

MASCUP! Mask Policy Adherence in Tatum Arts Center on Hood College's Campus

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ABSTRACT

The purpose of this research was to evaluate mask adherence in Hood College's Tatum Arts Center. Across the United States, other colleges participated in concurrent studies to evaluate the overall effectiveness of mask use in higher education. Without proper infection prevention strategies, such as mask use, Covid-19 could have greatly impacted the feasibility of in-person higher education. Student researchers across campus recorded if individuals were wearing a mask, what type of mask, and if they were wearing it correctly. The target population of this research was college campus community members. In Tatum Arts Center, researchers systematically sampled 395 participants to observe in this observational cohort study. The goal of the research was to investigate what type of face mask was worn incorrectly most often. The researcher hypothesized that the results would show that cloth face masks were worn incorrectly most often. The three pieces of data were collected on every third individual who exited Tatum Arts Center, and the data was evaluated using Excel. The results found that there was 100% mask usage in Tatum Arts Center, and masks were worn correctly 93.16% of the time. The results revealed that surgical masks were worn incorrectly the most often, 12.94% of the time. This research helped colleges to evaluate the effectiveness of their Covid-19 mitigation plan, with the hope that it would lessen the spread of Covid-19. It is believed that these results can be generalized to other colleges of similar size.

Introduction

Covid-19 is a respiratory disease that is caused by the SARS-CoV-2 virus (Centers for Disease Control, 2021). Originating in Wuhan, China in December 2019 the virus quickly spread all over the world eventually reaching the United States in late January 2020 (Centers for Disease Control, 2021). Beginning in April 2020, the Centers for Disease Control and Prevention (CDC) began to recommend that all healthy individuals wear a face mask when in public to prevent possible Covid-19 spread (Netburn, 2021). Then in early July the CDC published a study citing masks to be an effective way to prevent the spread of COVID-19 (Netburn, 2021).

Background

When Covid-19 began to spread rapidly in the United States in March 2020, colleges and universities quickly switched to online learning. However, by Summer 2020 institutions of higher education were eager to figure out how to get students back onto campus for the fall semester. By early July the United States reached 3 million Covid-19 cases and 130,000 covid deaths, yet it still seemed possible for colleges to return back in the fall in at least some capacity if a proper return plan was put in place (World Health Organization, 2021). Masks had been proven to prevent the spread of Covid-19 by that point; therefore, careful mask adherence was a key part of return to campus plans along with robust testing and the ability to contact trace and isolate when needed (Maragakis, 2021). Of course, as with any mandate there is often haphazard adherence and there was concern over how well masks would really be worn by

students and faculty. The CDC took interest into this and set out to evaluate if and how masks were being worn on college campuses across the United States, their study was titled Mask Adherence Surveillance at Colleges and Universities Project (MASCUP!). The goal of this research, in partnership with the CDC, was to evaluate how well masks were being worn on the campus of Hood College, located in Frederick, Maryland. Specifically in the Tatum Arts Center, researchers wanted to identify what face mask was being worn incorrectly most often. It was hypothesized that the data that would be recorded during the study would show that cloth face masks were worn incorrectly most often in Tatum Arts Center.

Methods

Study Setting

The research study took place in Tatum Arts Center which is an academic building that is located on Hood College's campus.

Study Design

The research study design was an observational cohort study. The same campus location was sampled once a week for a ten-week period.

Sample

The study sample was $N = 395$. Each week the researcher attempted to sample 40 participants. Individuals were systematically sampled based on their presence in the study setting. Data was recorded on every third person. There were no exclusion criteria for this research.

Instrument/Measures/Materials

Data was recorded on standardized recording sheets. These sheets contained spaces to record the date, time of recording, location, and data on mask use, type of mask worn, and if the mask was worn correctly. Additionally, the recording sheets contained spaces to record reasons for no mask or incorrect use. The five categories of mask types that were identified were: surgical, N-95, cloth, neck gaiter, or other. At the end of each week the data sheets were submitted online. The standardization of the data sheets creates internal consistency and ensures valid results.

Procedures

To carry out this study the researcher received institutional review board approval. Additionally, the researcher completed the applicable CDC training in order to participate in research. To carry out the observation the researcher positioned themselves near an entrance/exit door of the Tatum Arts Center where they could easily see individuals entering and leaving the building. The researcher took consideration to blend in with the setting in order to not draw attention to the data collection. The researcher recorded the location, date, and time on their observation sheet for that week and then they began the observation process. Data was recorded on every third individual that the researcher observed. When the individual walked by, the researcher documented on their recording sheet if the individual was wearing a mask, if they were wearing their mask correctly, and what type of mask they were wearing. If the participant was not wearing a mask the researcher took note and documented the reason. Additionally, if the individual was not

wearing their mask correctly, the researcher took note of and documented the reason. Each week the researcher attempted to record 40 observations. At the end of the observation period, or after 40 observations, the researcher documented the time of the recording sheet. This research project was carried out once a week for a ten-week period with the data collected each week being recorded and submitted as a separate form.

Data Analysis

The collected data was entered in Excel which allowed for the creation of graphs. Those graphs were then used to analyze the results of the research.

Results

The number of individuals who were recorded wearing a mask was 395, or 100% mask use. When broken down, 93.16% of participants were wearing their mask correctly when they were seen and 6.84% were wearing it incorrectly. An overwhelming majority of participants wore cloth face masks, 73.42%. Surgical face masks were the second most common, appearing 21.52% of the time. N-95 masks were seen 2.78% of the time, close to the percentage of neck gaiters which were worn 2.28% of the time. It is worth noting that researchers observed no type of mask that would not fall into one of the descriptive categories leaving the category of other to make up 0% of masks worn (see table 1).

Table 1

Percent of Mask Use

Mask Type	Percent Use by Participants
Surgical Mask	21.52%
N-95	2.78%
Cloth	72.42%
Neck Gaiter	2.28%
Other	0%

Table 1 displays the percentage of use of the five different categories of masks that were recorded in the study. All 395 participants were wearing a mask that could be categorized, leaving the other category to 0%. Cloth face masks were seen being worn incorrectly the most, 15 times. N-95 masks were worn incorrectly the least, with 0 incorrect N-95 masks seen. When broken down into counts, 27 face masks were worn incorrectly (see figure 1).

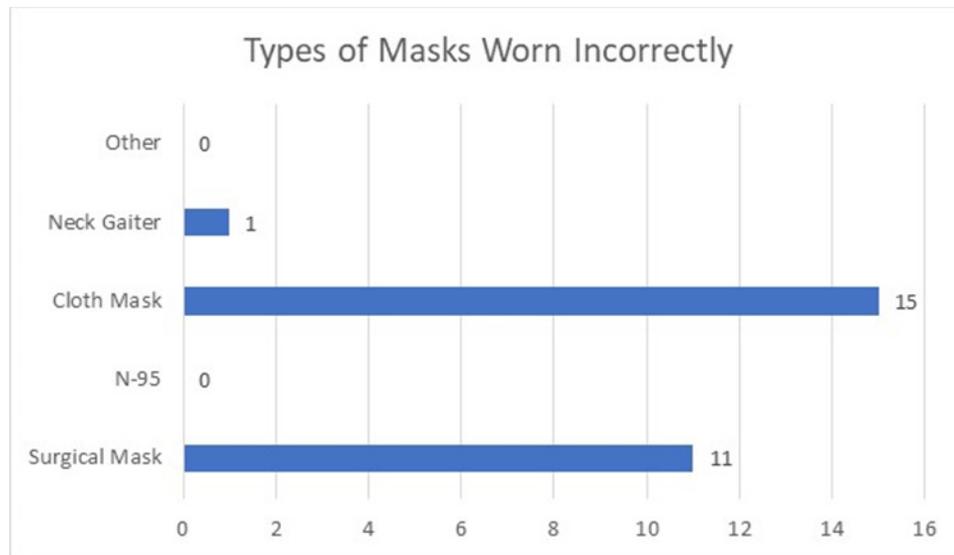


Figure 1

Types of Masks Worn Incorrectly

Figure 1 represents the count for each category of mask for how many were seen being worn incorrectly. A total of 27 masks were recorded being worn incorrectly.

The percentage of incorrect use came in at 12.94% for surgical masks, 0% for N-95 masks, 5.17% for cloth masks, and 11.11% for neck gaiters. Since no participant was observed wearing a mask that fell into the other category, there was no percentage of incorrect use to report.

Discussion

Based on the obtained results, researchers must reject the hypothesis that cloth face masks would be worn incorrectly the most often. Although it appears that cloth face masks were worn incorrectly the most often when looking at the count, the percentage of incorrect use comes to 5.17% due to the high prevalence of cloth face masks. When compared to the percentage of incorrect use for the other categories of face masks, cloth masks came in at the second lowest. The data showed that if an individual was seen wearing a cloth face mask in Tatum Arts Center, almost 95% of the time they can be expected to be wearing it correctly. This is encouraging data as cloth face masks were worn by 73.42% of the participants, making it the most common mask that was seen. The percent of incorrect use showed that surgical face masks were worn incorrectly the most; incorrect use accounted for 12.94% of all surgical masks worn. Although not hypothesized to be worn incorrectly the most, surgical face masks were the second most common type of mask seen accounting for 21.52% of all masks worn. It seems plausible that there is at least some correlation between frequency of the mask being worn and the percentage that it is worn incorrectly. Another key takeaway from the obtained data is that Tatum Arts Center recorded 100% mask use in at least capacity by participants. The results on mask usage exceeded those of other colleges and universities of a similar size. The University of Memphis which is an institution of higher education that is a similar size and in a similar geographic area had mask usage at 90% and correct usage at 83% (Mascup!, 2021). This is encouraging in that it reinforces that mask use policies are being adhered to on Hood's campus.

Conclusion

Mask use was very good in Tatum Arts Center on Hood College's campus; all participants wore a mask, and most wore their mask correctly. Participants wore cloth face masks the most, but surgical face masks were worn incorrectly the most often, although still at a low percent. The results support the efficacy and campus adherence to the mask mandate that was included as part of Hood's return to campus plan. Additionally, low Covid-19 cases at Hood College during the time frame of this research supports the effectiveness of mask use given the high percentage of correct mask use that was recorded (Hood College, 2021).

One limitation of this study is the campus itself; Hood is a very small campus with a small campus population. Researchers are unsure how results would compare if this study was carried out at a larger school. An additional limitation is the geographic location of Hood College. Frederick, Maryland is an urban geographic area where individuals are typically more compliant to mask policies. Researchers are unsure how results would compare if this study was carried out at a college or university in a more rural area of the United States.

Future studies could look further into the reasons that participants were not wearing masks. Obtaining further data in this area could be useful to amend health policies to increase correct mask usage.

Public Health Implications

The findings of this research have important public health implications in that the results reflect the strength of the mask policy that the participants were following. Evaluation of health policies and programs is extremely important because without doing so public health professionals will never know what has worked and what has not. The results of this study show that Hood College's mask policy and return to campus plan worked. Therefore, points of success from Hood's policy can be used in mask policies for other colleges and universities. These results can contribute to future effective health policies. A Healthy People 2030 goal is to expand well performing public health departments and programs (US Department, 2020). The results of this study show an effective health policy, and behind that effective public health planning. Hood College's policy can be spread and shared to improve masking across the country. As Covid-19 continues to remain present in the United States simultaneously while society pushes for a return to normal, effective public health policies such as masking will remain extremely important. Additionally, high quality public health programs and policies will be key for public health department's future readiness for health events.

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