

CONVERSION THERAPY

A briefing note on the science by Professor Michael King (UCL) and Professor Robert Song (Durham)

1. There is much dispute in the churches over the effectiveness and potential harmfulness of conversion therapies, and what science may or may not have to say about this. Some claim that there is no evidence of their harmfulness, others deny this. Some claim that the science shows that change therapies can be effective, others that they are largely ineffective.
2. When scientists talk about 'evidence' in clinical contexts, what they frequently mean is that the 'gold standard' of a randomised controlled trial (RCT) has been conducted to verify a claim. No randomised controlled trials have been conducted in relation to the effectiveness or harmfulness of conversion therapies, and *in this sense* it is certainly the case that there is no scientific evidence that change therapies are damaging.
3. However, it should be observed that it is rare for RCTs in general to show evidence of harm. This is because harm for most treatments occurs less commonly than benefit. Thus, it may take years of careful monitoring of the treatment in practice to identify harm. This might be seen with new drugs like thalidomide for example, whose harm was only detected after it was in general use. There is now considerable evidence that conversion therapies are harmful from follow-up of cohorts of (mainly) men who have undertaken them. Although these are based on personal report and are hard to justify as more scientifically credible than reports of benefit from similar follow-up studies, the rate of harm seems to far outweigh the rate of benefit (see points 8 and 10 below).
4. It is also important to note that not only have no RCTs been conducted, but that no RCT is ever likely to be conducted, for ethical reasons. Given that there are widely reported claims about the harm that some people have experienced as a result of attempted conversion therapies, it is unlikely that a reputable ethics committee would ever give ethical approval for such a trial.
5. In the absence of any RCT in the area, we have to consider what other kinds of evidential reasoning might be appropriate to take into account.
6. The most notable study claiming that some meaningful change in sexual orientation is possible was by Robert Spitzer (2003). This was based on 200 participants who had received some form of conversion therapy or counselling, often several years earlier. However, Spitzer himself subsequently retracted his paper on the grounds of the biased recruitment of participants who could not be regarded as representative of people receiving such therapy, as well as the validity of self-report and the lack of any control sample. Given the vagaries of memory and the tendency of people consciously or unconsciously to rewrite their past, he concluded that there is no reliable way of determining whether a person's subsequent account of change in orientation was valid.
7. A more robust method would be to interview people before and after receiving conversion therapy. No such study has been done. A prospective study was conducted by Stanton Jones and Mark Yarhouse (2011) but was still based on self-report. This study did find small numbers of people who had experienced change in their sexual orientation, though the change was incremental rather than dramatic. However once again the method of recruitment was flawed in that no participant was recruited *before* the therapy began and there was no control group who did not receive the therapy. Not only did the study fall far short of the standard of a randomised clinical trial but also the authors themselves say their method "fails to meet a number of ideal standards for longitudinal, prospective studies" (page 408).

8. Another major recent, peer-reviewed study has been conducted by John Dehlin (2014; cf. Bradshaw et al. 2017), surveying Mormons who had tried conversion therapy. This is by far the largest single survey yet conducted, with 1612 respondents. With regard to effectiveness, this found that 0% reported elimination of same-sex attraction, while 3% reported 'some change' in sexual attraction.
9. It should be noted that what is meant by 'change' in this study is *not* the elimination of same-sex desire, which is usually taken to be the target of conversion therapies, but more modestly the affirmation of statements such as: "I think of a same-sex relationship every day, but I don't act on it", "same-sex attraction diminished but never went away", "these thoughts do not define who I am", "helped to decrease my negative reaction to my same-gender attraction".
10. In the same study by Dehlin, 40% reported harm from sexual orientation change efforts. Harmful effects included decreased self-esteem, increased self-shame, increased depression and anxiety, a sense of having wasted time and money, increased distance from God or church, worsening of family relationships, and increased suicidality. It should be noted however, that some did report some general benefit not directly related their sexual orientation, notably around self-acceptance, decrease in depressive or anxiety symptoms, and improved family relationships.
11. Dehlin's study is also based on self-report, and does not compare people's experience before and after therapy; it therefore shares some of the weaknesses of earlier research. However, the sheer size of the sample, together with the scale and nature of the harmful effects, suggest that there are at least good prima facie reasons for thinking there is significant potential for harm from conversion therapies. At all events, it would be foolish to dismiss these results out of hand on the grounds of the imperfect nature of the self-report survey method.
12. It is deeply misleading to state that people are not 'born gay' and that their sexual desires can change. About this there is much that could be said.
 - i) While no single causal theory has widespread support, there is strong evidence for non-social (i.e. genetic/maternal-hormonal) causation based on twin studies.
 - ii) Correspondingly, the evidence for all the main social causal theories is weak: to take one amongst several observations, boys who have received gender reassignment surgery at birth and are socialized as girls typically still identify as male and are attracted to women; which is the opposite of what one would expect if socialization determined sexual orientation.
 - iii) Even if counterfactually it were the case that all causation are environmental (i.e. post-birth), it still does not follow that sexual orientation can change significantly as a result of change therapies: by way of comparison, many forms of psychiatric trauma received in childhood are highly resistant to subsequent clinical or counselling interventions.
 - iv) Certainly, sexual fluidity does occur, but this is associated with natural fluctuations in underlying sexual desire, and is not proof in itself that desire can be manipulated by talking therapies.
 - v) Current scientific understandings of neural plasticity are still very much in their infancy, and claims about the neural plasticity of sexual orientation are at present entirely speculative.
13. In conclusion, while the strongest form of scientific evidence about the effectiveness and/or harmfulness of conversion therapies is not available, there is still good reason to think that conversion therapies are often ineffective and have the potential to be harmful. Whether this amounts to justification for a ban requires the exercise of wider moral and prudential judgement, and is not strictly a matter of scientific evidence.

Professor Michael King, Division of Psychiatry, University College London
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Further resources in relation to Science and Sexuality

The single most reliable and up-to-date overview article on the science of sexual orientation is J. Michael Bailey et al., 'Sexual Orientation, Controversy, and Science', *Psychological Science in the Public Interest* 17, no. 2 (2016), 43-101 [available online at <http://journals.sagepub.com/doi/pdf/10.1177/1529100616637616>].

Slides of the presentations from a conference on Science and Theology in Human Sexuality held at Durham University on 19-20 September 2016 can be found at <http://community.dur.ac.uk/spirituality.health/?p=1977>; these include papers by Prof Jack Drescher (New York Medical College), Dr John Dehlin (with references to the papers cited above), Pamela Gawler-Wright (UKCP), Prof Michael King and Prof Chris Cook (Durham University).

Recordings of presentations from a fringe event at the February General Synod on Science and Sexuality are available at <https://scienceandsexuality.com>. These include Prof. Sir Simon Wessely (President, Royal College of Psychiatrists), Dr Qazi Rahman (Kings College, London), Dr Joanna Semlyen (University of East Anglia), and Prof Chris Cook (Durham University).

An article by Lawrence S. Mayer and Paul R. McHugh, 'Sexuality and Gender: Findings from the Biological, Psychological and Social Sciences', *The New Atlantis* 50 (Fall 2016), 4-143 has received much attention. However it was not published in a peer-reviewed journal and is regrettably *not* scientifically reliable; for one way into the controversy it has created, see Dean Hamer, 'New "Scientific" Study on Sexuality, Gender Is Neither New nor Scientific', available at

<https://www.advocate.com/commentary/2016/8/29/new-scientific-study-sexuality-gender-neither-new-nor-scientific>.

Spitzer, R. L., 'Can Some Gay Men and Lesbians Change Their Sexual Orientation? 200 Participants Reporting a Change from Homosexual to Heterosexual Orientation', *Archives of Sexual Behavior* 32 (2003), 403–417.

Jones, S. L., and M. A. Yarhouse, 'A Longitudinal Study of Attempted Religiously Mediated Sexual Orientation Change', *Journal of Sex & Marital Therapy* 37 (2011), 404-427.

Dehlin, J., et al., 'Sexual Orientation Change Efforts Among Current or Former LDS Church Members', *Journal of Counseling Psychology* 62, no. 2 (2015), 95–105.