Investigation and Evaluation of COVID-19 Response by Purdue University of Fort Wayne in Welcoming Back Students

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This research investigates the success of Purdue University, Fort Wayne's Campus Kickoff event in the middle of the COVID-19 Pandemic and the planning to minimize the spread and infection. Researchers observed the attending student population, along with the presence of the virus on campus to determine the precautions effectiveness. Purdue University, Fort Wayne committed a normal approach while other campuses moved online. After examining the school's infections before and after the Campus Kickoff event, we have discovered infection rates across campus proved there was no significant outbreak because of the event, meaning the prevention measures show to have been successful.

Keywords: COVID-19, coronavirus, Purdue, event, hosting, Fort Wayne, spread, safety

INTRODUCTION

In the year 2020, a pandemic struck the United States of America and the rest of the globe known as COVID-19, colloquially known as the coronavirus. This virus spread chiefly through person-to-person contact through respiratory droplets, leading to isolating and social distancing measures and introduced a culture of remote personal interactions (Landon, 2020). While the virus typically affects the elderly and those with pre-existing conditions, the long-term effects of the virus are still potentially unknown. To err on the side of caution, schools and colleges were driven to adopt virtual meetings out of concerns for student and faculty safety, campuses were shut down, and live classes were canceled, including Purdue Fort Wayne. To ensure the health and safety of the campus community, the Chancellor of Purdue Fort Wayne responded to the declaration by the World Health Organization reaching pandemic status by extending spring break and moving classes online through the end of the spring semester (Elsenbaumer, 2020).

As summer passed and a new semester approached, schools and campuses across the nation raised concerns about how to welcome safely welcome students back to the community while the COVID-19 virus continued to spread**.** As students returned, many schools opted to use telecommunication and other virtual methods to welcome students, which may have been of lower risk but potentially less engaging to students (Kelly, 2020).

To celebrate the coming of a new semester and a partial return to in-person classes, Purdue University of Fort Wayne instead opted to host a two-week-long live event known as Campus Kickoff to introduce students to the campus and the new safety standards set in place. This event took place from August 22nd

to September 3rd. Campus Kickoff is traditionally a series of programs and events hosted annually on the campus commons intended to acclimate students to campus culture (PFW). During the event, food, gifts, and goodies were distributed and games were available for students to enjoy themselves with. However, the objective this year was different, as students were not encouraged to stick around for long to prevent contact and spread.

The event was organized by the Student Life and Leadership department of PFW which oversees several student-related programs such as the Student Activities Board or several student organizations as well as planning for activities throughout the semester that are designed to help engage and interact with students on and off-campus (Campus Kickoff, 2020).

The event also deployed several different strategies and measures designed to keep people safe, healthy, and distanced. Such precautions included socially distanced lines, mandated masks, and regularly sanitized equipment. Volunteers, security, and staff were trained to effectively deal with violations as well as how to quickly and safely interact with guests with minimal risk. The school also tries to keep track of the presence of the virus on campus through the PFW COVID-19 Dashboard which documents the number of infected and quarantined students on campus (Prepared).

The intended purpose of this research is to evaluate if the safety measures, precautions, and other strategies used during this event were effective in preventing the spread of the COVID-19 virus. If so, this documented event could potentially be used as a case study for other planned events to emulate with similar success. Alternatively, the null hypothesis of this research is these initiatives were unsuccessful and should not be replicated in the future without necessary adjustments.

This research is segmented into four sections: A literature review, methodology, research findings, and the conclusion and research implications. The literature review is a compilation of resources used to help assess the hypothesis. The methodology section focuses on the hypothesis and how relevant information may be collected. The research findings section is the actual evaluation and organization of gathered data. The final section, the conclusion, is summarizes the research, including potential limitations and potential future research projects.

LITERATURE REVIEW

COVID-19 and the associated pandemic have affected most industries including higher academia. Schools across the country are scrambling to find plans that might benefit all parties and would not significantly reduce enrollment and participation. Some plans might include accelerated class schedules, hybrid classes, or returning to online classes. Because three distinct lines of crisis – public health, economic and higher education -- involved in discussing reopening that depends on a school's response, there is no generic action that can be taken that would be satisfactory (Widmer, 2020). In a survey by the education technology firm known as Top Hat of approximately 3,000 students, it was found that a stunning majority of students felt that virtual learning and online classes were unengaging (78%) and that they felt that virtual learning was inferior to typical in-person classes (68%). Professors echoed this sentiment in a survey conducted by the *Chronicle of Higher Education*, where a strong majority of faculty and administrators believed these online courses were worse in quality compared to live teaching. However, the majority understand the circumstances demanded a response, as approximately 70% felt the crisis response from institutional leadership and professors was good to excellent (Kelly, 2020).

Due to the uncertainty of the pandemic and its unprecedented nature, the situation requires an adaptive and evolving response to the shifting circumstances. Despite this, school leaders functionally need to operate on four different assumptions developed by John P. Bailey, a fellow at the American Enterprise Institute, in his blueprint for allowing students to return to school. (Bailey, 2020). The first assumption is that schools will reopen in the fall, with closures occurring as necessary in response to localized outbreaks. The second assumption is that schools that reopen will need to adapt their existing infrastructure to accommodate new guidelines and regulations, such as social distancing and disinfecting of classrooms. The third assumption is that accommodations will need to be provided to students and faculty at a heightened risk due to age or other health conditions. The final assumption is that a vaccine will likely not be widely

available for a significant amount of time, at least eighteen months or so, so plans should be considered for not only this fall semester but for the next three semesters as well (Bailey, 2020).

Purdue University of Fort Wayne has committed to more of a return to normal approach but with a larger catalog of hybrid and online classes and an emphasis on enforcing social distancing and other precautionary guidelines. The event was chiefly organized by James Velez, the school's Student Life, and Leadership Coordinator, and his team to engage students in the community while keeping them safe. Velez had three principal reasons why we decided to hold the event live instead of hosting it online as other schools in the region have done.

The first reason given for the school's live return was that Purdue Fort Wayne had the unique trait of not being as insulated as other college towns and communities, as it is a school with a significant number of students that live off-campus and not in housing. Therefore, the inclination of having the coronavirus is a lot higher and more dependent on the conditions of the environment of the entire Fort Wayne community (Velez, 2020). Colleges are typically considered to have a "small-world network," in which students can reach others in just two steps. That means that "even if two students do not share a course, they share a class with a third party" (Kelly & Columbus, 2020). Even if in-person contact is reduced on these campuses, there would still be a high chance of potential spread, whereas PFW's community is less concentrated.

Second, as the school had been planning to hold in-person and hybrid classes that upcoming semester, the Student Life and Leadership department needed to ensure that students could understand the new guidelines with their new responsibilities in following them and, in turn, behave accordingly and in lockstep with the school's expectations for the rest of the semester (Velez, 2020).

Finally, to lift moods after a disappointing and unexpectedly different spring semester, Student Life wanted to safely re-energize spirits without compromising health using advice from the Center for Disease Control (CDC) and health experts. In a survey of over 16,000 students, returning to live in-person classes appealed to a clear majority of students with 79% in favor (Patch, 2020). A likely reason for this might be that students largely value campus amenities and activities provided to them. Velez also mentions that it allowed the school to provide food-insecure college students with a free meal every day for those two weeks (Velez, 2020).

According to classifications by the CDC, this event would be considered to be a higher-risk gathering based on the presence of non-local or out-of-state attendees. However, paying heed to recommended preventative measures provided by the CDC has proven helpful, however, risk mitigation is not risk elimination.

A couple of potential concerns for Velez as the event approached were that students would not follow the recommended precautions or that some carried out strategies would not be as effective in keeping people safe and distance because of their inexperience. The school also consulted with the Allen County Health Department about any concerns they may have had as well. Their feedback was primarily just to be mindful of keeping students separated and to remind them of all the guidelines. Besides those few concerns, Velez and his team were confident these measures would prove effective.

METHODOLOGY

Methods Overview

This study is qualitative research in nature, intended at resolving and evaluating whether the safety measures and procedures were effective at preventing an outbreak of the virus on campus. We expect that if there is less than a 50% increase in cases reported overall on campus after the first two weeks of school, the measures were likely significantly effective in preventing an outbreak.

Participants, Sample, and Demographics of Population

For this report, we interview James Velez of the Student Life and Leadership Department of Purdue Fort Wayne. During the interview, the following questions were asked:

- Can you introduce yourself and elaborate on what you do as the director of the Student Life and Leadership Department?

- Can you provide a brief explanation of Campus Kickoff?
- Most other schools in our region have been apprehensive about holding in-person events for back-to-school. Why have we decided not to follow that trend?
- Many safety guidelines and precautionary measures were put in place during the event to keep everybody safe. What were some of these precautionary measures and the line of thinking behind them?
- Were some precautions more successful than others?
- Overall, do you think these guidelines were successful in preventing a spread on campus?
- By the numbers, were there any cases that could have been traced back to the event?
- What are your takeaways or lessons learned from this event? How might they affect any future plans for holding similar events? What advice would you offer to other organizations looking to hold similar events?
- How many students have attended this event this year compared to last year?

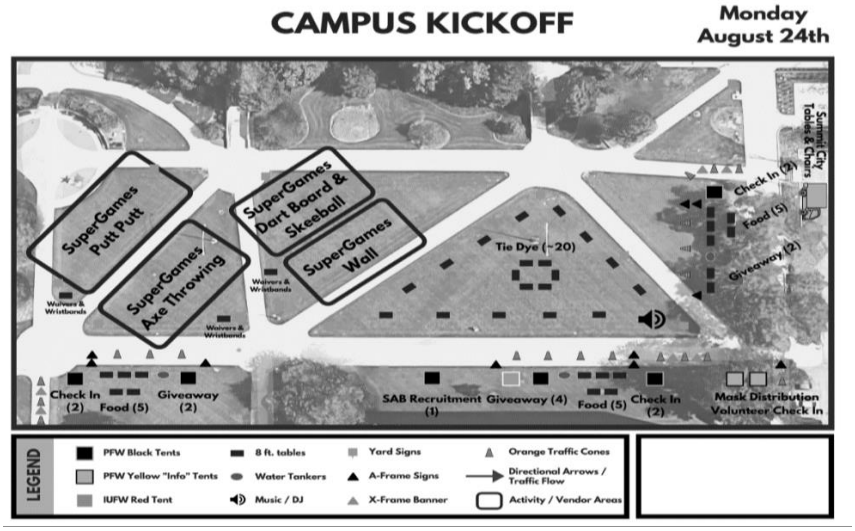
Data involving the presence of the virus was collected from the Purdue Fort Wayne COVID-19 Dashboard from the weeks preceding the events, during the event, and after the events. These numbers include self-reported cases to the school's CARE Team, or Human Resources department from students that have at least one in-person or hybrid class on campus.

Procedure

The event was held on the campus commons from between 11:00 AM to 2:00 PM during peak school attendance hours. The event was mapped out initially to have three different entrances to minimize personal contact between students but reduced that to two different entrances after a couple of days.

The event used as much of the campus common grounds as possible and used signs and cones to direct traffic of students, preventing them from getting too close to one another. Tents were spaced out to minimize contact between lines and allowed for students in lines to distance themselves responsibly socially from each other. Masks were distributed along the main entrance nearest the parking lot and the event's amenities were afforded enough real estate to keep students from being too close together.

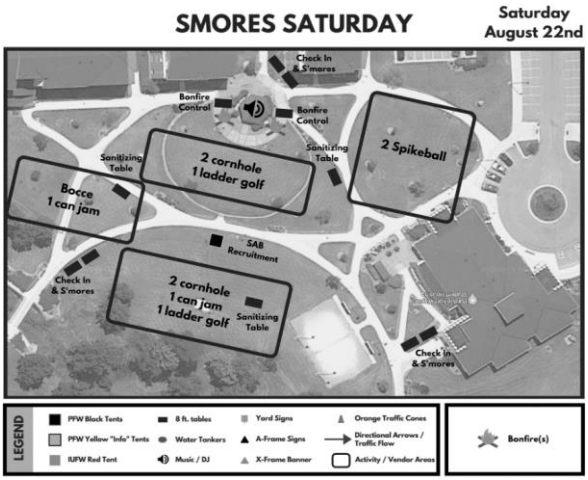
FIGURE 1
CAMPUS KICKOFF MAP



Some events such as S'mores Saturday were held off-campus on the Student Housing Grounds to lower attendance and fewer amenities. Since these events were held chiefly to serve students in student housing while campus events served both students living on and off campus, these events had fewer attendees. These

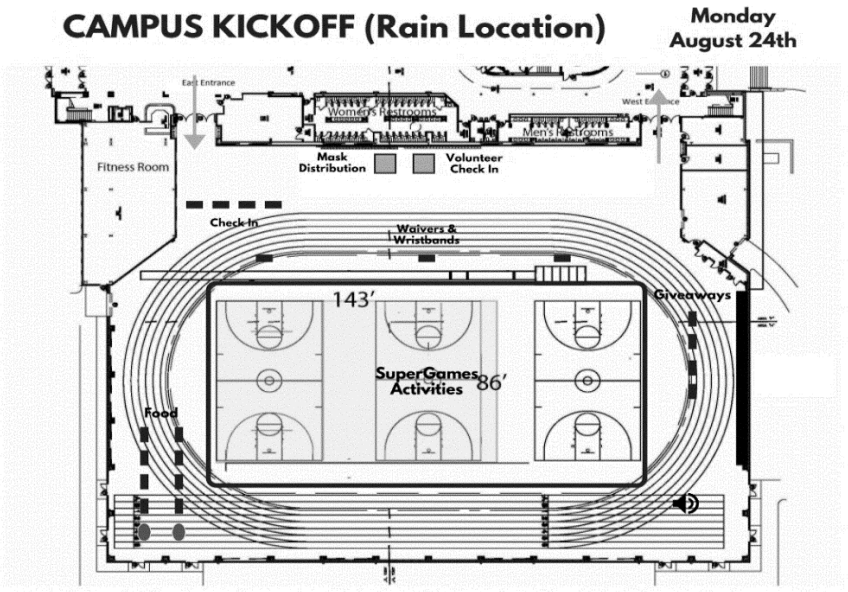
events were held in a different area than the common campus grounds and needed to have the configuration adapted to keep the same philosophy of keeping students safe and distanced.

FIGURE 2
SMORES SATURDAY MAP



In case of poor weather conditions, a backup plan of moving the event location to the school's athletic center was considered. While weather conditions this year were not considered poor, Student Life and Leadership needed to make sure that in the case that students were moved indoors to celebrate returning to campus, they needed to devise a unique plan and approach to keep these students and faculty safe. This includes a separate entrance and exit locations and a readily accessible mask distribution stand near the entrance. While there is less space to use in the gymnasium so social distancing may be harder to encourage or enforce, capacity limits and sanitation is considerably much easier for volunteers and staff to control than if the event were held in an outdoor location.

FIGURE 3
CAMPUS KICKOFF "RAIN DATE" MAP



Statistical Analysis and Measurement

Compared to last year's event, before the pandemic struck, the attendance typically numbered between 300 and 1,100 attendees, with 576 students and faculty attending the debut event and an average of 659 students attending across the six events over five days, and a median of 730 attendees. This year, the debut event on common campus grounds saw 946 attendees and for the first week, saw an average of 635 students and faculty attending the events and a median of 621 students.

TABLE 1
ATTENDANCE AT CAMPUS EVENTS 2019-2020

2019 PFW Welcome Week Attendance	
Welcome Week - Go Local Fair 8.26.2019	576
Welcome Week - Root Beer Float Social 8.27.2019	885
Welcome Week - Sidewalk Chalk Competition 8.28.2019	915
Welcome Week - Field Day 8.29.2019	1,166
Welcome Week - Block Party 8.29.2019	336
Welcome Week - Tailgate 8.30.2019	78
Total Participants	3,956

2020 PFW Campus Kickoff Attendance	
Campus Kick-off - S'mores Saturday 8.22.2020	300
Campus Kick-off - Campus Kickoff 8.24.2020	946
Campus Kick-off - Intramural Kickoff 8.25.2020	944
Campus Kick-off - Campus Connections Fair 8.26.2020	805
Campus Kick-off - Spirit Party 8.27.2020	379
Campus Kick-off - Make Your Own Street Signs 8.28.2020	438
Total Participants	3,812

Because of the shorter times for 2020's events, Campus Kickoff was instead split into two weeks. The event's second week hosted an average of 662 attendees, with a median of 582 attendees across the four days.

TABLE 2
CAMPUS KICKOFF WEEK 2 ATTENDANCE

2020 PFW Campus Kickoff Attendance – Week 2	
Campus Kickoff - Breakfast 8.31.2020	**478**
Campus Kickoff – Root Beer Float Social 9.1.2020	**1029**
Campus Kickoff - Trivia and Movie Night 9.2.2020	**114**
Campus Kickoff - College Pride Picnic 9.2.2020	**1109**
Campus Kickoff - Virtual Reality Games 9.3.2020	**582**

Purdue University launched the COVID-19 dashboard on Friday, September 4th so data before was not publicly available, and historical data is difficult to find, as the dashboard was designed as a snapshot of current conditions. After contacting Jeffrey Malanson, a director of strategic planning, at the Office of Academic Innovation at Purdue University of Fort Wayne as well as the campus's point of contact for all

questions and concerns relating to COVID-19, historical data from the weeks before, during, and after the event was provided.

TABLE 3
COVID-19 STATISTICS

PFW COVID-19 Weekly Snapshots (From August 14th to September 17th)				
Dates	**New Cases**	**Active Cases**	**New Quarantines**	**Active Quarantines**
8/14-8/20	**1**	**1**	**7**	**7**
8/21-8/27	**8**	**9**	**34**	**41**
8/28-9/3	**22**	**30**	**135**	**169**
9/4-9/10	**5**	**27**	**46**	**181**
9/11-9/17	**10**	**15**	**34**	**80**

According to Dr. Malanson, some things to note about the data is the cases do not reflect when students were exposed to COVID-19 or tested positive but when students notified the school of their infection by submitting their CARE form. Therefore, some cases may in reality have been infected earlier than noted. Dr. Malanson also pointed out that since the event was outdoors, mandated masks, and used proper social distancing guidelines, from a COVID safety perspective, it was unlikely that any viral transmission reflected in these numbers could be traced back to the event.

FINDINGS

After compiling the school's infections from before and after the Campus Kickoff event, we have discovered that even though overall attendance was not significantly impacted, the infection rate across campus did not prove there was any significant outbreak because of the event, meaning the prevention measures show to have been successful and helped keep everyone on campus both safe and entertained.

While attendance was expected to drop as the events were planned to be shorter, it seemed to have been consistent with last year's attendance. However, the events for 2020 planned on not having students stick around at the event as long to minimize contact. There has not been any further data collected on the duration of student and faculty visits or participation in activities or amenities, so assessing the strategy of changing the schedule and locations to minimize contact is inconclusive.

Before the first week of school, cases were minimal, but once students returned to campus, the new case count began rising. The first day was August 24th, so cases before then were minimal and unlikely to have been reported since there was not as much of a campus presence then. During the first week of school, cases relatively spiked, but the case count remained low. The second week of school saw another sharp rise in cases as now 30 students were confirmed to have the viral disease. During the third and fourth weeks of school, due to greater quarantined numbers and a smaller presence on campus in general, the number of active cases decreased.

As the events were held during these two weeks, it would be expected that cases would have continued to rise into the third and fourth weeks, however, they started to decline, as did the school's active case count. Our expectation standard of a 50% increase in active COVID-19 cases has not been met, as the cases instead declined by 10% and 44.4% for the third and fourth weeks respectively. In comparison to attendees over those first two weeks, the number of active cases was much smaller and discovered active cases were likely quarantined at the time and could not take part in the welcoming events.

Therefore, the hypothesis that the Student Life and Leadership's planned initiatives and strategies at the Campus Kickoff event were effective in helping prevent any spread of the virus across campus was

confirmed. Therefore, the null hypothesis the strategies were not effective in mitigating an outbreak on campus can be denied.

CONCLUSIONS

Implications for Management

Many schools this past semester had moved online as live events were considered to have too much risk of outbreaks and viral spread associated with them. This research analyzing the safety measures and practices can help schools move back to hosting live events. Because of how quickly these cases can spread, as shown by the school's new case count for the first couple of weeks, other school's concerns about safety are shown to not be wholly unjustified. However, since the spike was relatively short-lived and began to subside quickly after, it is shown that it is possible to contain and control the virus from spreading too fast through proper procedures and safety measures. In determining the risk of holding these events, the research shows that campuses are at least capable of mitigating the risk surrounding the situation.

The maps provided by James Velez can be easily adaptable to other campus grounds and sanitation strategies. As shown by the fact these events were not all in a common location, they prove to be versatile in location, while serving similar numbers concerning attendance.

The timing of holding these events can also considerably affect this decision. Since the event was not held during any peak of infection, it did not contribute to an outbreak. If conditions prove different for another campus, then hosting events likely would not be as large of a concern. Since conditions such as weather, low infection rates, with social distancing procedures and guidelines allowed for minimal transmission, it would be best for other campuses to replicate those conditions if they expect to host a similarly sized event. Therefore, since the coronavirus is better controlled in warmer conditions and can spread more easily as it gets colder since social distancing guidelines are easier to adhere to, it might not be as recommended to host a similar event during the wintertime, as the chance of there being an outbreak might be more likely, and harder to control (Landon, 2020).

Limitations

Some limitations of our research include the fact that we analyzed only one campus. Especially since this campus has a more unique culture and demographic makeup than standard college campuses. Since Purdue Fort Wayne is less insulated than other college campuses and towns and more integrated with the city of Fort Wayne, it is culturally different from many other college campuses and we can expect that that could influence our results. Because of that, it's hard to reasonably draw an indisputable conclusion about the research for campuses across the country. Purdue Fort Wayne's events may have been mostly unaffected because the timing of the event was also beneficial. Since cases were not peaking in Fort Wayne overall at the time, the spread may have been mitigated because of a lack of opportunity to spread. If the events were held in the middle of another seasonal peak, the results may have been different, and the procedures would be more put up to the test.

Other limitations include if an outbreak had occurred on campus sometime after this event, it would be difficult to attribute it to the campus event or reopening the school campus in general. Due to a lack of contact tracing systems, it is difficult to discern whether the event was the culprit. Also, more comprehensive data about event attendance and COVID-19 cases could have helped this data draw more conclusive conclusions. Therefore, it would be difficult to assess whether the safety measures and prevention planning were effective or not. Since the active case count of COVID-19 on campus can come from various sources not including these events, any associations, and correlations built between the two have the possibility of being coincidental.

Finally, because of the lack of a proper control group, there is no real-world standard for this data to be tested against. However, holding an event without any precautionary measures to limit the spread and putting hundreds of people at risk of infection for the sake of research is not ethical and can be dangerous.

Future Research

In the future, we can expect to expand the scope of our research by analyzing the impact of more school events and other campuses. Also, as we are more aware of the limitations of this research conducted, we can control for them in the future by utilizing a control group strategy with a more isolated or shut down campus to measure the effectiveness of these measures or the danger of hosting an event instead of shutting down more effectively.

A more detailed measurement of data can help us express a more conclusive assessment of reopening the campus and hosting a medium-sized event during a pandemic. Such data would include contact tracing of students attending, with the allotted time that students spent at the events, and the rate of participation in event activities. Also, hosting one of these events indoors could be valuable to help emulate conditions for a winter event, such as colder weather, closer distancing, and less air ventilation to see if these different conditions significantly impact the data results or lead to an outbreak, or if the social distancing guidelines and other precautionary measures prove as helpful.

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