Supplementary Table S1.Country of Birth and Residency.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Spontaneous** | | | | **Donor Sperm Conceived** | | | |
|  | **Birth**  **N** | **Birth**  **%** | **Resid. N** | **Resid. %** | **Birth**  **N** | **Birth**  **%** | **Resid.**  **N** | **Resid.**  **%** |
| **Argentina** | 0 | 0 | 1 | 0.1 | 0 | 0 | 0 | 0 |
| **Australia** | 372 | 46.3 | 490 | 55.9 | 78 | 30.7 | 85 | 31.3 |
| **Austria** | 0 | 0 | 1 | 0.1 | 0 | 0 | 0 | 0 |
| **Azerbaijan** | 1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Belgium** | 23 | 2.9 | 21 | 2.4 | 16 | 6.3 | 19 | 7.0 |
| **Bosnia and Herzegovina** | 1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Brazil** | 1 | 0.1 | 1 | 0.1 | 0 | 0 | 0 | 0 |
| **Bulgaria** | 1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Canada** | 5 | 0.6 | 3 | 0.3 | 4 | 1.6 | 2 | 0.7 |
| **Fiji** | 1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **France** | 0 | 0 | 2 | 0.2 | 0 | 0 | 0 | 0 |
| **Germany** | 2 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Hong Kong** | 0 | 0 | 1 | 0.1 | 0 | 0 | 0 | 0 |
| **India** | 2 | 0.2 | 1 | 0.1 | 0 | 0 | 0 | 0 |
| **Iran (Islamic Republic of)** | 1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ireland** | 2 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Italy** | 2 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Lebanon** | 1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Malaysia** | 2 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Nepal** | 1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Netherlands** | 89 | 11.1 | 70 | 8.0 | 57 | 22.4 | 59 | 21.7 |
| **New Zealand** | 8 | 0.9 | 1 | 0.1 | 4 | 1.6 | 3 | 1.1 |
| **Nicaragua** | 1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Norway** | 1 | 0.1 | 1 | 0.1 | 0 | 0 | 0 | 0 |
| **Papua New Guinea** | 1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Poland** | 2 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Portugal** | 0 | 0 | 1 | 0.1 | 0 | 0 | 0 | 0 |
| **Russian Federation** | 1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Singapore** | 1 | 0.1 | 1 | 0.1 | 0 | 0 | 0 | 0 |
| **South Africa** | 3 | 0.4 | 0 | 0 | 0 | 0 | 1 | 0.4 |
| **Spain** | 0 | 0 | 3 | 0.3 | 0 | 0 | 0 | 0 |
| **Sweden** | 0 | 0 | 2 | 0.2 | 2 | 0.8 | 2 | 0.7 |
| **Thailand** | 1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Ukraine** | 1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **United Kingdom** | 190 | 23.7 | 186 | 21.2 | 16 | 6.3 | 17 | 6.3 |
| **United States of America** | 86 | 10.7 | 90 | 10.3 | 77 | 30.3 | 84 | 30.9 |

Descriptive table of countries of birth and current residence.

Supplementary Table S2.Cardiovascular Outcomes.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Spontaneous | | Donor Sperm Conceived | | | |
|  | **N (Total)** | **%** | **N (Total)** | **%** | ***P*** | **BH *P*** |
| Congenital Heart Disease | 7 (820) | 0.9 | 1 (245) | 0.4 | 0.690^ | 0.976 |
| Cardiovascular Disease | 18 (819) | 2.2 | 1 (245) | 0.4 | 0.094^ | 0.411 |
| Bleeding Disorders | 5 (824) | 0.6 | 2 (244) | 0.8 | 0.662^ | 0.969 |
| Heart Murmur | 46 (820) | 5.6 | 16 (243) | 6.6 | 0.569 | 0.899 |
| Palpitations | 88 (818) | 10.8 | 34 (242) | 14.0 | 0.159 | 0.543 |
| High Blood Pressure | 86 (821) | 10.5 | 18 (244) | 7.4 | 0.152 | 0.534 |
| Low Blood Pressure | 123 (821) | 15.0 | 40 (243) | 16.5 | 0.574 | 0.899 |
| Anemia | 227 (822) | 27.6 | 60 (245) | 24.5 | 0.333 | 0.746 |
| Poor Peripheral Circulation | 38 (823) | 4.6 | 15 (245) | 6.1 | 0.341 | 0.746 |
| High Cholesterol | 72 (820) | 8.8 | 23 (244) | 9.4 | 0.756 | 1.000 |
| Aneurysm | 2 (819) | 0.2 | 0 (243) | 0 | 1.000^ | 1.000 |
| Phlebitis | 2 (820) | 0.2 | 1 (244) | 0.4 | 0.543^ | 0.899 |
| Varicose Veins | 62 (822) | 7.5 | 15 (245) | 6.1 | 0.451 | 0.853 |
| Heart Defect Surgery | 6 (821) | 0.7 | 2 (243) | 0.8 | 1.000^ | 1.000 |
| Other | 25 (818) | 3.1 | 9 (244) | 3.7 | 0.622 | 0.925 |

Pearson Chi Squared (two-tailed) *P* value versus spontaneously conceived people.  
BH = Benjamini-Hochberg procedure adjusted *P* value versus spontaneously conceived people.

^ = Fisher’s Exact Test (two-tailed) *P* value versus spontaneously conceived people used instead of Pearson Chi Squared for when > 20% of cells in Chi Squared table have expected values less than 5.

Supplementary Table S3.Chromosomal and Genetics Outcomes.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Spontaneous | | Donor Sperm Conceived | | | |
|  | **N (Total)** | **%** | **N (Total)** | **%** | ***P*** | **BH *P*** |
| Chromosomal or Genetic Abnormality | 20 (839) | 2.4 | 9 (252) | 3.6 | 0.304 | 0.746 |

Pearson Chi Squared (two-tailed) *P* value versus spontaneously conceived people.

BH = Benjamini-Hochberg procedure adjusted *P* value versus spontaneously conceived people.

Supplementary Table S4.Dermatology Outcomes.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Spontaneous | | Donor Sperm Conceived | | | |
|  | **N (Total)** | **%** | **N (Total)** | **%** | ***P*** | **BH *P*** |
| Eczema | 200 (833) | 24.0 | 64 (249) | 25.7 | 0.585 | 0.899 |
| Psoriasis | 53 (829) | 6.4 | 20 (248) | 8.1 | 0.358 | 0.746 |
| Uticaria | 76 (831) | 9.1 | 32 (246) | 13.0 | 0.076 | 0.360 |
| Other# | 64 (820) | 7.8 | 27 (246) | 11.0 | 0.119 | 0.444 |
| Acne | 18 (820) | 2.2 | 11 (246) | 4.5 | 0.054 | - |
| Colouring | 37 (820) | 4.5 | 13 (246) | 5.3 | 0.615 | - |
| Infections | 6 (820) | 0.7 | 1 (246) | 0.4 | 1.000^ | - |
| Ungrouped | 4 (820) | 0.5 | 1 (246) | 0.4 | 1.000^ | - |

# = Other conditions not classified which were then subjected to quantitative content analysis which is reported below the dashed line.

Acne = also includes other conditions such as hormonal cysts, hidradenitis suppurativa, and eccrine hidrocystoma. Colouring = includes conditions that change the colour of the skin such as rosacea, dermatitis, pityriasis rosea, Henoch-Schonlein purpure, and vitiligo. Infections = includes conditions involving bacterial, viral or fungal infections of the skin such as impetigo, cellulitis, shingles, and tinea versicolour. Ungrouped = all other conditions not grouped into the above categories.

Pearson Chi Squared (two-tailed) *P* value versus spontaneously conceived people.

BH = Benjamini-Hochberg procedure adjusted *P* value versus spontaneously conceived people. BH correction not performed on content analysis.

^ = Fisher’s Exact Test (two-tailed) P value versus spontaneously conceived people used instead of Pearson Chi Squared for when > 20% of cells in Chi Squared table have expected values less than 5.

Supplementary Table S5.EENT Outcomes.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Spontaneous | | Donor Sperm Conceived | | | |
|  | **N (Total)** | **%** | **N (Total)** | **%** | ***P*** | **BH *P*** |
| Eye Disorders | 34 (832) | 4.1 | 9 (250) | 3.6 | 0.730 | 1.000 |
| Corrective Glasses/Lenses | 481 (831) | 57.9 | 146 (249) | 58.6 | 0.833 | 1.000 |
| Eye Surgery | 20 (827) | 2.4 | 4 (246) | 1.6 | 0.461 | 0.859 |
| Hearing Loss | 49 (831) | 5.9 | 19 (250) | 7.6 | 0.331 | 0.746 |
| Deafness (total) | 1 (826) | 0.1 | 0 (248) | 0 | 1.000^ | 1.000 |
| Nasal Allergies/Hayfever | 327 (832) | 39.3 | 115 (248) | 46.4 | 0.047 | 0.241 |
| Tonsilectomy | 132 (830) | 15.9 | 42 (248) | 16.9 | 0.698 | 0.976 |
| Ear Tubes/Grommets | 51 (830) | 6.1 | 28 (247) | 11.3 | 0.006 | **0.046\*** |
| Adenoidectomy | 50 (830) | 6.0 | 26 (248) | 10.5 | 0.016 | 0.104 |
| Tinnitus | 70 (831) | 8.4 | 29 (248) | 11.7 | 0.117 | 0.444 |
| Meniere’s Disease | 3 (829) | 0.4 | 3 (249) | 1.2 | 0.140^ | 0.506 |
| Other | 35 (829) | 4.2 | 12 (248) | 4.8 | 0.677 | 0.976 |

Pearson Chi Squared (two-tailed) *P* value versus spontaneously conceived people.

BH = Benjamini-Hochberg procedure adjusted *P* value versus spontaneously conceived people.

^ = Fisher’s Exact Test (two-tailed) *P* value versus spontaneously conceived people used instead of Pearson Chi Squared for when > 20% of cells in Chi Squared table have expected values less than 5.

\* = *P* value significant after Benjamini-Hochberg adjustment (*P* < 0.05).

Supplementary Table S6.Endocrinological Outcomes.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Spontaneous | | Donor Sperm Conceived | | | |
|  | **N (Total)** | **%** | **N (Total)** | **%** | ***P*** | **BH *P*** |
| Type 1 Diabetes | 3 (842) | 0.4 | 7 (253) | 2.8 | 0.002^ | **0.031\*** |
| Type 2 Diabetes | 21 (842) | 2.5 | 1 (251) | 0.4 | 0.038 | 0.212 |
| Pancreatitis | 5 (841) | 0.6 | 1 (251) | 0.4 | 1.000^ | 1.000 |
| Adrenal Disorders | 9 (841) | 1.1 | 2 (253) | 0.8 | 1.000^ | 1.000 |
| Thyroid Disease | 33 (840) | 3.9 | 22 (253) | 8.7 | 0.002 | **0.031\*** |
| Pituitary Disorders | 7 (841) | 0.8 | 4 (251) | 1.6 | 0.288^ | 0.746 |
| Other | 18 (840) | 2.1 | 9 (250) | 3.6 | 0.193 | 0.593 |

Pearson Chi Squared (two-tailed) *P* value versus spontaneously conceived people.

BH = Benjamini-Hochberg procedure adjusted *P* value versus spontaneously conceived people.

^ = Fisher’s Exact Test (two-tailed) *P* value versus spontaneously conceived people used instead of Pearson   
Chi Squared for when > 20% of cells in Chi Squared table have expected values less than 5.

\* = *P* value significant after Benjamini-Hochberg adjustment (*P* < 0.05).

Supplementary Table S7.Gastrointestinal Outcomes.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Spontaneous | | Donor Sperm Conceived | | | |
|  | **N (Total)** | **%** | **N (Total)** | **%** | ***P*** | **BH *P*** |
| Liver Disease | 13 (842) | 1.5 | 9 (251) | 3.6 | 0.043\* | 0.230 |
| IBS | 108 (842) | 12.8 | 36 (252) | 14.3 | 0.548 | 0.899 |
| IBD | 15 (840) | 1.8 | 8 (250) | 3.2 | 0.172 | 0.560 |
| Ulcers | 26 (841) | 3.1 | 5 (252) | 2.0 | 0.353 | 0.746 |
| Coeliac | 20 (837) | 2.4 | 3 (252) | 1.2 | 0.246 | 0.672 |
| Appendicitis | 63 (843) | 7.5 | 20 (252) | 7.9 | 0.807 | 1.000 |
| Gall Bladder | 47 (841) | 5.6 | 12 (252) | 4.8 | 0.610 | 0.925 |
| GERD | 106 (840) | 12.6 | 29 (253) | 11.5 | 0.624 | 0.925 |
| Other | 24 (841) | 2.9 | 9 (253) | 3.6 | 0.566 | 0.899 |

Pearson Chi Squared (two-tailed) *P* value versus spontaneously conceived people.

BH = Benjamini-Hochberg procedure adjusted *P* value versus spontaneously conceived people.

Supplementary Table S8. Immunological Outcomes.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Spontaneous | | Donor Sperm Conceived | | | |
|  | **N (Total)** | **%** | **N (Total)** | **%** | ***P*** | **BH *P*** |
| Arthritis | 65 (829) | 7.8 | 20 (248) | 8.1 | 0.909 | 1.000 |
| Rheumatoid Arthritis | 18 (829) | 2.2 | 7 (247) | 2.8 | 0.544 | 0.899 |
| Spleen Problems | 1 (828) | 0.1 | 1 (248) | 0.4 | 0.408^ | 0.797 |
| Gout | 10 (830) | 1.2 | 2 (248) | 0.8 | 1.000^ | 1.000 |
| Lupus | 3 (830) | 0.4 | 2 (247) | 0.8 | 0.324^ | 0.746 |
| Ankylosing Spondylitis | 3 (830) | 0.4 | 1 (247) | 0.4 | 1.000^ | 1.000 |
| Connective Tissue Disorders | 10 (822) | 1.2 | 4 (247) | 1.6 | 0.541^ | 0.899 |
| Allergic to Anything# | 297 (826) | 36.0 | 113 (248) | 45.6 | 0.006 | **0.046** |
| Chronic Infectious Disease | 16 (826) | 1.9 | 8 (246) | 3.3 | 0.221 | 0.618 |
| Other | 18 (827) | 2.2 | 8 (248) | 3.2 | 0.345 | 0.746 |
| Environmental | 138 (827) | 16.7 | 73 (248) | 29.4 | <0.001\* | - |
| Ingested | 82 (827) | 9.9 | 32 (248) | 12.9 | 0.180 | - |
| Medication | 111 (827) | 13.4 | 29 (248) | 11.7 | 0.478 | - |
| Ungrouped | 24 (827) | 2.9 | 4 (248) | 1.6 | 0.264 | - |

# = Allergies which had free text input and were then subjected to quantitative content analysis which is reported below the dashed line.

Environmental = contact allergies such as animals, plants, pollen, cosmetics, mould, latex. Ingested = food type allergies (medication excluded). Medication = such as antibiotics (can be ingested, topical or intravenous). Ungrouped = other allergies not covered by the above categories such as insect bites and stings.

Pearson Chi Squared (two-tailed) *P* value versus spontaneously conceived people.

BH = Benjamini-Hochberg procedure adjusted *P* value versus spontaneously conceived people. BH correction not performed on content analysis.

^ = Fisher’s Exact Test (two-tailed) *P* value versus spontaneously conceived people used instead of Pearson Chi Squared for when > 20% of cells in Chi Squared table have expected values less than 5.

Supplementary Table S9.Musculoskeletal Outcomes.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Spontaneous | | Donor Sperm Conceived | | | |
|  | **N (Total)** | **%** | **N (Total)** | **%** | ***P*** | **BH *P*** |
| Joint Problems | 135 (830) | 16.3 | 55 (249) | 22.1 | 0.034 | 0.199 |
| Osteoporosis | 9 (830) | 1.1 | 3 (247) | 1.2 | 0.743^ | 1.000 |
| Scoliosis | 67 (827) | 8.1 | 27 (248) | 10.9 | 0.173 | 0.560 |
| Growth Disorder | 0 (830) | 0 | 0 (249) | 0 | n/a | n/a |
| Muscular Dystrophy | 3 (827) | 0.4 | 0 (248) | 0 | 1.000^ | 1.000 |
| Other | 47 (818) | 5.7 | 15 (246) | 6.1 | 0.836 | 1.000 |

Pearson Chi Squared (two-tailed) *P* value versus spontaneously conceived people.

BH = Benjamini-Hochberg procedure adjusted *P* value versus spontaneously conceived people.

^ = Fisher’s Exact Test (two-tailed) *P* value versus spontaneously conceived people used instead of Pearson Chi Squared for when > 20% of cells in Chi Squared table have expected values less than 5.

n/a = not applicable as Chi Squared *P* values cannot be calculated.

Supplementary Table S10.Neurological Outcomes.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Spontaneous | | Donor Sperm Conceived | | | |
|  | **N (Total)** | **%** | **N (Total)** | **%** | ***P*** | **BH *P*** |
| Epilepsy/Seizures | 26 (838) | 3.1 | 6 (251) | 2.4 | 0.558 | 0.899 |
| Tremors | 19 (839) | 2.3 | 6 (253) | 2.4 | 0.921 | 1.000 |
| Migraines | 232 (836) | 27.8 | 71 (251) | 28.3 | 0.868 | 1.000 |
| Multiple Sclerosis | 3 (834) | 0.4 | 0 (253) | 0 | 1.000^ | 1.000 |
| Vertigo | 82 (839) | 9.8 | 25 (252) | 9.9 | 0.945 | 1.000 |
| Cerebral Palsy | 1 (836) | 0.1 | 0 (252) | 0 | 1.000^ | 1.000 |
| Fibromyalgia | 18 (838) | 2.1 | 8 (253) | 3.2 | 0.354 | 0.746 |
| Parkinson’s Disease | 3 (836) | 0.4 | 0 (252) | 0 | 1.000^ | 1.000 |
| Other | 14 (834) | 1.7 | 9 (248) | 3.6 | 0.062 | 0.305 |

Pearson Chi Squared (two-tailed) *P* value versus spontaneously conceived people.

BH = Benjamini-Hochberg procedure adjusted *P* value versus spontaneously conceived people.

^ = Fisher’s Exact Test (two-tailed) *P* value versus spontaneously conceived people used instead of Pearson Chi Squared for when > 20% of cells in Chi Squared table have expected values less than 5.

Supplementary Table S11.Oncological Outcomes.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Spontaneous | | Donor Sperm Conceived | | | |
|  | **N (Total)** | **%** | **N (Total)** | **%** | ***P*** | **BH *P*** |
| Blood Cancers | 3 (837) | 0.4 | 0 (251) | 0 | 1.000^ | 1.000 |
| Skin Cancers | 15 (838) | 1.8 | 9 (251) | 3.6 | 0.089 | 0.405 |
| Bowel Cancer | 0 (837) | 0 | 0 (251) | 0 | n/a | n/a |
| Breast Cancer (all sexes) | 5 (838) | 0.6 | 3 (250) | 1.2 | 0.394^ | 0.782 |
| Breast Cancer (females only) | 4 (675) | 0.6 | 3 (215) | 1.4 | 0.368^ | 0.754 |
| Prostate Cancer (males only) | 0 (161) | 0 | 1 (36) | 2.8 | 0.183^ | 0.577 |
| Bone Cancer | 0 (836) | 0 | 0 (251) | 0 | n/a | n/a |
| Brain Cancer | 0 (831) | 0 | 0 (251) | 0 | n/a | n/a |
| Lung/Tracheal Cancer | 0 (835) | 0 | 0 (251) | 0 | n/a | n/a |
| Pancreatic Cancer | 0 (835) | 0 | 0 (250) | 0 | n/a | n/a |
| Other | 18 (827) | 2.2 | 4 (250) | 1.6 | 0.572 | 0.899 |

Pearson Chi Squared (two-tailed) *P* value versus spontaneously conceived people.

BH = Benjamini-Hochberg procedure adjusted *P* value versus spontaneously conceived people.

^ = Fisher’s Exact Test (two-tailed) *P* value versus spontaneously conceived people used instead of Pearson Chi Squared for when > 20% of cells in Chi Squared table have expected values less than 5.

n/a = not applicable as Chi Squared *P* values cannot be calculated.

Supplementary Table S12.Female Reproductive Outcomes.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Spontaneous | | Donor Sperm Conceived | | | |
|  | **N (Total)** | **%** | **N (Total)** | **%** | ***P*** | **BH *P*** |
| Ovarian Cysts | 115 (667) | 17.2 | 41 (213) | 19.2 | 0.504 | 0.899 |
| Endometriosis | 45 (666) | 6.8 | 10 (211) | 4.7 | 0.292 | 0.746 |
| Menstrual Problems | 201 (666) | 30.2 | 63 (213) | 29.6 | 0.867 | 1.000 |
| PCOS | 52 (664) | 7.8 | 16 (213) | 7.5 | 0.879 | 1.000 |
| Infertility | 59 (660) | 8.9 | 15 (213) | 7.0 | 0.387 | 0.780 |
| Other | 37 (667) | 5.5 | 11 (213) | 5.4 | 0.830 | 1.000 |
| Pregnancy | 342 (662) | 51.7 | 117 (211) | 55.5 | 0.337 | 0.746 |
| Parity (Mean (SD)) | 1.90 (1.10) | - | 1.63 (1.09) | - | 0.025 | 0.154 |

Pearson Chi Squared (two-tailed) *P* value versus spontaneously conceived people.

BH = Benjamini-Hochberg procedure adjusted *P* value versus spontaneously conceived people.

Parity data is continuous data analysed by two-tailed student’s T-TEST.

Supplementary Table S13.Male Reproductive Outcomes.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Spontaneous | | Donor Sperm Conceived | | | |
|  | **N (Total)** | **%** | **N (Total)** | **%** | ***P*** | **BH *P*** |
| Testicular Problems | 11 (157) | 7.0 | 1 (34) | 2.9 | 0.696^ | 0.976 |
| Prostate Problems | 2 (157) | 1.3 | 0 (34) | 0 | 1.000^ | 1.000 |
| Low Sperm Count/Quality | 2 (157) | 1.3 | 1 (34) | 2.9 | 0.447^ | 0.853 |
| Infertility | 1 (157) | 0.6 | 1 (34) | 2.9 | 0.325^ | 0.746 |
| Other | 4 (156) | 2.6 | 0 (34) | 0 | 1.000^ | 1.000 |

Pearson Chi Squared (two-tailed) *P* value versus spontaneously conceived people.

BH = Benjamini-Hochberg procedure adjusted *P* value versus spontaneously conceived people.

^ = Fisher’s Exact Test (two-tailed) *P* value versus spontaneously conceived people used instead of Pearson Chi Squared for when > 20% of cells in Chi Squared table have expected values less than 5.

Supplementary Table S14.Respiratory Outcomes.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Spontaneous | | Donor Sperm Conceived | | | |
|  | **N (Total)** | **%** | **N (Total)** | **%** | ***P*** | **BH *P*** |
| Asthma | 213 (842) | 25.3 | 74 (253) | 29.2 | 0.210 | 0.601 |
| COPD | 4 (837) | 0.5 | 3 (250) | 1.2 | 0.203^ | 0.597 |
| Acute Bronchitis | 111 (844) | 13.2 | 57 (254) | 22.4 | < 0.001 | **0.008** |
| Sleep Apnoea | 23 (843) | 2.7 | 17 (252) | 6.7 | 0.003 | **0.037** |
| Pneumonia | 98 (838) | 11.7 | 39 (253) | 15.4 | 0.118 | 0.444 |
| Other | 19 (845) | 2.2 | 6 (255) | 2.4 | 0.922 | 1.000 |

Pearson Chi Squared (two-tailed) *P* value versus spontaneously conceived people.

BH = Benjamini-Hochberg procedure adjusted *P* value versus spontaneously conceived people.

^ = Fisher’s Exact Test (two-tailed) *P* value versus spontaneously conceived people used instead of Pearson Chi Squared for when > 20% of cells in Chi Squared table have expected values less than 5.

Supplementary Table S15.Urogenital Outcomes.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Spontaneous | | Donor Sperm Conceived | | | |
|  | **N (Total)** | **%** | **N (Total)** | **%** | ***P*** | **BH *P*** |
| Kidney Disease | 6 (839) | 0.7 | 2 (251) | 0.8 | 1.000^ | 1.000 |
| Kidney Stones | 28 (839) | 3.3 | 12 (251) | 4.8 | 0.286 | 0.746 |
| Bladder Disease | 8 (836) | 1.0 | 6 (250) | 2.4 | 0.104^ | 0.426 |
| Urogenital Defects | 9 (837) | 1.1 | 1 (250) | 0.4 | 0.469^ | 0.861 |
| Other | 18 (835) | 2.2 | 4 (250) | 1.6 | 0.584 | 0.899 |

Pearson Chi Squared (two-tailed) *P* value versus spontaneously conceived people.

BH = Benjamini-Hochberg procedure adjusted *P* value versus spontaneously conceived people.

^ = Fisher’s Exact Test (two-tailed) *P* value versus spontaneously conceived people used instead of Pearson Chi Squared for when > 20% of cells in Chi Squared table have expected values less than 5.

Supplementary Table S16. Characteristics of Respondents by Sex.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Spontaneous | | | Donor Sperm Conceived | | |
|  | **Female  N Total [709]** | **Male  N Total [165]** | ***P*** | **Female  N Total [234]** | **Male  N Total  [38]** | ***P*** |
| Age, Mean (SD) | 33.3 (12.5) | 33.4 (12.8) | 0.939 | 33.0 (10.4) | 30.3 (9.4) | 0.110 |
| Multiplicity of Own Birth, %  Singleton  Twin  Multiple (3 or more) | 98.2  1.3  0.6 | 100 0 0 | 0.064\* | 94.9 4.7 0.4 | 97.4  2.6  0 | 0.710\* |
| Mother Had Maternal Complications, %  Yes  No  Don’t know | 14.3  73.6  12.1 | 5.5 81.8 12.7 | 0.266# | 17.9 62.8 18.9 | 13.2  63.2  23.7 | 0.660# |
| Mother Smoked During Pregnancy, %  Yes  No  Don’t know | 16.8  78.8  4.4 | 12.1 80.6 7.3 | 0.124# | 16.2 79.9 3.8 | 7.9  89.5  2.6 | 0.366# |
| Highest Level of Education Attained, %  Less than high school  High school degree or equivalent  Vocational qualifications  University/College undergraduate degree  University/College postgraduate degree | 2.8  26.8  12.2  38.7  19.5 | 1.2 27.4 7.9 40.9 22.6 | 0.322# | 2.1 16.2 7.3 42.3 32.1 | 5.3  18.4  13.2  34.2  29.0 | 0.565# |
| Height, Mean cm (SD) | 166.1 (7.0) | 180.2 (8.8) | **< 0.001** | 166.8 (7.5) | 182.4 (8.0) | **< 0.001** |
| Weight, Mean kg (SD) | 72.7 (18.9) | 82.7 (14.7) | **< 0.001** | 70.5 (17.6) | 81.0 (13.1) | **< 0.001** |
| BMI, Mean (SD) | 26.3 (6.7) | 25.6 (5.0) | 0.118 | 25.4 (6.2) | 24.4 (4.5) | 0.292 |
| Currently Smoke, % | 7.5 | 9.9 | 0.308# | 9.1 | 11.1 | 0.757^ |
| Former Smoker, % | 28.8 | 35.1 | 0.126# | 22.7 | 24.2 | 0.845# |
| Alcoholic Drinks Consumed Per Wk  0-1  2-4  4-10  10+ | 66.3  19.8  11.0  2.9 | 46.9 25.3 21.6 6.2 | **< 0.001#** | 64.3 21.7 10.4 3.6 | 36.1  36.1  22.2  5.6 | **0.016\*** |
| Low/Mod Exercise Per Wk, Mean (SD) | 4.5 (5.0) | 5.6 (4.7) | **0.009** | 4.7 (3.7) | 5.8 (7.0) | 0.376 |
| High/Stren Exercise Per Wk, Mean (SD) | 1.3 (1.7) | 1.8 (2.5) | **0.012** | 1.3 (1.6) | 1.5 (1.3) | 0.344 |
| Prescribed Medications, % | 42.1 | 25.9 | **< 0.001#** | 53.8 | 25.0 | **0.001#** |
| Recreational/Illicit Drugs, % | 5.7 | 11.2 | **0.013#** | 10.0 | 13.9 | 0.555^ |
| Fertility Treatment Themselves, % | 8.2 | 0.6 | **0.001#** | 4.1 | 2.8 | 1.000^ |

[ ] = Total respondents.

*P* value using Students two tailed TTEST versus spontaneously conceived unless specified by alternative test below.  
# = Pearson Chi squared (two-tailed) *P* value versus spontaneously conceived. Chi squared results are based on total Chi squared table results of all outcomes and not individual outcome groupings (ie all of the All Donor Conceived outcomes versus all Spontaneously Conceived outcomes).

^ = Fisher’s Exact Test (two-tailed) *P* value versus spontaneously conceived people used instead of Pearson Chi Squared for when > 20% of cells in Chi Squared table have expected values less than 5.

\* = Likelihood Ratio *P* value versus spontaneously conceived people used instead of Fisher’s Exact Test for when > 20% of cells in Chi Squared table have expected values less than 5 in Tables larger than 2x2.

Note, percentages may not equal 100% due to rounding.

Supplementary Table S17. Characteristics of Respondents by Maternal Complication.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Spontaneous | | | Donor Sperm Conceived | | |
|  | **Yes N Total [110]** | **No  N Total [657]** | ***P*** | **Yes  N Total [47]** | **No  N Total  [171]** | ***P*** |
| Age, Mean (SD) | 29.5 (11.3) | 34.1 (12.3) | **< 0.001** | 30.0 (8.2) | 33.4 (10.6) | **0.020** |
| Sex, %  Female  Male  Other | 91.8  8.2  0 | 79.3  20.5  0.2 | **0.003\*** | 89.4  10.6  0 | 86.0  14.0  0 | 0.216\* |
| Multiplicity of Own Birth, %  Singleton  Twin  Multiple (3 or more) | 96.4  2.7  0.9 | 98.8  0.8  0.5 | 0.225\* | 93.6  6.4  0 | 95.3  4.1  0.6 | 0.642\* |
| Mother Smoked During Pregnancy, %  Yes  No  Don’t know | 20.0  75.5  4.5 | 15.1  80.7  4.3 | 0.408 | 14.9  83.0  2.1 | 15.8  80.1  4.1 | 0.801 |
| Highest Level of Education Attained, %  Less than high school  High school degree or equivalent  Vocational qualifications  University/College undergraduate degree  University/College postgraduate degree | 4.5  31.8  6.4  40.9  16.4 | 2.1  25.3  12.3  39.2  21.0 | 0.101 | 2.1  21.3  14.9  38.3  23.4 | 1.8  16.4  7.0  38.6  36.3 | 0.309\* |
| Height, Mean cm (SD) | 165.7 (9.0) | 169.3 (9.3) | **< 0.001** | 167.7 (7.3) | 169.4 (9.4) | 0.187 |
| Weight, Mean kg (SD) | 75.0 (22.7) | 75.0 (17.7) | 0.991 | 73.5 (17.6) | 70.3 (15.9) | 0.279 |
| BMI, Mean (SD) | 27.3 (7.9) | 26.2 (6.0) | 0.160 | 26.0 (5.8) | 24.5 (5.2) | 0.108 |
| Currently Smoke, % | 5.7 | 7.4 | 0.525 | 6.3 | 11.3 | 0.418^ |
| Former Smoker, % | 24.8 | 31.3 | 0.185 | 36.4 | 19.0 | **0.017** |
| Alcoholic Drinks Consumed Per Wk  0-1  2-4  4-10  10+ | 72.6  13.2  11.3  2.8 | 62.2  21.6  12.7  3.4 | 0.176 | 73.3  20.0  2.2  4.4 | 55.3  26.1  14.9  3.7 | 0.067 |
| Low/Mod Exercise Per Wk, Mean (SD) | 5.1 (3.8) | 4.7 (5.4) | 0.354 | 5.4 (4.6) | 4.7 (3.5) | 0.324 |
| High/Stren Exercise Per Wk, Mean (SD) | 1.7 (2.1) | 1.3 (1.9) | 0.150 | 1.5 (1.7) | 1.3 (1.6) | 0.466 |
| Prescribed Medications, % | 45.7 | 38.3 | 0.150 | 51.1 | 47.8 | 0.697 |
| Recreational/Illicit Drugs, % | 9.5 | 6.5 | 0.250 | 6.7 | 11.8 | 0.421^ |
| Fertility Treatment Themselves, % | 4.7 | 7.5 | 0.300 | 4.4 | 3.1 | 0.647^ |

[ ] = Total respondents.

*P* value using Students two tailed TTEST versus spontaneously conceived unless specified by alternative test below.  
# = Pearson Chi squared (two-tailed) *P* value versus spontaneously conceived. Chi squared results are based on total Chi squared table results of all outcomes and not individual outcome groupings (ie all of the All Donor Conceived outcomes versus all Spontaneously Conceived outcomes).

^ = Fisher’s Exact Test (two-tailed) *P* value versus spontaneously conceived people used instead of Pearson Chi Squared for when > 20% of cells in Chi Squared table have expected values less than 5.

\* = Likelihood Ratio *P* value versus spontaneously conceived people used instead of Fisher’s Exact Test for when > 20% of cells in Chi Squared table have expected values less than 5 in Tables larger than 2x2.

Note, percentages may not equal 100% due to rounding.

Supplementary Table S18. Characteristics of Australian Respondents.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Spontaneous | Donor Sperm Conceived | |
|  | **N Total [372]** | **N Total [78]** | ***P*** |
| Age, Mean (SD) | 33.4 (12.1) | 29.6 (6.7) | **< 0.001** |
| Sex, %  Female  Male  Other | 90.0  10.0  0 | 84.6  15.4  0 | 0.164# |
| Multiplicity of Own Birth, %  Singleton  Twin  Multiple (3 or more) | 98.1  1.3  0.5 | 94.9  5.1  0 | 0.111\* |
| Mother Had Maternal Complications, %  Yes  No  Don’t know | 11.8  76.6  11.6 | 17.9  57.7  24.4 | **0.002#** |
| Mother Smoked During Pregnancy, %  Yes  No  Don’t know | 15.1  79.6  5.4 | 7.7  88.5  3.8 | 0.177# |
| Highest Level of Education Attained, %  Less than high school  High school degree or equivalent  Vocational qualifications  University/College undergraduate degree  University/College postgraduate degree | 2.4  24.3  14.6  40.7  18.1 | 5.1  15.4  6.4  50.0  23.1 | 0.054# |
| Height, Mean cm (SD) | 168.2 (7.6) | 168.9 (9.0) | 0.518 |
| Weight, Mean kg (SD) | 74.6 (18.1) | 74.3 (17.9) | 0.897 |
| BMI, Mean (SD) | 26.3 (6.0) | 26.2 (6.6) | 0.863 |
| Currently Smoke, % | 5.4 | 5.6 | 1.000^ |
| Former Smoker, % | 28.9 | 18.3 | 0.069# |
| Alcoholic Drinks Consumed Per Wk  0-1  2-4  4-10  10+ | 62.4  21.1  14.5  2.0 | 65.3  25.0  8.3  1.4 | 0.509# |
| Low/Mod Exercise Per Wk, Mean (SD) | 4.3 (3.8) | 4.7 (5.0) | 0.440 |
| High/Stren Exercise Per Wk, Mean (SD) | 1.4 (1.7) | 1.4 (1.5) | 0.973 |
| Prescribed Medications, % | 44.0 | 51.4 | 0.249# |
| Recreational/Illicit Drugs, % | 5.1 | 9.7 | 0.166# |
| Fertility Treatment Themselves, % | 8.0 | 2.8 | 0.117# |

[ ] = Total respondents.

*P* value using Students two tailed TTEST versus spontaneously conceived unless specified by alternative test below.  
# = Pearson Chi squared (two-tailed) *P* value versus spontaneously conceived. Chi squared results are based on total Chi squared table results of all outcomes and not individual outcome groupings (ie all of the All Donor Conceived outcomes versus all Spontaneously Conceived outcomes).

^ = Fisher’s Exact Test (two-tailed) P value versus spontaneously conceived people used instead of Pearson Chi Squared for when > 20% of cells in Chi Squared table have expected values less than 5.

\* = Likelihood Ratio *P* value versus spontaneously conceived people used instead of Fisher’s Exact Test for when > 20% of cells in Chi Squared table have expected values less than 5 in Tables larger than 2x2.

Note, percentages may not equal 100% due to rounding.