

Association of Preventative Behaviors Related to COVID and Respiratory Diseases

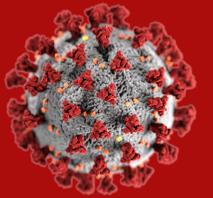
UC San Diego

Herbert Wertheim
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Among UC San Diego Students

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Background

- Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) also known as COVID-19
 - First emerged in Wuhan, China in 2019
 - Common symptoms include: runny nose, myalgia to severe respiratory failure, sore throat, fever, etc.
- Common preventative behaviors against infection
 - Wearing masks
 - Social distancing
 - Frequent hand washing/sanitizing
- A clinical study showed that prevention measures helped with the reduction of Coronavirus incidents with handwashing (relative risk 0.47, 95% confidence interval 0.19 to 1.12), mask-wearing (0.47, 0.29 to 0.75), and physical distancing (0.75, 0.59 to 0.95) (Talic et al., 2021).
 - Preventative measures practiced during the pandemic are also effective in flu prevention (CDC, 2019).
 - Thus the measures can be used in preventing other respiratory illnesses (Common Cold, Strep Throat, etc.).

Objective

- To determine whether there is a correlation between levels of concern and engagement in preventative measures for COVID-19 and other respiratory illnesses (Influenza, Common Cold, Strep Throat, etc.).

Methods

- A quantitative research study was undertaken from April 25th to May 15th, 2023, using an online survey consisting of 15 questions.
 - The survey was distributed to students from UC San Diego, including those at the undergraduate, graduate, and postgraduate levels.
 - The distribution was conducted via email and various social media platforms.
- Statistical analysis was conducted via SPSS through a Chi-square test.
- The inclusion criteria for health-related majors included those who's curriculum included some health-related courses as opposed to non-health related who had none.
- Exposure: Level of concern for COVID-19
- Outcome: Engagement in preventative behaviors for other respiratory illnesses (not including COVID-19).

Results

- There was a significant moderate correlation between levels of concern toward COVID-19 and towards other respiratory illnesses among all participants. $r(70) = .533, p = <0.001$.
- Pearson's correlation for **masking** among men was $r(70) = .540, p = .004$ and $r(70) = 0.476, p = .001$ for women. Also, men had a correlation of 0.647 regarding **social distancing** compared to women at 0.464. However, female had a Pearson's r value of 0.823 for **hand washing** compared to 0.451 for men (Table 2).
- Participants with health related majors (HR) (N = 40) had a slight to moderate correlation with preventative behaviors in relation to COVID-19 and other respiratory illnesses, while participants with non-health related majors (NHR) (N = 32) had a strong positive correlation (Table 3).
- Women were more likely to be concerned with respiratory illnesses and COVID-19, with a correlation of $r(70) = .613, p = <.001$ compared to men at $r(70) = 0.438, p = .025$ (Figures 3 and 4).

Table 1: Participants Characteristics (N=72)

	Demographics	Count (%)
Gender	Female	46 (63.9%)
	Male	25 (34.8%)
	Nonbinary	1 (1.39%)
Age Range	18-20 years old	39 (54.17%)
	21-23 years old	24 (33.3%)
	24+ years old	9 (12.5)
Race/ Ethnicity	Asian	24 (33.3%)
	Non-Hispanic White	17 (23.61%)
	Hispanic	14 (19.44%)
	American Indian or Alaskan Native	3 (4.17%)
	Black or African American	1 (1.39%)
	Mixed	15 (20.8%)
	Decline to Answer	1 (1.39%)
Major	Health Related	40 (55.6%)
	Non-Health Related	32 (44.4%)

Figure 1: Difference in Levels of Concern Towards Respiratory Disease (Excluding COVID-19) Between Different Genders

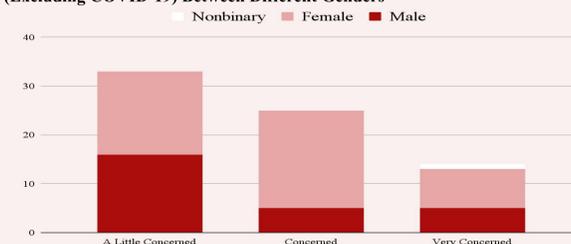


Figure 3: Masking Habits For Protection Against COVID-19 (N=72)

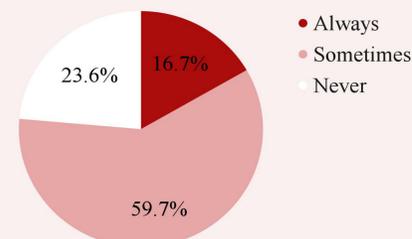


Table 2: Difference in Preventative Behaviors Between Males and Females

Preventative Behavior	Gender	Pearson's r	Significance
Masking	Male	0.540	0.004
	Female	0.476	0.001
Social Distancing	Male	0.647	<0.001
	Female	0.464	0.002
Hand Washing	Male	0.451	0.021
	Female	0.823	<0.001

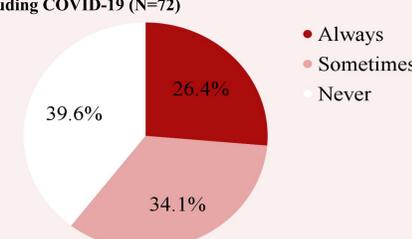
Table 3: Differences in Preventative Behaviors Between Students With Health-Related (HR) Majors and Those With Non-Health-Related (NHR) Majors

Preventative Behavior	Major	Pearson's r	Significance
Masking	HR	0.309	0.052
	NHR	0.795	<0.001
Social Distancing	HR	0.314	0.049
	NHR	0.839	<0.001
Hand Washing	HR	0.541	<0.001
	NHR	0.749	<0.001

Figure 2: Difference in Levels of Concern Towards COVID-19 Between Different Genders



Figure 4: Masking Habits For Protection Against Respiratory Illnesses Excluding COVID-19 (N=72)



Conclusions

- Students with **health-related majors tend to engage less in preventative measures**, including facial covering, social distancing, and frequent hand washing, compared to non-health-related majors, which is contrary to literature cited (Muslih, 2021).
- Male participants practice preventative measures (masking and social distancing) more often**, despite what was found in a study published by Scientific Open Access Journals, examining concerns, preventive behaviors, and career intent among college students pursuing healthcare and non-healthcare careers during the COVID-19 pandemic (Hebert, 2021).
 - This could be potentially due to the uneven distribution of male and female participants.
 - However, **females are more likely to be concerned** about COVID-19 and other respiratory diseases.

Policy Implications

- There is a necessity for an increase in awareness towards preventive behavior habits amongst those with health-related majors.
- Student Health Services can hold more educational workshops about the severity of contagious diseases, such as respiratory diseases, to increase cooperation in preventative behaviors.
- Implementing policies that acknowledge individuals' previous attitudes towards preventative behaviours can aid in promoting adherence during times of extreme necessity.

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References

