Australian attitudes toward sex-selection technology

Previous research based on analysis of fertility behavior and expressed preferences shows that many Australian parents want both a son and a daughter. However, most respondents to a representative survey of Australians did not approve of IVF or abortion for sex-selection purposes, and most did not think a hypothetical blue or pink pill to select sex of a child should be legal. (Fertil Steril 2011;95:1824–6. ©2011 by American Society for Reproductive Medicine.)

Key Words: Sex selection, assisted reproductive technology, sex preferences, social survey, Australia, abortion, IVF

In Australia, as in many other developed countries, behavioral and attitudinal data show that parents desire a balanced family, that is, a family with at least one son and one daughter. Australian women are 25% more likely to have a third child if their first two children are either both boys or both girls rather than one of each, indicating a propensity to try again for a child of the missing sex. Progression to a fourth birth is also equally higher for mothers with all sons or all daughters rather than children of both sexes (1, 2).

Another study found that, of Australian parents with two sons or two daughters planning to have a third child, 52% would prefer the next child to be of the other sex, 8% would prefer the same sex, and 40% had no preference (3). In a qualitative study of Australian parents with two young children, interviewees gave wanting a child of the other sex as a reason for having a third child (4). Research in European and other English-speaking countries also has found a desire for “one of each” (5–8).

Despite this preference for at least one child of each sex, sex-selection technologies are not permitted for family balancing in Australia. In 2004, the National Health and Medical Research Council of Australia introduced Ethical Guidelines on the Use of Assisted Reproductive Technology in Clinical Practice and Research (9). These guidelines—which have the force of law—state that “sex selection (by whatever means) must not be undertaken except to reduce the risk of transmission of a serious genetic condition” (9). The guidelines were revised in 2007, with the injunction against social sex selection remaining unchanged. They are due to be reviewed again in 2011.

An appendix to the guidelines suggests that the issues surrounding sex selection “require further community debate and consideration by elected governments” (9). To stimulate debate, three reasons for and three reasons against nonmedical sex selection are given. Those for are family balancing, fulfillment of cultural or religious practices, and reproductive autonomy. Reasons against are: incompatibility with unconditional parental acceptance of offspring; gender bias, particularly against girls; and potential distortion of sex ratios.

This article adds to international debate on sex-selection technology by analyzing nationally representative survey data and qualitative data on Australian views on sex-selection technology. Data for this study are derived from two sources. The first is the Australian Survey of Social Attitudes (10). The Australian Survey of Social Attitudes is a representative self-completion mail-out—mail-back survey sent to 20,000 people randomly selected from the Australian Electoral Roll. Version A (of A, B, and C) contained the following questions on sex-selection technology:

1. Do you approve or disapprove of the use of IVF technology to avoid characteristics of children such as: a certain sex?
2. Do you approve or disapprove of the use of abortion to avoid having children with characteristics such as: a certain sex?
3. Suppose there was a medication available that enabled parents to choose the sex of their children. Couples simply had to take a blue pill to ensure the birth of a boy or a pink pill to ensure the birth of a girl. Do you think such a medication should be legally available?
4. If you were planning to have children, would you take advantage of such a medication?

The response rate was 42%, or 2,781 responses of 6,666 version A surveys sent out. Question 4 is based on a similar question asked by Dahl et al. (11–13) in Germany, the United States, and the United Kingdom.

The second source of data is 40 in-depth interviews with parents of two children, of whom the youngest child was aged under 5 years.

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Received May 1, 2010; revised September 29, 2010; accepted November 10, 2010; published online December 15, 2010.
R.K. has nothing to disclose. A.E. has nothing to disclose. E.G. has nothing to disclose.
Supported by a Discovery Project grant from the Australian Research Council (DP0558818).
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The interviews were carried out during 2006 in three locations: Canberra, Sydney, and Bendigo. Respondents were recruited through community newspaper advertisements, flyers distributed through preschools and community centers, and, in a few cases, participants’ own social networks.

The interviews were semistructured to capture respondents’ experiences of parenthood, their thoughts on having a third child, the benefits and disadvantages of having children, and their views on sex-selection technology. Interviews lasted between 30 minutes and 2 hours and were digitally recorded and transcribed. Analysis was based on the grounded-theory method with use of open, axial, and selective coding (4, 14).

The interviews concluded with the following questions. We use these interviews to supplement the results of the quantitative survey, investigating why Australians might be in favor of or against the use of sex-selection technology.

1. In the future it may be possible to take a pill to choose the sex of a child. In the same way that you might take a pill for birth control you could take a blue pill if you wanted a boy and a pink pill if you wanted a girl. If that were available now, and had no side effects, do you think that you would consider using it?
2. Do you think parents in the future should be allowed to use this pill if they want to choose the sex of their child?
3. In some places parents can choose the sex of their children by using sex-selective abortion. What are your thoughts on sex-selective abortion?
4. It is possible for parents to use IVF to choose the sex of their child. To do this only fertilized eggs of the desired sex are implanted. In Australia, this was recently banned. Do you think that parents should be able to use IVF if they want to choose the sex of their child?

Results of the representative national survey show that most Australians do not approve of the use of sex-selection technology. There is a hierarchy of responses, with strongest opposition to sex-selective abortion and least (although still strong) to the hypothetical pills.

Seven percent of respondents approve or strongly approve the use of IVF for sex selection, 24% neither approve nor disapprove, and 69% disapprove or strongly disapprove. The figures for sex-selective abortion are 4%, 16%, and 80%.

Legalization of hypothetical blue and pink pills for sex selection is supported by 11% of respondents. Seventy-six percent state the pills should not be legalized, and 13% do not know. Seven percent of respondents state that they would use such a technology were it available and they planned to have children, 80% would not, and 12% do not know.

Logistic regression was carried out on results by sex, age, education, and religious attendance of respondents (Table 1). A P value of <.05 is considered to be statistically significant. Most category responses are not significantly different from those of the reference categories, with some striking exceptions. Women

<table>
<thead>
<tr>
<th>Respondent characteristics</th>
<th>IVF (disapprove or strongly disapprove)</th>
<th>Abortion (disapprove or strongly disapprove)</th>
<th>Pill (should not be legal)</th>
<th>Pill (would not use)</th>
<th>Percentage of respondents (N = 2,781)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>Exp(B)</td>
<td>P value</td>
<td>Exp(B)</td>
<td>P value</td>
<td>Exp(B)</td>
</tr>
<tr>
<td>M (ref)</td>
<td>1.532</td>
<td>.000</td>
<td>1.502</td>
<td>.000</td>
<td>1.201</td>
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<td>F</td>
<td></td>
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<tr>
<td>Age (y)</td>
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<td>17–34 (ref)</td>
<td>0.785</td>
<td>.101</td>
<td>0.499</td>
<td>.000</td>
<td>1.242</td>
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<tr>
<td>35–49</td>
<td>1.042</td>
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<td>0.715</td>
<td>.040</td>
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<td>50–64</td>
<td>1.009</td>
<td>.946</td>
<td>0.836</td>
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<td>1.428</td>
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<td>≥ 65</td>
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<tr>
<td>Education</td>
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<td>Bachelor’s degree or above</td>
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<td>.000</td>
<td>0.500</td>
<td>.000</td>
<td>0.977</td>
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<td>Completed high school</td>
<td>0.688</td>
<td>.225</td>
<td>0.750</td>
<td>.152</td>
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<td>0.650</td>
<td>.003</td>
<td>0.752</td>
<td>.095</td>
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<td>Certificate or diploma</td>
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<td>0.782</td>
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<td>Religious attendance</td>
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<td></td>
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<tr>
<td>Never (ref)</td>
<td>1.229</td>
<td>.120</td>
<td>1.230</td>
<td>.176</td>
<td>1.502</td>
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<td>Once a month or more</td>
<td>1.041</td>
<td>.772</td>
<td>1.064</td>
<td>.699</td>
<td>1.083</td>
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<tr>
<td>Several times a year</td>
<td>1.072</td>
<td>.520</td>
<td>1.105</td>
<td>.424</td>
<td>1.008</td>
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<tr>
<td>Once a year or less</td>
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<tr>
<td>frequently</td>
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Note: Analysis by country of birth was not possible because of the small number of respondents born outside Australia. The survey was of Australian citizens only, which biases it toward the Australian born. Exp(B) = odds ratio; Ref = reference category.

are more likely than men to disapprove or strongly disapprove of sex-selective IVF or abortion. Respondents older than 50 years are less likely to disapprove or strongly disapprove of sex-selective abortion than those aged 17 to 34 years. Compared with respondents with a bachelor’s degree or above, those without a bachelor’s degree are less likely to disapprove or strongly disapprove of sex-selective IVF, whereas those who did not complete high school are less likely to disapprove or strongly disapprove of sex-selective abortion.

Those aged 35 to 49 years are more likely than those aged 17 to 34 years to state that the hypothetical blue or pink pill should not be legal. Respondents who attend religious services once a month or more are more likely than those who never attend religious services to state that the hypothetical pill should not be legal. This is the only significant result for religious attendance.

As with the quantitative results reported above, most respondents in our in-depth interviews were opposed to the use of sex-selective technology. Opposition to these technologies was grounded in three major concerns. The first is the potential for distorted sex ratios if one sex is chosen more often than another. The second is that sex selection can be an expression of gender bias, particularly if fetuses or embryos are discarded on the basis of their sex. Last, respondents were concerned about “designer infants” being created, when parents should be happy to have a healthy child.

With regard to the first two concerns, research shows that skewed sex ratios and overall gender biases are unlikely in Australia. Attitudinal and behavioral data indicate that, on the whole, Australians either have no preference or a preference for at least one child of each sex, rather than a preference for sons over daughters or vice versa. If sex-selective IVF were permitted, or the blue pill–pink pill option became a reality, sex ratios likely would remain unchanged.

However, one possible concern aside from sex ratios is that widespread use of sex-selective technology could lead to a preponderance of first-born boys; where a preference is expressed, Australians tend to prefer first-born sons over first-born daughters (3). This is of concern as first-borns may have particular favorable attributes (2). This problem could be avoided if such technologies were restricted to choosing the sex of children after the first, or perhaps the second.

With regard to the third concern, that sex-selection technology is a slippery slope to designer infants, we leave this debate to ethicists and others.

Acknowledgments: The authors thank Ms. Anna Reimondos, Ms. Claire Barbato, and Ms. Eleanor Bettini for research assistance, and our interviewees for their time.

REFERENCES