

# School Competition

## Solving Modern Problems with Science

### CONGRATULATIONS TO OUR WINNERS!



## *In Vitro* Gametogenesis

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Everyone is different, they have different needs, different biological functions and different attractions. We all have different desires for the future too, and that may include children. Even in increasingly chaotic times, the want for a family and settlement still runs rampant for generations to come as people still want babies. For many people having children can be a problem. It may be they're an LGBTQ+ couple (for people who are homosexual this proves to be a particular problem), they're infertile, past menopause, in a polyamorous relationship, or single and just can't find someone to have children with. There are a variety of different problems that come in the way of people and families. We need to find solutions to these problems, we need to hear the problems that different people face, rather than ignoring them like we have for so many years. Biologists should help overcome the societal norm of heterosexual, young, fertile couples. Because everyone, from many different walks of life, deserves to be happy and safe and for some that means having children.

There are orphanages and foster homes, which is one of the go-to options for same sex couples, but both of those things have something in common. The thing they have in common is that, while having any child in general is a wonderful thing to many, it isn't for everyone – some people are cut out for it and some people would just prefer to have their own biological child. IVF exists but that's only for infertile people, and not everyone else. My next suggestion would be to reduce the need for sperm and egg donors as a whole.

Which is why I think we should invest in IVG (*In Vitro* Gametogenesis) research. IVG is a process in development used to create babies with the DNA from each person, by turning adult stem cells into reproductive cells and fertilizing them. For same sex couples it means that babies are born with 50% of their DNA from each partner, which would be great because they have the chance to have a baby of their own without a third party or donor involved. They could have a biological family of their own. People who have gone through menopause no longer need to fear the 'closed window of fertility' as they'll be able to generate viable egg cells. This will benefit people who have gone through an early menopause but still want to have children – not being able to have a period will no longer have to influence your choice to have a child. People in polyamorous relationships, particularly those in fours,

would be able to have children with a bit of every person's DNA in the baby – allowing their relationships to have the same validation as other couples. People on their own would be able to use their own stem cells and turn them into the respective reproductive cells, and they'd be able to fertilize themselves: so you wouldn't need a relationship to have children. This is one of the most inclusive breakthroughs in biology, considering everyone no matter their sexuality, age, or relationship. It ensures that people are able to have biological babies of their own, thus eliminating the need for egg or sperm donors. All of this is done with skin cells that are programmed to form pluripotent stem cells, so essentially anyone with skin would be able to have children (be it on their own, past menopause, in a same sex relationship, or in a polyamorous relationship).

People would still have children in the conventional way, that is to say with a uterus and penis should they want to, but in a few years' time it would benefit so many people to have biological children of their own. Imagine the possibilities! People would also still love to adopt children and foster them too – it would still be in high demand. It's just that this alternative process of having children, this different method of growing a family has been introduced as an equally beneficial method. No one stops wanting adopted children for good – as it stands, there are about 36 couples at most waiting for every one child who is placed for adoption. This just provides an option for people who are not able to adopt in the first place.

This process didn't get the media press and attention that it deserved, at least not enough of it. This was perhaps due to a few ethical concerns by which it may raise but I don't think that's fair. I don't think is fair because people deserve to know the endless possibilities that they may introduce to millions upon billions of couples around the world who are looking to have a child. All it entails is taking a few adult stem cells, or at that any cell around the body, from the couple and fertilising them. I think only the people who don't understand the struggle of not being able to have biological children would protest new ways of including everyone in the joys of children.

In conclusion, I think that our next motion forward is to investigate making the world a better, more inclusive place and that utopia starts with biology.