How can I make nail polish last longer?

Problem:

How will acetone and top coat affect regular nail polish?

Variables

- Independent Variable: The item I plan to change is regular nail polish.
- Dependent Variable: The one item that will react is when I mix acetone and top coat with regular nail polish.
- Control Variables:
  - 1: Use the same brand of nail polish
  - 2: Use the same brand of clear fake nails
  - 3: Put the clear fake nails through the same tests for the same time
  - 4: Put the same amount of product into the nail polish
  - 5: Let the nail polish dry for the same amount of time

Hypothesis

- If I take a clear fake nail and mix nail polish with different substances and paint it on different fake clear nails and put them through a series of tests.
- Then I should find out if mixing different substances with regular nail polish will make it last longer or not.
- Because usually the main reason nail polish peels really easily is because it is really thick so if I mix acetone with it it will probably make it thinner so it won't peel so easily. Also when you put top coat over nail polish it can make you nail polish stronger so if I

Materials

- Top coat
- Acetone
- Nail polish
- 3 clear fake nails
- nail stand
- paper plate
- nail brush
- soap water
- keyboard
- dirt

Procedure

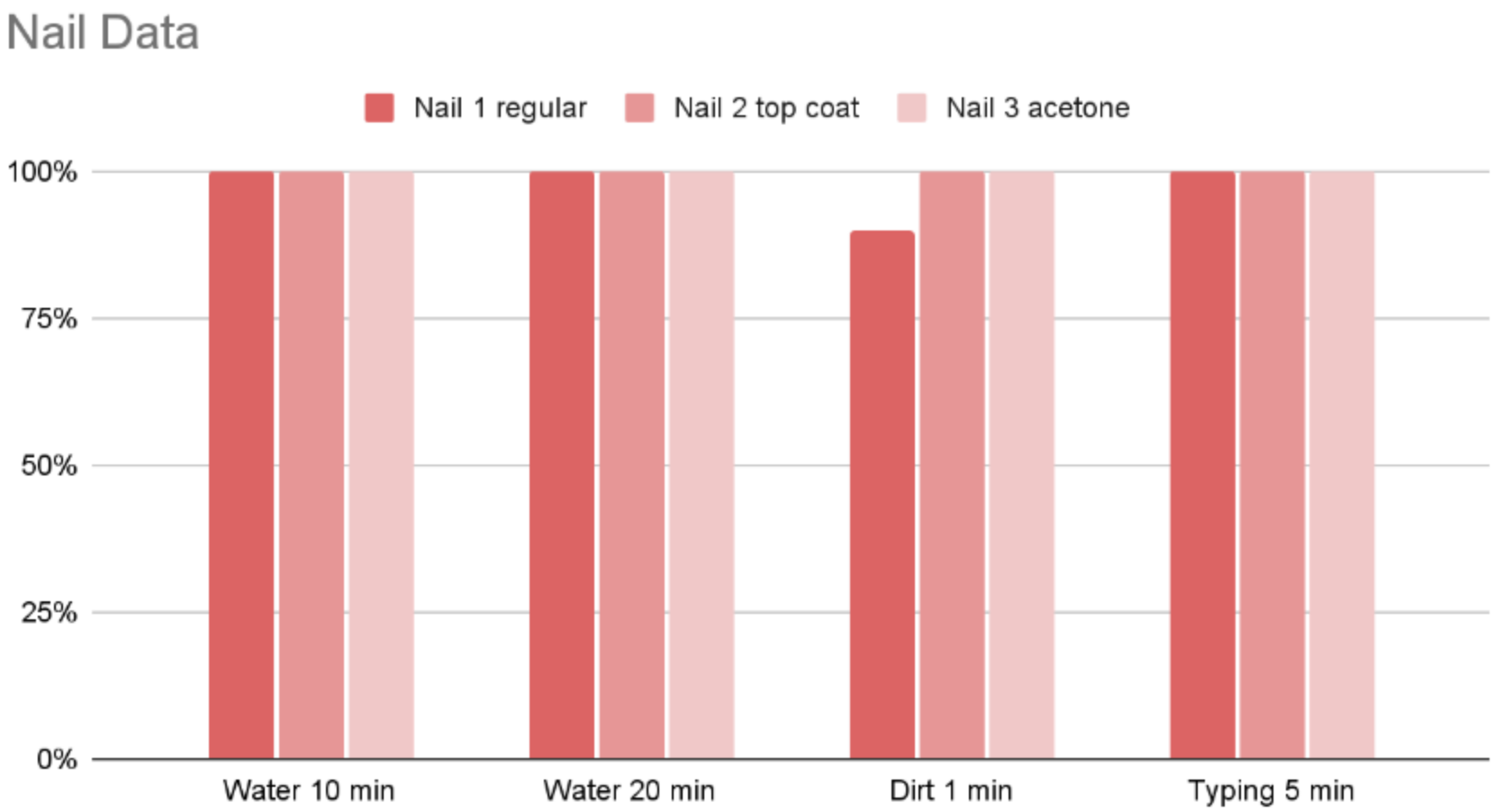
1. First I will get out all the materials I need.
2. Then I will put 2 piles that will have 6 dots of nail polish in them.
3. Next I will put 3 dots of acetone in one pile of nail polish and 3 dots of top coat in the other pile, then I will mix them around until fully incorporated.
4. Then I will put the clear fake nails onto a nail stand, then I will take my nail brush and brush the top coat and nail polish onto one clear fake nail and one with just reguler nail polish, then the one with acetone and nail polish, I will be doing one coat for all of them.
5. Then I will let them both air dry for 10 hours (over night)

Procedure Continued

6. Then once all of the nails are completely dry, I will now put them through a series of tests.
7. The first test I will do is I will take a big glass bowl and in it I will put 5 cups of water and 2 pumps of dawn dish soap and soak the clear fake nails in that for 10 minutes. Then I will take them out and dry them with a towel then I will put them in the water for another 10 minutes. This will act as when you do the dishes everyday.
8. The next test I will do is rub the nails on the dirt going back and forth for 1 minute then I will wash them off with hand soap, (just long enough to fully get them clean) then I will dry them off. This is to represent when you might be outside gardening.

Data Collection Table

	Water 10min	Water 20 min	Dirt 1 min	Typing 5 min		
Nail 1 regular	100%	100%	90%	100%		
Nail 2 top coat	100%	100%	100%	100%		
Nail 3 acetone	100%	100%	100%	100%		


Nail Data
Nail 1 regular
Nail 2 top coat
Nail 3 acetone
100%
75%
50%
25%
0%
Water 10 min
Water 20 min
Dirt 1 min
Typing 5 min

Data Analysis

Even though the top coat and the acetone nails were very clumpy i continued with the tests and nothing really happened except during the dirt test the regular nail kind of started to fade while the other nails still looked the same.

Pictures of the Experiment

Conclusion

My hypothesis was rejected because in the data the percents were very close to each other and pretty much stayed the same. The only test that really whore down the nail polish was the dirt experiment. The one that the nail polish really started to fade was the one with only regular nail polish. So in conclusion when mixing acetone or top coat with regular nail polish it makes it last a little longer but when you mix them and apply them to the nail the nail polish becomes very chunky. So I think it would be best just to use a regular nail polish and maybe put top coat on over the nail polish to make it last longer.

Conclusion

Something that could have possibly led to incorrect data is i needed a nail brush to apply the top coat on the nail so i grabbed my nail dehydrator and took the brush and washed it with soap and water then used that so maybe there was still nail dehydrator on there that could have made it clumped up. Also I needed a eye dropper for the acetone and i didnt have one so I used my sisters hair oil dropper and again cleaned it really well and was like sucking in water over and over to try and get the oil out but that could have also led to it getting clumpy.

Application

Why people should care about my project is when you paint your nails it should be fun and exciting to get to do that because it's a great way to express yourself but when you nail polish barley lasts then it just becomes a burden to always be painting your nails and when you chip them its not only going to look bad but it's also stripping a layer off of your nails making them weaker. If I could extend this project I would would mix different things like nail polish thinner or maybe even base coat to see if that makes it last longer.

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