. (2009) Gamete donation: Parents experiences of searching for their child's donor siblings and donor. *Human Reproduction*, 24, No. 3, 505-516.
5. Golombok, S. & Badger, S. (2010) Children raised in fatherless families from infancy: A follow-up of children of lesbian and single heterosexual mothers in early adulthood. *Human Reproduction*, 25, No. 1, 150-157.
6. Gurtin, Z., Ahuja, K., & Golombok, S. (2012) Emotional and relational aspects of egg-sharing: Egg-share donors' and recipients' feelings about each other, each other's treatment outcome, and any resulting children. *Human Reproduction*, 1690-1701.

RELEVANT GRANTS

2007-2012 US National Institutes for Health (\$1,147,500) Families created by assisted reproduction: parenting and child development (5R01HDO51621-05).

2009-14 Wellcome Trust (£350,000) Enhancement Award in Biomedical Ethics. Redefining families: Bioethics, assisted reproduction and emerging family forms (087238/08/Z).

2013 -2017 Wellcome Trust (£1,037,142) Senior Investigator Award (097857/Z/11/Z)

4. Details of the impact (indicative maximum 750 words)

In 2011, the Nuffield Council on Bioethics established a Working Party to consider 'The impact of the disclosure or non-disclosure of information about a person's genetic origins in families created through donor gametes'. Susan Golombok's expertise in this field led to her being invited to be a member of this eight person Working Party. The other members were drawn from the fields of philosophy, medicine, law, social anthropology and clinical genetics. Her research features prominently in the final report 'Donor conception: Ethical aspects of information disclosure' and contributed to the report's recommendations.^{7,8}

In 2011, Susan Golombok was also appointed as a Member of Advisory Committee for the Human Fertilisation and Embryology Authority Review of Sperm, Egg and Embryo Donation. Her research is acknowledged as having contributed to two policy decisions resulting from the review.^{9,10} (i) Her unexpected finding that large numbers of children were being born from the sperm of individual donors contributed to the decision to limit the number of families a single donor can create to 10. As stated on the HFEA website in 2011, 'The Authority was persuaded by views expressed during the consultation that, for psychological reasons, a limit should be placed on the number of possible siblings that a donor-conceived person could expect to have'; (ii) Her research on egg sharing, showing that concerns about the negative psychological consequences of egg sharing appeared to be unfounded, contributed to the decision to permit egg sharing to continue to be practiced in the UK. In 1998, the HFEA decided that egg sharing should be regulated not banned, and since that time egg sharing has been scrutinised by the HFEA on several occasions, highlighting the division

of opinion regarding this practice. The HFEA's Open Authority Meeting in October 2011 revealed growing ethical approval for egg sharing, informed in part by Susan Golombok's research.

In addition, in 2012 Susan Golombok was asked to give evidence, based on her research on children born through egg donation and surrogacy, to both the Nuffield Council on Bioethics and HFEA, on new techniques for the prevention of mitochondrial DNA disorders. This is controversial because children will be born with genetic material from 3 people.¹¹ In July 2013 the UK Government supported the introduction of mitochondrial replacement therapy which will enable women with mitochondrial disease to have healthy children. Since 2008, she has been invited to give evidence, based on her research on families created by assisted reproductive technologies, to the Government's Science and Technology Committee; the Joint Lords and Commons Committee on the Human Embryos and Tissues Bill; the Department of Children, Schools & Families; the Prime Minister's Strategy Unit; and to foreign institutions such as the United States Department of Health and the Norwegian Law Commission.

A further earlier impact of Susan Golombok's research is its contribution to the Human Fertilisation and Embryology Act (2008), including the replacement of the clause in the original 1990 Act requiring fertility clinics to take into account the child's 'need for a father' with a clause requiring clinics to consider the child's need for 'supportive parenting'.¹² Her research also influenced the decisions to allow lesbian couples to become the joint legal parents of children born through assisted reproduction at a licensed clinic and to allow gay male couples to become the legal parents of children born through a surrogacy arrangement.¹² Furthermore, her research showing that some donor-conceived individuals express a strong wish to make contact with their donor siblings contributed to the decision to enable donor-siblings aged 18 or older, and born from 1991 onwards, to be given identifying information about each other in cases where both parties consent.¹² These provisions came into force in 2010.

The findings of Professor Golombok's research have also informed the counselling of those who wish to undergo treatment with donated eggs, sperm or embryos, particularly in relation to counselling regarding the implications of disclosure versus secrecy about the child's biological origins.⁷

Professor Golombok's expertise and her acknowledged commitment has led to frequent invitations to inform the public and enrich public debate on assisted reproductive technologies. In 2012/13, she spoke at the Hay Literary Festival, the Cheltenham Science and Literature Festivals, the British Science Festival and at public engagement events organised by the Wellcome Trust. She has appeared in the media on several occasions, for example, Woman's Hour, BBC and the Guardian, Independent and Sunday Times.¹³ The report of her survey of the school experiences of children with same-sex parents¹⁴ formed the basis for training material for teachers distributed to thousands of schools,¹⁵ and her report on gay adoptive families has been distributed to adoption professionals throughout the UK.¹⁶

5. Sources to corroborate the impact (indicative maximum of 10 references)

7. Nuffield Council on Bioethics (2013). Donor conception: Ethical aspects of information sharing. www.nuffieldfoundation.org

8. Letter from Director of Nuffield Council on Bioethics

9. Code of Practice, 8th edition. (2012). Human Fertilisation and Embryology Authority. www.hfea.gov

10. Donation Review: Preparing for implementation. (2011). Human Fertilisation and Embryology Authority. www.hfea.gov

11. Nuffield Council on Bioethics (2012) Novel techniques for the prevention of mitochondrial DNA disorders: an ethical review. www.nuffieldfoundation.org

Impact case study (REF3b)

12. Human Fertilisation and Embryology Act (2008)

13. My bright idea series “Susan Golombok: Three parent families can be as good as two”, Guardian newspaper, October 2012; Woman’s Hour, October 2012; Sunday Times, February 2013; Independent, March 2013; BBC Look East, March 2013;

14. Different families: The experiences of children with lesbian and gay parents. (2010) Stonewall. www.stonewall.org.uk

15. Including different families: a resource for teachers (2010). London: Stonewall. www.stonewall.org.uk

16. Gay, lesbian and heterosexual adoptive families: Family relationships, child adjustment and adopters’ experiences. (2013). London: British Association for Adoption and Fostering.