

Mask Up!

C34



PURPOSE & HYPOTHESIS

Since the start of the Covid-19 pandemic last year, we have had to wear masks anytime we leave our house and anytime we are around other people. Some people do not believe masks work and do not think they protect against the spread of Coronavirus. I believe they do work and wanted to know if different types of masks work better than others and also wanted to test to see how far our saliva travels through the air. I think the thicker homemade masks will prove to be the best protection.

RESEARCH

When we were told that we should all wear masks anytime we are outside of our houses my mom started getting busy with her sewing machine making masks for everyone in the family. She used whatever leftover fabric she had, so some masks were pretty funky looking. My grandmother also started making and mailing masks to us with some cool fabrics and designs. It is hard to breathe with a mask on but the news told us it was the best protection against Covid-19. Some masks were thinner and lighter and sometimes we just used bandanas, then I saw something that made me curious. There was a graphic on the news showing how far our saliva travels when we speak and how masks are supposed to help protect others from our droplets. I didn't know our saliva traveled so far and it seems that with the combination of standing 6 feet apart and wearing a mask we should be able to slow down the spread of Covid-19.

MATERIALS

1 bandana

1 polyester mask

1 cotton 2-ply mask

1 cotton 2-ply with filter mask

1 paper surgical mask

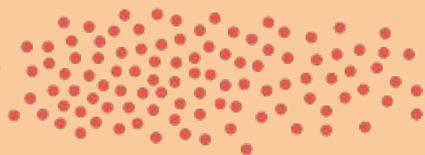
1 candle



EXPERIMENT

1. I placed a strip of tape on the floor labeling distances 1 foot apart up to 6 feet.
2. I lit the candle
3. My mom (adult), my sister (13 year-old), and I (9 year-old) tried to blow out the candle from each tape mark, without wearing a mask. This was our controlled environment.
4. We then put each different mask on and attempted to blow the candle from the same distance marks, 1 foot apart up to 6 feet, to see which mask would block out our breath the best.

**Covid-19
Carrier**



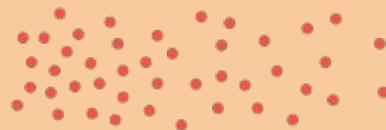
**Healthy
Person**



without mask **RISK OF SPREAD** **without mask**

HIGH

**Covid-19
Carrier**



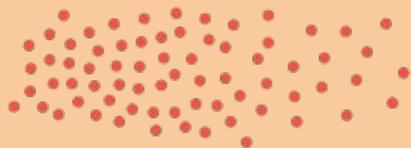
**Healthy
Person**



with mask **RISK OF SPREAD** **without mask**

LOW

**Covid-19
Carrier**



**Healthy
Person**



without mask **RISK OF SPREAD** **with mask**

MODERATELY HIGH

**Covid-19
Carrier**



**Healthy
Person**



with mask **RISK OF SPREAD** **with mask**

VERY LOW



Bandana



Polyester



Cotton 2-Ply



*Cotton 2-Ply
w/Filter*

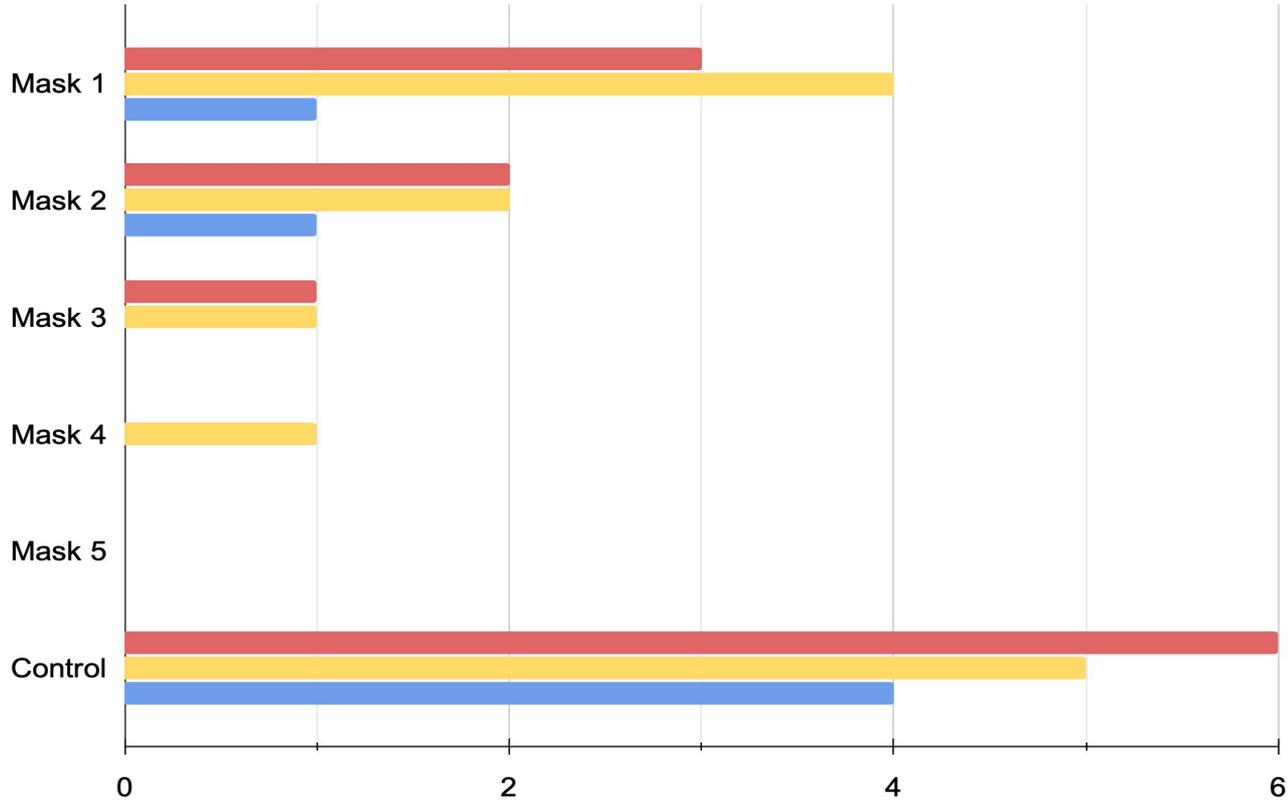


Surgical Paper



MASK UP! ANALYSIS

■ Adult ■ 13 Year-Old ■ 9 Year-Old



Mask 1 = Bandana
Mask 2 = Polyester
Mask 3 = Cotton 2-Ply
Mask 4 = Cotton 2-Ply w/Filter
Mask 5 = Surgical Paper

CONCLUSION

Masks work to protect ourselves and others from Covid-19 because they stop the spread of germs and saliva. Standing 6 feet apart also reduces the chances of contracting the virus but also from getting sick in general. I also found it interesting that younger kids do not have to be 6 feet apart because our saliva droplets don't seem to travel as far as adults, maybe because our lung capacity is smaller. I will continue to wear my mask and will probably use the thicker one because the material and filter combined does not allow for any real air to travel through it.

REAL WORLD CONNECTION

Covid-19 seems to be here for a while, and we must all do our parts to protect each other from getting sick. It's hard to do outdoor activities with masks, like riding a bicycle, but it is important not to spread our germs. I think even the thinnest masks provide some protection. I have become very aware that I need to wash my hands and keep my distance and wear a mask whenever I'm outside of my home. Even when we are able to go outside of our homes without a mask, I will be very conscious of where I breathe and what I touch, I guess that is one of the positives of this pandemic.

WORKS CITED

<https://www.ucsf.edu/news/2020/06/417906/still-confused-about-masks-heres-science-behind-how-face-masks-prevent>

<https://www.nejm.org/doi/full/10.1056/NEJMc2007800>

<https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/about-face-coverings.html>