

Ordinary ethics: lay people's deliberations on social sex selection**Sarah Banks, Jackie Leach Scully and Tom Shakespeare**Article for submission to *New Genetics and Society*

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Abstract

This article summarises the results of a research project that used a scenario about sex selection of embryos for social reasons as a basis for discussion groups with lay people. The aim of the research was to examine the processes by which non-professionals make ethical evaluations in relation to a contested area in medical genetics. We note in particular the role played in the discussions by expressions of instinct; making distinctions; rational argument; reference to principles; use of personal experience; analogies and examples; slippery slope arguments and meta-reflections. The implications for developing processes of public consultation and debate are also considered.

Key words: lay public, ethics, genetics.

The lay public and the new genetics

The wide-ranging implications of contemporary developments in genetics and reproductive medicine have led to a number of concerns about the development of public understanding of the science involved; the engagement of the lay public in discussion of the social and ethical implications of these technologies; and consultation through surveys and other exercises to gauge public attitudes. Opportunities for public consultation are increasingly being employed by government bodies, academic institutions, charities and other organisations (see, for example, Human Fertilization and Embryology Authority, 2003; Human Genetics Commission, 2001; Human Genetics Commission, 2004; Wellcome Trust, 1998). At the same time there is a developing critique of how such consultations, especially opinion surveys, are conducted and used (Davison et al, 1997; Kerr and Shakespeare, 2002, 174-7) and a recognition of the complexity of public opinions (Irwin, 2001; Irwin and Wynne, 1996; Miller, 2001). Some critics continue to argue against public consultation on the grounds that important science and technology policies should be left to experts who are best qualified to decide (Lloyd, 2000). In a recently published exchange Harris (2005a, 2005b) was highly critical of the attention paid to public opinion in the 2003 Human Fertilization and Embryology Authority (HFEA) report on prenatal sex

selection. His concern was not only with the possible ignorance of the lay public about the issues, but more fundamentally that their opinions were ‘unsupported by evidence or valid arguments [and] impossible to distinguish from prejudices’ (Harris, 2005b, 291) and should therefore not have been taken seriously by the HFEA.

Are Harris and others justified in their dismissal of the views of ‘the public’ collected during the consultation? These critiques raise questions about whether an ‘opinion’, to be taken seriously, has to be supported by factual evidence or logical argument; what counts as evidence and a valid argument; and how we construct ‘expert’ and ‘lay’ knowledge and opinions and decide what weight to give them. While several studies have concluded that there is a need to listen to and treat as valid a variety of non-professional perspectives on health and well-being (Kerr et al., 1998; Michie et al., 1995; Richards, 1996), less attention has been paid to the actual processes the lay public uses in making ethical evaluations about novel biomedical issues. This theme is the focus of the present paper.

The ordinary ethics project

The ideas presented here are drawn from a UK Wellcome Trust-funded research project exploring lay people’s ethical evaluations of the new genetics and reproductive technologies. By ‘lay people’ we mean those not professionally involved in the field as clinicians, scientists or bioethicists. By ‘ethical evaluations’ we mean the broad process of identifying, exploring and prioritising the ethical issues at stake, offering a judgement on what is regarded as right or wrong and/or what ought or ought not to be done, and giving reasons or justifications for these judgements. Ethical evaluation therefore encompasses more than ethical decision-making about what to do in a particular case or in general. An ethical evaluation may involve an actual decision, but it may also contribute to developing a stance towards an issue. It goes beyond the mere articulation of attitudes and opinions, offering *reasons* or *explanations* for holding certain views.

To investigate the process of lay ethical evaluation we held ten discussions with different groups of people during 2002-4 in the north east of England. As an issue for evaluation, we chose prenatal sex selection (PSS) using preimplantation genetic diagnosis (PGD). In the UK sex selection using PGD is allowed for ‘medical’ reasons

(to avoid having a child with a sex-related medical condition) but not for ‘social’ reasons (for example, for family balancing), although this is being questioned at the time of writing (House of Commons Committee on Science and Technology, 2005). In a number of other countries it is legal, and there are cases of British people going abroad for treatment (Boseley, 2003). At the time our research started, the HFEA (2002) was about to embark on its public consultation on sex selection. So this was a topical issue.

The participants in the groups volunteered to engage in a discussion on an unspecified topic, having been approached individually or through local organisations to which they belonged. A list of the groups is given in the Appendix. They covered a range of age, gender, class and disability perspectives. There were no groups convened from specifically religious, cultural or minority ethnic organisations or groupings. All groups received a brief introduction to PGD and sex selection. To initiate and focus the discussion we then used a scenario about a couple wishing to use PGD to select the sex of their next child. In the majority of groups, the following starting scenario was used:

Imagine a couple who have three daughters. They plan to have another child, and want to use PGD to make sure they have a son.

Using a scenario differs from simply asking: ‘Should people be allowed to select the sex of their children using PGD?’, which is how questions tend to be framed in public consultations such as that undertaken by the HFEA. Offering a scenario, however sketchy, invites participants to imagine a real case, consider what other information they would need to know about this particular case to make a judgement about it, consider other people’s reasons and motives, and so on. It leaves an opening for a less abstract discussion, and allows participants to co-construct contextual features of the scenario that they find relevant.

The discussions lasted between 50 and 90 minutes. Each was facilitated by a researcher who, after introducing the scenario and asking people to reflect individually, invited their initial reactions. The aim was to have a fairly free-ranging discussion, with the facilitator intervening occasionally to seek clarification, to

summarise or to move the discussion on by offering variants of the starting scenario. Depending on which topics the groups had already addressed of their own accord, the facilitator would ask whether it would make any difference if there were existing children of the ‘wrong’ sex in the family balancing scenario; if the parents came from another culture; if they wanted to select to avoid an inherited disability instead of a particular sex; or if they wanted to select *for* a disability. We were not asking the groups to come to a consensus, but to articulate and discuss their reasons for their initial opinions. At the end participants were asked to say whether they had changed their minds as a result of the discussion, and if so, what had caused the shift. The majority opinion in all groups was that sex selection for family balancing was not acceptable - 40 out of 48 participants (83%) reported holding this view at the end of the discussion groups.

The discussions were transcribed and then organised using the qualitative data analysis package NVivo (Bazeley and Richards, 2000; Gibbs, 2002). Although this package is often used in a grounded theory approach to data analysis (Strauss and Corbin, 1990), we undertook a more generic form of preliminary qualitative analysis, the aim of which was to uncover discursive themes and processes recurring within and across the discussion groups in order to subject them to more detailed study.

Substantive issues

A first observation is that the substantive issues raised by our participants were essentially the same as those covered in the academic bioethics literature and in public policy debates. Most groups covered the parental right to choice, the risk of gender imbalance, the potential for reinforcing gender stereotypes, whether preference for one sex is discriminatory, and the risk of psychological damage to the child. In other words, these lay discussants were collectively aware of the key issues at stake in the expert debates about sex selection (see Benagiano and Bianchi, 1999; Berkowitz and Snyder, 1998; Ford, 2002; Henn, 2000; Human Fertilization and Embryology Authority, 2002; Institute of Ideas, 2002; Pennings, 1996; Revill, 2003; Rhodes, 2001; Savulescu, 1999; Warren, 1999). The two major omissions (safety and efficacy of the technique of PGD, and debate about the moral status of the embryo) may reflect respectively the lack of technical familiarity, and the tendency noted by other researchers for lay people to focus on concrete relationships with others rather than

theory (see Rapp, 2000). The overlap with the content of professional discussion is not surprising, since everyday talk and professional discourse influence and draw on each other. Nevertheless, it provides some evidence to counter the claim that *public awareness* of the relevant issues is inadequate.

The process of ethical evaluation

We were primarily interested in the evaluative processes participants used to identify the issues at stake and to justify their opinions. From the analysis we identified several main components of these evaluative processes, which we discuss below.

Expressing an instinct or gut feeling

In all groups, the facilitator started by asking participants to share their initial reactions to the scenario. It was common for people to start the discussion by reference to their initial, instinctive feeling about it:

I kind of felt very strongly, as soon as you said what kind of scenario it was - I said 'no' straight away. It was quite a gut reaction based on a couple of things.
(Male social worker)

I said 'no' [the couple should not be allowed to choose the sex of the embryo] and can't think of any specific reasons why; it's just a gut reaction.
(Disability group)

Making distinctions

To explore why they might think PSS for social reasons was wrong, many participants tried first to distinguish it from selecting against disability. For example, a postgraduate student commented that PSS:

is more of a lifestyle choice than a medical condition that could be avoided, so it is a question of the level of seriousness.

The line between PGD and abortion was also probed. Groups debated whether PGD was morally equivalent to abortion, and if not whether that made it ethically more acceptable. Here opinions differed:

There is a big difference between having the embryo outside of you [in PGD], or already there [inside]. That is my main concern. (Soroptimist)

[PGD might be] pre-termination, yes, but it's the same principle though. (Soroptimist)

Rational/logical argument

We use 'rational argument' to mean the stepwise, logical argumentation characteristic of philosophy. In fact this kind of reasoned argument was rare, although there were some examples. The following comes from the youth group when discussing enhancement and therapy:

If you [can] help them get better, then should we help them die if they feel pain?...if you see someone is ill all the time, you should be able to help them die? (Youth group)

Occasionally, a participant would comment on logical contradictions in their own or others' arguments, or show an awareness of the different elements of reasoning. For example, in the following extract the participant was differentiating between the premise of an argument and its structure:

I suppose...there is a rationality to almost everything in many respects, isn't there? You know that even things that seem irrational there are perhaps some kind of rationality to them. I suppose it's the base on which it's built, it's the foundation I think that's irrational. (Male social worker)

Reference to ethical principles

Drawing on abstract ethical principles, derived from ethical theories, is a hallmark of professional ethical discourse. Few of our lay discussants gave *explicit* statements of

ethical principle in support of their stance for or against PSS, and when they did so tended to indicate that principles might be unworkable in real life:

Well, as a guiding principle, which doesn't always work, people I think should have as much freedom for things which they themselves are going to be truly accountable as is reasonably possible. (Soroptimists)

Sometimes it's a clear cut thing...It is wrong to tell lies or it's wrong to steal and it's right not to. That's clear cut, but life isn't as clear as that. (Disability group)

But the relative lack of explicit statements of ethical principle does not necessarily mean that ethical principles were not used, or were unimportant to lay deliberations. We discuss this in more detail in Shakespeare et al (2006), but as an example, much of the argument against parents choosing characteristics like gender was grounded in the principle that the child's future freedom of choice should be respected. Although this was only *articulated* as a principle in one or two discussions, our analysis suggests that it was foundational to many more participants' thinking. Thus principle-based thinking was used quite extensively in the deliberations, but the principles themselves were usually implicit.

Use of personal experience

By far the most frequently used resource was personal experience, generally as a source of evidence for a claim or to give a precedent for a decision. It included experience of related medical areas (like IVF), analogous experiences (like adoption), or experiences illustrative of a single relevant feature (like being the only girl in a family of boys), and could involve the person themselves, or friends or relatives. We have numerous examples from all groups. Here is a short extract from the women's community education group, where the participants drew extensively on their accounts of motherhood:

A: I wasn't bothered what I had, because it would have been love just the same anyway, so I wasn't bothered what it was, whether it was male or female.

B: I must say my first child was my daughter and when my son was born I was delighted to have one of each, so that I'd have the added experience of bringing up one of each gender, but I also felt very nervous about bringing a son up because being a female myself I thought...

C: Mothers usually are!

In one group of young people, a young man commented that he was against PSS, explaining to the facilitator:

Young man: Yes, because I'm the only boy out of 4 kids, and if you're the only one of a certain sex it puts a bit more pressure on you, compared to the rest of the family.

Facilitator: So, because in this family there's three girls and one boy, and that's like your family?

Young man: Yes.

Facilitator: So you think that'd be hard for the boy to come along?

Young man: Yes. Especially as the youngest.

Personal experience was useful not only as an *epistemological* resource, but also in *justification*, since such experience carried significant moral authority. This authority meant that other people's divergent opinions could be accepted on the dual grounds that their *experience* was different, and that until one has had an experience one cannot credibly say what one's decisions and course of action would really be. As a participant in the women's community education group commented to another woman with a disabled child:

You're arguing though from a completely different perception to us ... because you've been there, haven't you?

Analogies, parallels and examples

Where they lacked direct experience, people often used analogies and parallels. Analogies are useful for the analysis of unfamiliar ethical areas because they show how a situation with a similar ethical structure has previously been tackled – who is taken into account, what is morally salient, how priorities are arranged, and so on. This device has a philosophical background in the tradition of casuistry (see Jonsen and Toulmin, 1988). In the groups we observed, people did not search systematically for a relevant parallel (as a true casuist would): rather, the parallel emerged in the course of discussion. It was then tested out to see how well it fitted the target situation and what its ethical implications were.

The most frequent analogy used was adoption, as a situation in which people may be able choose the sex of the (adopted) child, and also where the state intervenes in family life:

There are families that make these choices now, not in terms of creating beings, but adoptive families get a choice if they want male or female, able or disabled, what age they want them to be, and stuff like that. (Male friendship group)

Next most common were references to Nazi eugenics, indicating the consequences of manipulating human characteristics:

One of the reasons we had World War Two was Hitler wanted a blue-eyed, blonde-haired superior race. (Disability group)

Some participants were sensitive to the way they used analogies:

Well, I mean I think that's probably how I think and that's about trying to relate things to things I know, particularly around things I don't know much about....I suppose [adoption is] a useful analogy to think around some of those issues because you're dealing with things that are not hugely dissimilar in terms of outcome, you know where parents or potential parents are wanting to make choices. (Male social worker)

Participants also used examples from well-known historical or current events, or relevant scientific or empirical research. Some historical examples were part of personal reminiscences, as this member of the disability group commented in the context of discussing how social mores change:

I remember when the Abortion Act came along from back streets into respectable hospitals. There was still this big debate going on, yet now it's so much a part of everyday life - younger people talk about it in so matter of fact a manner. That has evolved as well.

According to Ridley (1998, 60), 'in ethical argument there is hardly anything more important than the use of examples.' Professional ethics also often makes use of real or imaginary examples, to illustrate a principle or to visualise the consequences in a 'thought experiment'. Classically these often involve extreme case scenarios, which help to establish the limits of the permissible or impermissible. Our participants sometimes did the same, asking 'what if?' questions or postulating hypothetical extremes. In discussing the case of a woman featured on a TV programme who wanted a girl 'to take shopping and dress up in girly clothes', one of the postgraduate professional students commented:

But what if you had a girl who, not by genetics or environment or whatever, just turned out to be a complete tomboy... Would you be more disappointed because you had had a girl who wasn't a typical girl?

Slippery slope arguments

Related to these 'what if?' questions are slippery slope arguments. They follow from the thought experiment that imagines: 'If we allow this, then what next?' and concludes that there is nothing to stop the slide down the decision slope once the first decision has been made. Some version of this occurred in every group discussion. Slippery slope discussions invoked the need to 'draw a line', and sometimes scepticism that drawing lines, or stopping the slide down the slope, is possible:

I suppose there is a part of me that feels if I'm not black and white in my thinking about this and you tread into the grey areas, then where does the grey area stop. (Male social worker)

Meta-reflections

What we call meta-reflections are participants' comments on the nature of ethical discourse and ethical judgements, and on the process of ethical evaluation. We will highlight two features.

One was the place of emotion in ethical evaluation. A participant in the male friendship group commented on the limitations of discussing PSS in purely rational or technical terms:

A: It's just using the rational part of the human, all this knowledge and information is just coming out of our rational minds. The other side isn't being taken into consideration in a discussion like this at all, like, the emotional side, it's not really involved.

But equally, later in the conversation another participant in the same group (C in the extract below) was wary of the dangers of emotional manipulation. Here, B is trying to work out his reasons for feeling unsure about PSS:

B: when it's a family with three daughters who want a son, my feelings come up against the logic: 'why not'?

C: People always come up with those fairly rare examples, to some extent, in order to choke up the old emotional response

Discussions about the place of emotion led to considerations of objectivity and bias in ethical judgement. A number of participants seemed sceptical that absolute objectivity is achievable, even if it were desirable, in real life ethical decisions:

You have to look at this body of intelligent, academic people who are scientists or whatever, who have made these rules [and see] that they are still human, they are still part of the culture of that country or various cultures within that country, so it's not as objective as people think. (Postgraduate professional student)

A second significant meta-reflection was on the role of *context* in ethical judgement. Many of our participants took a situationist approach, in which the concrete details of the situation are morally relevant to the final ethical judgement. Frequently, then, the initial stages of discussion involved a kind of context assembly, guided by questions like: 'Would it be a different scenario if all the children were under 5?'; 'What country do they come from?' or 'We don't know how old they are'. It seemed that participants needed to ground the issue in reality in order to go through the process of ethical deliberation at all:

Wherever you draw the line, there is going to be those real, marginal, tiny things that make a difference. (Male friendship group)

People were most likely to say this when discussing the scenario of PSS by a couple from an unfamiliar culture (for example, Asian or Middle Eastern). A minority eventually argued for cultural relativism, claiming that a white western group cannot know what is ethically appropriate for another culture. But most other participants seemed more inclined to an epistemological, rather than ethical relativism, in which understanding the context within which a decision is made did not justify it, although it could provide mitigating factors. For example, when the older women's group discussed the killing of girl babies in India, the facilitator asked whether their response might be different if, in this culture, PSS might stop female babies being killed:

Facilitator: Would you feel more sympathetic to the situation?

E: Feel sympathetic but I wouldn't do anything about it. I'd offer counselling to a particular family and put out a bit more information in general to see if you could get it into the culture that there were other ways of dealing with this.

F: No it hasn't changed anything for me. I'd sad for them but it hasn't changed anything for me.

G: You can be sympathetic for all of it can't you, but you can't change the ground rules.

H: Yes.

Reasoning in lay and professional bioethical discourse

Much of the bioethical discussion found in literature and in policy documents displays characteristic features of Anglo-American philosophy. It uses arguments that proceed in a step by step logical fashion and are consistent, coherent and not self-contradictory; it aims at objectivity; draws on recognisable theories (such as rights, utilitarianism, deontology, virtue ethics) to organise the argument; uses devices such as examples, analogies, and statements of ethical principles or rules in the justificatory process; and generally comes to a conclusion. How do the lay participants' discussions compare?

Devices and resources

Some philosophical devices were easily recognisable in these discussions, such as the slippery slope argument, analogy, examples and (implicit) expressions of principle. This is not unexpected: as Gibbard (1990, 4) comments, philosophical arguments 'start from the materials of common thought and speech, and refine them.' But there were also some important differences. Unlike moral philosophers writing about bioethics, the discussion group participants rarely made explicit statements of principle or rule, and never, as far as we could tell, worked from a conscious commitment to an ethical theory to the conclusion generated by that commitment. Further, the primary material for their deliberations was their own experience, rather than the steps of logical argument.

Reason/rationality

Rationalist approaches to moral psychology suggest that ethical judgements are best reached through reasoning and rational reflection (Kohlberg, 1969; Turiel, 1983).

This perspective connects ‘ordinary’ ethical judgements to the thinking of professional ethicists through the capacity for rational argumentation: the more rational the judgement, the more like ‘real’ ethics it is.

Reasoning, rationality, and the relationship between the two have increasingly interested not just philosophers but also moral psychologists and cognitive scientists. Perhaps the most widely accepted definition of rationality is what Stein (1996, 4) called the Standard Picture: ‘to be rational is to reason in accordance with principles of reasoning that are based on rules of logic, probability theory and so on’. However, experimental psychology has convincingly shown that in real life, people’s reasoning and decision making systematically break the rules of rationality (for example, Tversky and Kahneman, 1986). So on these empirical grounds, we would not expect to find our participants using purely rational reasoning.

What we do find are forms of reasoning that lie outside this definition of rationality. A broader concept of reasoning includes ‘our ability to conduct inquiry, to solve problems, to evaluate, to criticize, to deliberate about how we should act, and to reach an understanding of ourselves, other people, and the world’ (Lakoff and Johnson 1999, 3-4; see also Toulmin, 2001). Using this definition we can say that participants did not use purely rational reasoning, but they *did* reason.

Coherence

Several authors have considered the process of everyday ethical inquiry and distinguished between spontaneous moral judgements and deliberative ethical theorizing (Davidson and Yoniss, 1991, 1995; Colby, 2000). Spontaneous moral judgements or intuitions are the instinctive or ‘gut’ reactions of our participants that we elicited by asking for their first reactions to the scenario. They are enabled through implicit cognitive-moral schemes of interpretation that are not conscious or rational but which have been internalized through being part of particular social contexts. The more reflective or deliberative process is less common, since it is normally only needed when the right course of action is not obvious – for example, when a novel

situation presents itself, or when a person's ethical intuition is challenged. But as Haidt (2001) notes, both moral intuition and ethical reasoning are forms of (moral) cognition.

In everyday contexts – and especially where the moral issue is culturally familiar – justification is generally not necessary. This is very unlike the process of doing professional bioethics, where justification is always necessary.

Although our discussions began by evoking people's instinctive or gut reaction to the question, it was also the case that they referred back to it throughout the discussion, checking out the coherence of their starting intuition with the conclusions they were coming to using reasoning, examples and analogies. Although we are unable to discuss this fully here, this has some parallels with the method of ethical deliberation known as wide reflective equilibrium (Rawls, 1999). According to Rawls (1999, 19): 'Justification is a matter of the mutual support of many considerations, of everything fitting together into one coherent view', in contrast to justification by reference to a single principle or theory. The method tries to produce coherence between considered moral judgements or intuitions, moral principles, and relevant background theories; the lay person's components might differ, but the process of working to and fro between them with the aim of producing an acceptable coherence appears similar.

We conclude that the lay people in our discussion groups noted the complexities of the issues (often developed through turns in conversation and a process of co-exploration) and used a range of resources for presenting arguments. The process was not as refined as that found in the moral philosophy literature, but the basic ingredients were there. (1) Lay people do use reasoning, although they draw on other forms of reasoning than propositional logic; (2) they use the normative resources available to them, predominantly personal experience and examples rather than theories or principles; (3) they make extensive use of analogies, examples, and 'what if?' thought experiments, and in this respect use resources familiar to philosophers; and (4) their deliberations adhere less consistently to a particular ethical theory or approach than that of philosophers, but they strive to achieve coherence between their intuitions, normative values and principles (even if unarticulated), and their reasoning.

Implications for public engagement

Noting the extensive use made of analogies suggests one way of facilitating public discourse may be to provide better/different analogies. Is PSS more like adoption (the ethically relevant feature is that it enables parents to satisfy their deepest desires about having children) or more like choosing what kind of cereal to buy (in that it involves the expression of preferences)? Even formal casuistry is unable to give much guidance about choosing between competing analogies (Jonsen and Toulmin, 1988). Casuistry also recognises that no analogy can be a perfect fit in terms of salient features, and failure to notice dis-analogies can lead to the wrong ethical conclusion. Using the parallel with adoption, for example, de-prioritises what some would consider a relevant difference, that in one case (adoption) the children already exist, and in the other (PSS) they do not.

Another point is access to useful ethical language. Tappan has written about the role in moral functioning of the ‘vernacular moral language’ (Tappan, 1997, 85), and argues along with others (for example, Wertsch, 1989, 1991) that the verbal and cognitive tools available for ethical thinking reflect particular institutional, cultural and historical forces. Here the ethical reasoning of individual reflection and dialogue would be enhanced by careful attention to the language in which the problem is presented and to the ethical tools that are made available via professional and media discourses.

The issues that lay people find important, and the ways they express and develop their opinions and arguments, constitute an important dimension in policy decisions about the use of new genetic technologies. The richness of this lay contribution is best captured not by opinion surveys, which are particularly vulnerable to the critique offered by Harris cited earlier, but rather by deliberative processes that take place in groups – for example, focus groups, citizen’s juries or Socratic dialogue. Such deliberations can generate a sophisticated dialogue that goes beyond mere unreflecting prejudice and adds texture to often abstract and principle-based philosophical debates.

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Appendix: Details of discussion groups

1. **Women's community education group** – eight women who attended a voluntary sector project offering a range of 'return to learning' educational and support opportunities in a small town.
2. **Postgraduate professional students** – four women and three men studying a part-time professional qualifying MA in Community and Youth Work.
3. **Youth group** – two young women and two young men (all aged 16) who were part of youth group run by a voluntary sector organisation covering rural ex-mining villages.
4. **Soroptimists** – six women who were members of a local branch of the Soroptimists, an organisation for women in management and the professions.
5. **Disability group** – two women and three men who were members of a regional user-led disability organisation.
6. **Older women** – four women recruited from previous participation in a Citizens' Jury.
7. **Older men** – three men recruited from previous participation in a Citizens' Jury.
8. **Male social workers** – four men recruited through personal contact, offering the perspective of professionals who were not clinicians or philosophers.
9. **Male friendship group** - five men with considerable experience in the community and youth work sector, who were less professionalized than the social workers.
10. **Woodcraft Folk** – one young woman and two young men aged 14 and 15 who were members of a city Woodcraft Folk group (an educational movement for young people aiming to develop self confidence and social participation).

References

- Bazeley, P. and Richards, L. (2000) **The NVivo Qualitative Project Book**. Sage, London.
- Benagiano, G. and Bianchi, P. (1999) Sex preselection: an aid to couples or threat to humanity. **Human Reproduction**, 14, 4, 868-870.
- Berkowitz, J. and Snyder, J. (1998) Racism and sexism in medically assisted conception. **Bioethics**, 12, 1, 25-44.
- Boseley, S. (2003) Mother pregnant with girls after IVF sex-selection. **The Guardian**, 26 June.
- Colby, A. (2000) The place of moral interpretation and habit in moral development. **Human Development**, 43, 161-164
- Davison, A., Barns, I. and Schibeci, R. (1997) Problematic publics: a critical review of surveys of public attitudes to biotechnology. **Science, Technology and Human Values**, 22, 3, 317-348.
- Davidson, P., Youniss, J. (1991) Which comes first, morality or identity? In W.M. Kurtines and J.L. Gewirtz (eds). **Handbook of Moral Behavior and Development, Volume 1: Theory**. (pp. 105-122). Lawrence Erlbaum Associates, Hillsdale, NJ.
- Davidson, P., & Youniss, J. (1995). Moral development and social construction. In W. M. Kurtines & J. L. Gewirtz (eds.). **Moral Development: An Introduction** (pp. 289-310). Allyn & Bacon, Boston.
- Ford, N. (2002) **The Prenatal Person: Ethics from Conception to Birth**. Blackwell, Oxford.
- Gibbs, G. (2002) **Qualitative Data Analysis: Explorations with NVivo**. Open University Press, Buckingham.
- Haidt, J. (2001) The Emotional Dog and Its Rational Tail: A Social Intuitionist Approach to Moral Judgement. *Psychological Review*, 108, 4, 814-834.
- Harris, J. (2005a) No sex selection please, we're British. **Journal of Medical Ethics**, 31, 286-88.
- Harris, J. (2005b) Sex selection and regulated hatred. **Journal of Medical Ethics**, 31, 291-94.
- Henn, W. (2000) Consumerism in prenatal diagnosis: a challenge for ethical guidelines. **Journal of Medical Ethics**, 26, 444-446.
- House of Commons Committee on Science and Technology (2005) **Report on Human Technologies and the Law**. The Stationery Office, London.

- Human Fertilization and Embryology Authority (2002) **Sex Selection: Choice and Responsibility in Human Reproduction**. HFEA, London.
- Human Fertilization and Embryology Authority (2003) **Sex Selection: Options for Regulation**. HFEA, London.
- Human Genetics Commission (2001) **Public Attitudes to Human Genetic Information: People's Panel Quantitative Study conducted for HGC by MORI, Oct. - Dec. 2000**. HGC, London.
- Human Genetics Commission (2004) **Choosing the Future: Genetics and Reproductive Decision Making**. HGC, London.
- Institute of Ideas (2002) **Designer Babies: Where Should We Draw the Line**. Hodder and Stoughton, London.
- Irwin, A. (2001) Constructing the scientific citizen: science and democracy in the biosciences. **Public Understanding of Science**, 10, 1-18.
- Irwin, A. and Wynne, B. (1996) **Misunderstanding Science? The Public Reconstruction of Science and Technology**. Cambridge University Press, Cambridge.
- Jonsen, A. and S. Toulmin (1988) **The Abuse of Casuistry: A History of Moral Reasoning**. Berkeley, University of California Press.
- Kerr, A., Cunningham-Burley, S. and Amos, A. (1998) The new genetics and health: mobilising lay expertise. **Public Understanding of Science**, 7, 41-60.
- Kerr, A. and Shakespeare, T. (2002) **Genetic Politics: from Eugenics to Genome**. New Clarion Press, Cheltenham.
- Kohlberg, L. (1969) Stage and sequence: the cognitive-developmental approach to socialization. In D. Goslin (ed.) **Handbook of Socialization Theory and Research**. Rand McNally, Chicago, 347-480,
- Lakoff, G. & M. Johnson. (1999) **Philosophy In The Flesh: The Embodied Mind and Its Challenge to Western Thought**. New York, Basic Books.
- Lloyd, I. (2000) The tyranny of the L-shaped curve. **Science and Public Affairs**, February, 14-15.
- Michie, S., Drake, H., Bobrow, M. and Marteau, T. (1995) A comparison of public and professionals' attitudes towards genetic developments. **Public Understanding of Science**, 4, 243-253.
- Miller, S. (2001) Public understanding of science at the crossroads. **Public Understanding of Science**, 10, 115-120.

- Pennings, G. (1996) Family balancing as a morally acceptable application of sex selection. **Human Reproduction**, 11, 11, 2339-2343.
- Rapp, R. (2000) **Testing Women, Testing the Fetus: The Social Impact of Amniocentesis in America**. Routledge, New York.
- Rawls, J. (1999) **A Theory of Justice** (revised edition). Cambridge, Mass., Harvard University Press.
- Revell, J. (2003) 'No' to choosing your baby's sex. **The Observer**, 9 November.
- Rhodes, R. (2001) Ethical issues in selecting embryos. **Annals of the New York Academy of Sciences**, 943, 360-367.
- Richards, M. (1996) Lay and professional knowledge of genetics and inheritance. **Public Understanding of Science**, 5, 217-230.
- Ridley, A. (1998) **Beginning Bioethics**. St Martins's Publishers, New York
- Savulescu, J. (1999) Sex selection: the case for. **Medical Journal of Australia**, 171, 373-375.
- Shakespeare, T., Scully, J.L., & Banks, S. (2006) Gift not commodity? Deliberating and regulating social sex selection. **Sociology of Health & Illness**, forthcoming.
- Stein, E. (1996). **Without Good Reason**. Oxford: Clarendon Press.
- Strauss, A. and Corbin, J. (1990) **Basics of Qualitative Research: Grounded Theory Procedures and Techniques**. Sage, London.
- Tappan, M. (1997) Language, culture, and moral development: a Vygotskian perspective. **Developmental Review**, 17, 78-100
- Toulmin, S. (2001) **Return to Reason**. Harvard University Press, Cambridge, Mass.
- Turiel, E. (1983) **The Development of Social Knowledge: Morality and Convention**. Cambridge, University Press, Cambridge
- Tversky, A. and Kahneman, D. (1986). Rational choice and the framing of decisions. **Journal of Business**, 59, 251-278.
- Warren, M. (1999) Sex selection: individual choice or cultural coercion. In Kuhse, H. and Singer, P. (ed) **Bioethics: An Anthology**. Blackwell, Oxford, 137-142.
- Wellcome Trust (1998) **Public Perspectives on Human Cloning**. Wellcome Trust, London.
- Wertsch, J. (1989) A sociocultural approach to mind. In: W. Damon (ed.), **Child Development Today and Tomorrow**. Jossey Bass, San Francisco.

Wertsch, J. (1991) **Voices of the Mind: A Sociocultural Approach to Mediated Action**. Harvard University Press, Cambridge, 14-33.