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Sex Selection and Technology In the United States: Is It Playing GOD?

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ABSTRACT
Preferences for male firstborn children have been well established through research in countries such as India, China, and the Middle East. The effects of this phenomenon have been devastating to these populations’ sex ratios and have led to a number of violent crimes against women. Early studies conducted in the United States have indicated that firstborn sex preference exists; however, more recent studies indicate a slight trend toward firstborn girl preference. The current study examines firstborn preference and attitudes toward using technology to achieve the desired sex of firstborn offspring. A sample drawn from the Cleveland State University student body was given a survey to determine male and female firstborn preferences and willingness to use sex selection technology. Our findings revealed an overall preference for firstborn sons. Our findings also showed a trend toward “no preference” for sex of offspring, especially among females. The number of participants who indicated a willingness to use sex selection technology (8%) was too small to calculate any relationship between potential users and firstborn sex preference.

INTRODUCTION
Sex Selection Technology
Pre-implantation Genetic Diagnosis (PGD)
- PGD was originally used to test for sex linked disorders but now is used for sex selection for non-medical reasons
- The sex can be determined by DNA amplification or Florescent In Situ Hybridization (FISH) techniques
- “The efficacy of this technique to determine embryo’s sex is near 100%”.

Micro Sort
- Uses a machine (Flow Cytometer) to separate the X and Y sperm sample for artificial insemination or in vitro fertilization.
- “The efficacy of this technique is to sort sperm to a purity of 80%-90% for X bearing sperm and 80%-70% purity for Y bearing sperm”.

Post-implantation Technology
- Selective abortions

Motivations for Using in Sex Selection
Economic Bias Favoring Sons
- Higher wage earnings for males
- Males tend to be the recipients of a family’s inheritance

Cultural or Religious Reasons for sex preference
- Births of sons elevates the family standing
- Security for parents/ take care of elderly
- Woman takes on name and customs of in-laws

LITERATURE REVIEW
Examples of Sex Selection Studies Indicating Percent Preference

<table>
<thead>
<tr>
<th>Authors</th>
<th>Sex of Subject</th>
<th>Boy</th>
<th>Girl</th>
<th>No Preference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dahiya, D., &amp; Clark,1994</td>
<td>Male</td>
<td>62%</td>
<td>38%</td>
<td></td>
</tr>
<tr>
<td>Malek &amp; Yar, 1973</td>
<td>Male</td>
<td>79%</td>
<td>21%</td>
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<tr>
<td>Large, 1972</td>
<td>Combined</td>
<td>85%</td>
<td>15%</td>
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<tr>
<td>Rent &amp; Rent, 1976</td>
<td>Combined</td>
<td>70%</td>
<td>30%</td>
<td></td>
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<tr>
<td>Calley, Gang, &amp; Gahl, 1973</td>
<td>Combined</td>
<td>75%</td>
<td>25%</td>
<td></td>
</tr>
<tr>
<td>Steinbacher &amp; Giesy, 1983</td>
<td>Male</td>
<td>60%</td>
<td>40%</td>
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<tr>
<td>Steinbacher &amp; Giesy, 1983</td>
<td>Female</td>
<td>40%</td>
<td>60%</td>
<td></td>
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<tr>
<td>Steinbacher &amp; Giesy, 1983</td>
<td>Combined</td>
<td>50%</td>
<td>50%</td>
<td></td>
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<tr>
<td>Steinbacher, Giesy, &amp; Bultes, 2002</td>
<td>Male</td>
<td>50%</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>Shelot &amp; 2006</td>
<td>Combined</td>
<td>50%</td>
<td>50%</td>
<td></td>
</tr>
</tbody>
</table>

METHOD
Participants
113 students participated in the study
78 participants were able to qualify for the study
25 were males
55 were females
35 questionnaires were eliminated from analyses
Exclusionary Criteria
- Already have children
- Less than 18 years of age
- Do not have a personal preference or attitude toward sex selection

Materials
Personal Preference And Attitude Scale
Consisted of 16 questions
- Do you prefer your first child to be a girl or boy?
- “I would use sex selection technology to select the sex of my children”.

Procedure
Approval was granted from CSU’s Institutional Review Board
Letters of inquiry were sent to professors so that the surveys could be administered during class time
Consent forms were signed by participants and questionnaires were then administered.

The Current Study
- Our study examined current attitudes toward Sex Selection, that is, are firstborn boys preferred over firstborn girls as in previous studies in the United States?
- We investigated whether or not there is a correlation between sex preference and technology utilization.

RESULTS cont.

Female Preferences

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Willing</th>
<th>Undecided</th>
<th>Uncertain</th>
</tr>
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<tbody>
<tr>
<td>Consent</td>
<td>14%</td>
<td>78%</td>
<td>8%</td>
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</table>

Participants Willingness to use Sex Selection Technology

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Willing</th>
<th>Uncertain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consent</td>
<td>8%</td>
<td>92%</td>
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</tbody>
</table>

REFERENCES

TRiO
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POST-BACCALAUREATE ACHIEVEMENT PROGRAM

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McNairs Scholars Program, Cleveland State University