CHARLES UNIVERSITY

FACULTY OF SOCIAL SCIENCES

Institute of Political Studies

Department of Political Science

Bachelor's Thesis

Year of Defence **Student's name**

2024 **VUKAN BOZOVIC**

CHARLES UNIVERSITY

FACULTY OF SOCIAL SCIENCES

Institute of Political Studies

Department of Political Science

Biopolitics and Digital Surveillance in the United States during the COVID-19 Pandemic

Bachelor's Thesis

Author of the Thesis: Vukan Bozovic

Study programme: Politics, Philosophy and Economics

Supervisor: prof. Mgr. Jakub Franěk, Ph.D.

Year of the defence: 2024

Declaration

1. I hereby declare that I have compiled this thesis using the listed literature and resources only.
2. I hereby declare that my thesis has not been used to gain any other academic title.
3. I fully agree to my work being used for study and scientific purposes.
4. During the preparation of this thesis, the author used basic tools for checking grammar and spellings.

In Prague 16/07/2024 Vukan Bozovic

References

BOZOVIC, Vukan. *Biopolitics and Digital Surveillance in the United States during the COVID 19 Pandemic,* Praha, 2024. Bachelor's thesis (Bc). Charles University, Faculty of Social Sciences, Institute of Political Studies, Department of Political Science.

Supervisor prof. Mgr. Jakub Franěk, Ph.D.

Length of the Thesis: 83751 characters

Abstract

The advent of COVID-19 offered a great test for the healthcare and governance systems in the United States. The severity of the pandemic prompted the United States to embrace digital surveillance technologies to suppress the spread of the disease and neutralize its impacts on the health of its citizens. The purpose of the study was to investigate the application of Michel Foucault's biopolitical framework in the context of digital surveillance measures implemented in the United States during COVID-19. The key objectives of the study entailed examining how digital surveillance technologies contributed to the biopolitical governance of populations in the United States during the COVID-19 pandemic, examining the ways in which the use of digital surveillance for pandemic response impacted individual privacy, autonomy, and the construction of identity, and analyzing the extent to which the normalization of digital surveillance during the pandemic led to the development of new power structures and social norms and how individuals circumnavigated and resisted these influences. The methods used in the study included qualitative and quantitative analysis, where case studies, secondary interviews, and previous research studies, among other sources, were utilized in data collection. The findings of the study showed that several digital surveillance technologies were employed in the United States to address the COVID-19 pandemic, which were affecting suppressing its spread. The study also realized that there were several policies and strategies that were adopted during the deployment of digital surveillance technologies. The findings of the study also showed that digital surveillance technologies had some implications for public health governance. The digital surveillance technologies also raised privacy concerns and had an impact on the autonomy of individuals. Besides, the study discovered that the adoption of digital surveillance technologies had an impact on individual identity construction and the

normalization process during COVID 19. The study offered an essential framework that could be imperative for decision-making while addressing pandemics in the future.

Abstrakt

Příchod COVID-19 nabídl skvělý test pro systémy zdravotní péče a správy ve Spojených státech. Závažnost pandemie přiměla Spojené státy, aby přijaly technologie digitálního sledování, aby potlačily šíření nemoci a neutralizovaly její dopady na zdraví svých občanů. Účelem studie bylo prozkoumat aplikaci biopolitického rámce Michela Foucaulta v kontextu opatření digitálního dohledu implementovaných ve Spojených státech během COVID-19. Klíčové cíle studie zahrnovaly prozkoumání toho, jak technologie digitálního sledování přispěly k biopolitické správě populací ve Spojených státech během pandemie COVID-19, a prozkoumání způsobů, jakými používání digitálního sledování pro reakci na pandemii ovlivnilo soukromí jednotlivce, autonomii a konstrukce identity a analýza toho, do jaké míry normalizace digitálního sledování během pandemie vedla k rozvoji nových mocenských struktur a společenských norem a jak jednotlivci tyto vlivy obcházeli a odolávali jim. Metody použité ve studii zahrnovaly kvalitativní a kvantitativní analýzu, kde byly při sběru dat mimo jiné použity případové studie, sekundární rozhovory a předchozí výzkumné studie. Závěry studie ukázaly, že ve Spojených státech bylo k řešení pandemie COVID-19 použito několik digitálních sledovacích technologií, které měly vliv na potlačení jejího šíření. Studie si také uvědomila, že během zavádění digitálních sledovacích technologií bylo přijato několik politik a strategií. Závěry studie také ukázaly, že digitální sledovací technologie měly určité důsledky pro správu veřejného zdraví. Technologie digitálního sledování také vyvolaly obavy o soukromí a měly dopad na autonomii jednotlivců. Kromě toho studie zjistila, že přijetí technologií digitálního dohledu mělo dopad na vytváření individuální identity a proces normalizace během COVID 19. Studie nabídla základní rámec, který by mohl být nezbytný pro rozhodování při řešení pandemií v budoucnu.

Keywords

Biopolitics, Digital Surveillance, COVID-19 Pandemic, Foucault, Governance, Privacy, Autonomy, Power Structures, Social Norms, Resistance, Case Studies, Qualitative Analysis, Quantitative Methods.

Klíčová slova

Biopolitika, digitální dohled, pandemie COVID-19, Foucault, vládnutí, soukromí, autonomie, mocenské struktury, společenské normy, odpor, případové studie, kvalitativní analýza, kvantitativní metody

Název práce

Biopolitika a digitální sledování ve Spojených státech během pandemie COVID-19

Table of Contents

Introduction

The advent of COVID-19 offered a great test for the healthcare and governance systems of several countries across the world. After the identification of the first cases in Wuhan, China, many countries, including the United States, still did not take the issue of the pandemic seriously until the pandemic started spreading across the globe (Platto et al., 2021). The COVID-19 pandemic is believed to have led to significant developments in digital surveillance and biopolitics. Biopolitics can be expressed as how biological features of human life are capable of becoming subject to political control and governance. This concept became highly relevant during the COVID-19 pandemic as governments were known to implement measures that were aimed at managing public health (Platto et al., 2021). The measures employed by the government included lockdown and movement restrictions, vaccine policies, lockdown mandates, and testing regimes, among others. The pandemic is also known to have accelerated the adoption of digital surveillance technologies ostensibly for managing public health, namely contact tracing apps, location tracking, vaccine passports, temperature screening, and workplace monitoring, among others (Suryasa et al., 2021). Michel Foucault's biopolitical framework is an essential framework that was critical in the implementation of digital surveillance measures to address COVID-19 in the United States.

Michel Foucault refers to a French social theorist and philosopher who introduced the concept of biopolitics in the 1970s as part of a comprehensive analysis of power in modern society (Foucault, 2008). Biopolitics can be expressed as the practice of modern nation-states that regulates their subjects through an explosion of diverse and numerous techniques for attaining the subjection of bodies and population control (Bruff, 2018). The key aspects of Foucault's biopolitical framework include biopower. It entails the ways in which power is capable of manifesting itself in a modern era by focusing on the management and regulation of life itself. Biopower is known to operate at two levels, which include the whole population

(biopolitics) and the individual body (anatomo-politics) (Foucault, 2008). Another key aspect of Foucault's biopolitical framework is governmentality. Governmentality refers to a concept that was developed by Foucault in his later work, predominantly in his lectures at the College de France. Governmentality entails the way governments attempt to produce citizens that are best suited to fulfill the policies of the government. The key features of governmentality include rationalities, which entail ways of thinking about the government; technologies, which include the practical mechanisms through which governing is accomplished; and subjectivities, which are the collective identities or kinds of individuals that emerge from and support these governing practices (Wallenstein & Nilsson, 2013). The knowledge-power nexus is another key aspect of Foucault's biopolitical framework. The concept is known to emphasize the complex relationship between power and knowledge.

Another aspect of Foucault's biopolitical framework is disciplinary power. Disciplinary power refers to a specific form of power that is believed to have emerged in the 18th and 19th centuries, focusing on the optimization and control of individual bodies (Wallenstein & Nilsson, 2013). The characteristics of disciplinary power include surveillance, which is the constant monitoring of an observation; normalization, which entails establishing deviations and norms; and examination, which includes combining surveillance and normalization to classify individuals. Besides, regulatory power is another aspect of Foucault's biopolitical framework. Regulatory power is known to operate at the level of the population rather than that of individuals (Takács, 2017). It arose alongside disciplinary power but focuses on managing large groups through broad interventions and statistical analysis. The key features of regulator power include the use of probability and statistics, population-level interventions, and the management of security and risks.

The application of Foucault's Biopolitical Framework to digital surveillance measures at the time of COVID-19 in the United States is capable of offering a fascinating lens through

which to analyze the intersection of technology, public health, and power. One way in which Foucault's Biopolitical Framework was applied to digital surveillance in addressing COVID-19 in the United States is through the concept of biopower in the digital age (Takács, 2017). During the period of COVID-19, we witnessed a significant amplification of biopower through digital technologies. The digital biopower is likely to represent a fusion of traditional biopolitical strategies with progressive technological capabilities. The key aspect of the concept of biopower in the digital age is the digitization of health monitoring (Kristensen, 2013). The OVID-19 pandemic is known to have accelerated the shift towards digital health monitoring. This permitted the real-time and large-scale collection of data and analysis of health information. Another feature of this concept is scalability, where digital biopower can be utilized simultaneously at the population and individual levels, enabling macro- and micro-management of health (Kristensen, 2013). Integration into the private and public spheres is another feature of this concept. Examples of the concept of digital biopower in detail include contact-tracing apps, where the biopower aspect of these apps entails that they represent a form of decentralized surveillance where people participate in their own monitoring and that of others. Another example in this case is digital vaccine passports. A digital vaccine passport accomplishes the purpose of attesting to the vaccination status of a person, which is often required to access certain venues or travel (Whitlaw et al., 2020). The facet of biopower in digital vaccine passports is that they produce a system of health-based access control, directly connecting the status of individual health to communal privileges (Siisiäinen, 2018). Online symptom checkers are another example of the digital biopower concept. Online symptom checkers are web-based tools that permit people to input symptoms while also receiving preliminary assessments of their health. The telemedicine platforms function by enabling remote medical consultations and health monitoring. The biopower aspect of telemedicine

platforms is that they extend medical authority beyond traditional healthcare settings into the lives of people.

Foucault's biopolitical framework is also applied to digital surveillance in addressing COVID-19 in the United States through the concept of digital governmentality (Siisiäinen, 2018). As conceived by Foucault, governmentality entails organized practices (realities, mentalities, and techniques) through which subjects can be governed. In the digital age, and specifically during the COVID-19 pandemic, the concept is known to have evolved into what is known as digital governmentality. Digital governmentality is known to represent the intersection of traditional practices of governance with digital technologies, resulting in new forms of population management that are more efficient, pervasive, and often less visible than their analog predecessors (Whitelaw et al., 2020). The key aspects of digital governmentality include data-driven decision-making, where this aspect of digital governmentality entails the utilization of vast amounts of data to inform governance strategies and policy decisions. During the pandemic, the government relied heavily on data analytics to predict hotspots, track the spread of viruses, and make decisions about lockdowns, allocation of resources, and measures of public health (Eck & Hatz, 2020). Another aspect of digital governance is algorithmic governance. This refers to the use of artificial intelligence and algorithms to mechanize aspects of decision-making and governance. During the disease, algorithms were employed for assessment of risk, tracing of contacts, and shaping vaccine distribution priorities. An example of this case is the progression of AI models to envisage the outbreaks of COVID-19 based on numerous inputs of data, including search engine queries, social media activity, and mobility patterns (Eck & Hatz, 2020). Another aspect of digital governance is nudging behaviors through digital interfaces. This aspect entails the use of digital technologies to impact individual behaviors in ways that are capable of aligning with governmental objectives. During the pandemic, various digital tools were identified as having been deployed to encourage

compliance with public health measures. Examples of this include push notifications on smartphones reminding users to maintain social distance, wear masks, and get vaccinated.

The prime example of digital governmentality in action entails the use of smartphone location data to monitor compliance with stay-at-home orders. Smart phones were utilized during the COVID-19 pandemic to collect data, and governments collaborated with tech companies and telecom providers to access the anonymized location of data from masses of smartphones (Siisiäinen, 2018). The smart phones were also utilized in data analysis, where the analyzed data was used to create mobility patterns and identify areas in which movement is known to have surpassed levels during lockdowns. The smartphones were also utilized in decision-making. The insights from the analyzed data are known to have informed decisions about the placement of checkpoints, stay-at-home orders, and targeting the messaging of public health (Siisiäinen, 2018). Besides, smartphone technology also influenced behavior. The mere knowledge that such a kind of monitoring was taking place may have influenced individual behavior, thus creating a digital panopticon effect. Besides, the aggregated data was always shared publicly, reinforcing social norms and creating a form of peer pressure (Eck & Hatz, 2020).

Foucault's Biopolitical Framework is applied to digital surveillance in addressing COVID-19 in the United States through the concept of the knowledge-power nexus in the information age (Eck & Hatz, 2020). The concept of a knowledge-power nexus refers to the complex relationship between authority and information in society. During COVID 19, this relationship is known to have become more crucial and evident than ever. The pandemic is known to have highlighted those who controlled, possessed, and could effectively analyze large amounts of data related to health that held significant sway over public perceptions and policy decisions. Big data analytics arose as a powerful tool during the pandemic. It allowed for predictive modeling, where data scientists are known to have utilized multifaceted algorithms

to predict the spread of viruses, possible hotspots, and the effectiveness of various interventions. Big data analytics also allowed for resource allocation (Eck & Hatz, 2020). Health organizations and governments utilized data to determine where to allocate scarce resources such as PPE, ventilators, and vaccines. Besides, the big data analytics allowed for policy formulation. Data-driven insights are known to inform decisions on social distancing measures, lockdowns, and reopening strategies (Siisiäinen, 2018). Also, big data allowed for public communication. Statistics and data visualizations emerged as crucial tools for informing and persuading the public about the seriousness of the situation and the necessity for particular measures (Suryasa et al., 2021). Those who controlled these big data analytics capabilities, whether research institutions, government agencies, or private companies, found themselves in positions of substantial influence. Their data interpretations often shaped the narrative surrounding the pandemic and the appropriate responses to it.

The pandemic also brought to the forefront of the existing debate between public health needs and individual privacy. The US implemented contact-tracing systems that raised concerns about data protection and government surveillance (Siisiäinen, 2018). Besides, the idea of immunity certificates and digital health passports rekindled debates about medical privacy as well as potential discrimination (Eck & Hatz, 2020). The need for rapid, worldwide collaboration in research led to the amplified sharing of health data, sometimes pushing the boundaries of existing privacy regulations (Eck & Hatz, 2020). Besides, this led to workplace monitoring, where, as employees returned to work, some companies were known to implement health monitoring systems, which raised questions about the privacy of employees (Suryasa et al., 2021).

Tech companies played a critical role in shaping the response to the pandemic. The pandemic is known to have underscored the growing power of big technology companies in society. Some of the companies include infrastructure providers (Siisiäinen, 2018). Companies

like Microsoft Azure and Amazon Web Services offer cloud computing infrastructure, which is known to be necessary for processing large amounts of data related to pandemics (Siisiäinen, 2018). Communication platforms also shaped the response to the pandemic. Social media platforms like Twitter and Facebook emerged as essential channels for disseminating public health information, but they also had to contend with the spread of misinformation (Suryasa et al., 2021). Besides, innovation leaders shaped the response to the pandemic. Tech companies like Google and Apple collaborated on the exposure notification systems, demonstrating their capacity to speedily develop and deploy solutions on an international scale (Suryasa et al., 2021). Besides, machine learning and AI were essential in shaping the response to the pandemic. Tech giants advanced capabilities in AI were leveraged for everything from the discovery of drugs to optimizing the distribution of vaccines.

1.1 Research objectives

I. Examining how digital surveillance technologies contributed to the biopolitical governance of populations in the United States during the COVID-19 pandemic.

II. Examining the ways in which the use of digital surveillance for pandemic response impacted individual privacy, autonomy, and the construction of identity.

III. Analyzing the extent to which the normalization of digital surveillance during the pandemic led to the development of new power structures and social norms and how individuals circumnavigated and resisted these influences.

1.2 Significance of the Study

The study applies Foucault's biopolitical framework to a modern-day global health crisis. It examines the adaptability and significance of Foucault's theory in the digital age, possibly refining or intensifying the concept of biopolitics in the 21st century. By examining digital surveillance through the lens of Foucault's theory, the study can disclose the nuanced undercurrents of power between the state, citizens, and technology companies. This is crucial

to comprehending how authority is negotiated and exercised in contemporary democracies during crises. The study also addresses the crucial balance between individual privacy rights and public health imperatives. This tension is identified as being at the core of any deliberations that surround pandemic responses and has implications for universal governance and future health crises. This means that the results of the study are capable of defining whether the employment of digital surveillance during a pandemic in the future will have noteworthy impacts that are likely to impact the application of digital frameworks. The study will also be indispensable in realizing the developing nature of governance in the information age. This is understood by highlighting how digital technologies have been able to transform how regimes manage and monitor populations. The study is also essential in showing how digital tools have been able to expand the precision and reach of biopolitical governance, allowing for more granular and pervasive management of populations. Generally, the study is essential in offering essential information concerning how the use of digital surveillance impacts governance, population, and individual privacy, which will impact the decision-making capabilities of several governments in addressing pandemics in the future.

1.3 Overview

The study was grounded in the available research questions. On the first research question, which is related to biopolitical governance through digital surveillance, the study will examine how Foucault's biopolitical framework lens was utilized in the implementation of digital surveillance technologies in the United States during COVID 19. The utilization of biopolitical governance concept shows that the technologies are not utilized only in monitoring the spread of the virus but also entail regulation of populations, influencing behaviors, and managing information related to the health of the population in ways reminiscent of biopolitical governance. The study therefore elucidates how digital surveillance technologies will affect

how people are controlled, managed, and instructed during the period of COVID-19 to halt its spread in the United States, which is likely to influence their behavior patterns.

The study also explored how embracing digital surveillance technologies impacts individual privacy and autonomy. Embracing digital surveillance technologies would necessitate the gathering of large amounts of data from the population. The deployment of digital surveillance technologies to respond to the COVID-19 pandemic was identified as having tangible effects on the autonomy and privacy of people. Through monitoring the movements of people, their interactions, and their data, digital surveillance technologies may affect how people exercise control over their personal information, which creates a conflict between the importance of digital tools to public health and their impacts on individual freedom. The study therefore explores how individual privacy and autonomy were affected by the deployment of digital surveillance technologies in tackling the spread and impact of the COVID-19 pandemic in the United States.

Besides, the study also explores the extent to which the normalization of digital surveillance during the period of the COVID-19 pandemic led to the formation of new structures of power and social norms and how individuals circumnavigated and resisted these influences. The normalization of digital surveillance is known to have contributed to the emergence of new societal norms and power structures. As people were able to adapt to the amplified visibility in the digital realm, there was likely a reshaping of power dynamics and social expectations. People were likely to engage themselves in a nuanced negotiation, both conforming to and resisting the influences of the emerging biopolitical structures. The study therefore explores the impact of the normalization of digital surveillance on the formation of new power structures and social norms that individuals were capable of navigating while also resisting the influences.

2. Theoretical Framework

2.1 Introduction to Biopolitics and Foucault's Framework

Biopolitics as a concept is documented to have emerged in the 20th century as a means of understanding how political power is progressively focused on the management and regulation of human life (Foucault, 2008). Biopolitics can be well defined as a concept that denotes the connection between life and politics. It is acknowledged to scrutinize how political power is exercised over the lives of people, precisely at the level of populations. According to Takács (2017), biopolitics involves the regulation, management, and optimization of life processes through distinct forms of techniques, knowledge, and institutions. While Michael Foucault is closely linked to the biopolitics term, its origin can be traced back to former thinkers who discovered the connection between politics and biology.

In Foucault's framework, biopolitics signifies the ways in which power is exercised over human life at the population's level. Biopolitics in this case entails the management, regulation, and optimization of the lives of people through numerous institutions, techniques, and systems of knowledge (Takács, 2017). Foucault contended that there was a shift from what he referred to as sovereign power (the right to take life or let it live) to biopower (the power of fostering life or disallowing it to the point of death). This changeover is acknowledged to have marked the beginning of biopolitics. The key aspects of Foucault's biopolitical framework include, firstly, population as a political problem. Based on Siisiäinen (2018), biopolitics is known to treat the population as a scientific and political problem, focusing on longevity, birth rates, housing, public health, and migration. Another aspect of Foucault's biopolitical framework is the techniques of power. It entails various techniques of power, including normalization, surveillance, and examination, which are applied to optimize and manage the populations' lives (Siisiäinen, 2018). The knowledge-power nexus is another aspect of Foucault's biopolitical framework. Foucault is believed to have emphasized the complex

relationship between power and knowledge. The production of knowledge about people (through demography, statistics, epidemiology, etc.) enables new systems of control. Another aspect of Focault's biopolitical framework is normalization. Biopolitics is identified to entail establishing norms and then working to bring populations and individuals in line with these kinds of norms (Kristensen, 2013). Besides, self-regulation is another aspect of Foucault's biopolitical framework. It is known to encourage people to regulate their behavior in line with biopolitical objectives, thus creating what Foucault was able to call technologies of self.

Foucault is also believed to have identified numerous institutions as key to the operation of biopolitics, including educational institutions, public health systems, social welfare programs, housing policies, and urban programming (Kristensen, 2013). Foucault is acknowledged to have liked the rise of biopolitics to the emergence or development of capitalism (Zuboff, 2019). He argued that biopower was imperative for the growth of capitalism as it is believed to have controlled the insertion of bodies into the machinery of production. Foucault also linked biopolitics to racism. He explored how biopolitics are likely to lead to new forms of racism where particular populations are viewed as threats to the purity or health of the population. While Foucault's biopolitical framework was developed in the 20th century, his framework has been applied widely to contemporary issues such as climate change and environmental politics, biotechnology and genetic engineering, data collection and digital surveillance, and global health initiatives and pandemics (Zuboff, 2019). Generally, Foucault's biopolitical framework offers an influential lens for understanding how modern forms of power work at the level of life itself. It inspires people to judgmentally examine how seemingly compassionate interventions in health, security, and welfare can serve as instruments of normalization and control (Bruff, 2018). The framework endures to be relevant and is applied regularly to analyze contemporary issues, precisely in the realms of technology, public health, and governance.

2.2 Application of Biopolitical Concepts to Digital Surveillance

In the digital age, the concept of biopolitics has taken on novel dimensions with the advent of progressive surveillance technologies. Digital surveillance, which encompasses a wide range of analysis techniques and data collection, has become a dominant tool for comprehending biopolitical strategies (Lyon, 2018). The intersection of digital surveillance and biopolitics epitomizes a substantial evolution in how establishments and governments are capable of handling populations. This fusion is alleged to have fashioned novel forms of power dynamics, restructuring the association between corporations, people, and states. The key biopolitical concepts in the setting of digital surveillance include biopower in the digital realm (Kristensen, 2013). In Foucault's concept of biopower, the power of life finds novel expression in digital surveillance. Through the gathering and analysis of data, authorities are capable of monitoring, regulating, and influencing the behavior, health, and movement of people with unparalleled precision. Another concept in the application of the biopolitical concept in digital surveillance is the population as a data set (Kristensen, 2013). Digital surveillance is able to transform the population into a vast set of data. This is recognized as aligning with the biopolitical view of the population as a resource to be enhanced and managed. Health records, activity on social media, and location data emerged as points of analysis for population-level decision-making. Another essential feature of the application of biopolitical concepts in digital surveillance is normalization and data profiling (Lemm & Vatter, 2017). Biopolitics is acknowledged to entail founding norms while inspiring conformity. Digital surveillance is believed to empower the creation of detailed profiles, grouping individuals based on their data. This is believed to facilitate the recognition of abnormal and normal behaviors, perhaps leading to intercessions to bring outliers in line with established norms (Lemm & Vatter, 2017). Self-regulation in the digital panopticon is another facet of the application of biopolitical concepts in digital surveillance. The awareness of continuous digital surveillance is likely to lead to self-

regulation, reminiscent of Foucault's deliberation of the panopticon. Persons who know that they are likely to be watched might adjust their behavior even in the absence of direct observation.

Based on Whitelaw et al. (2020), there are diverse forms of digital surveillance in biopolitical governance. One of the forms is health monitoring. Health monitoring is implemented through the following tools: wearable devices tracking vital signs, genetic databases, health apps that assemble personal health data, and electronic health records (Whitelaw et al., 2020). Another form of digital surveillance in biopolitical governance is behavioral tracking. Behavioral tacking is implemented through internet browsing history analysis, social media monitoring, and tracking of consumer habits through online shopping and loyalty programs (Donelle et al., 2023). Another form of digital surveillance in biopolitical governance is location tracking. Location tracking is done through GPS data from smartphones, vehicle tracking systems, and public transit card usage (Wang et al., 2021). Environmental monitoring is another form of data surveillance in biopolitical governance. Environmental monitoring is performed through smart city technologies, traffic flow monitoring, and air and water quality sensors.

The key biopolitical aims of digital surveillance include, firstly, public health management. Digital surveillance allows the timely tracking of the spread of disease, health trends, and vaccination rates (Ajana, 2017). This is identified as allowing more effectual and targeted public health interventions. Another biopolitical objective of digital surveillance is crime deterrence and security. Predictive facial recognition and policing algorithms aim to single out likely threats before they emerge, aligning with the biopolitical objectives of ensuring the security of the population. Another biopolitical objective of digital surveillance is economic optimization. Tracking the behaviors and habits of consumers and the output of the workforce through digital means serves the biopolitical purposes of economic growth and

efficiency (Ajana, 2017). Social control is another biopolitical objective of digital surveillance. Based on Ajana (2017), digital surveillance can be employed in monitoring and manipulating social behaviors, from applying measures of quarantine during pandemics to restructuring political opinions.

2.3 Relevance of Foucauldian Analysis in Understanding Digital Surveillance During the Pandemic

Michel Foucault's theoretical framework offers an appreciated lens through which to discover the implementation and effect of digital surveillance during the COVID-19 pandemic. Foucault's work is documented for its focus on the ways power operates in society, predominantly how it shapes and controls populations (Keshet, 2020). His thoughts are explicitly relevant to understanding the intricate interplay between technological surveillance, public health measures, and social control that are recognized to have arisen during the global health crisis.

The key Foucauldian concepts relevant to the surveillance of disease include biopower, biopolitics, disciplinary power, and panopticism (Keshet, 2020). During COVID-19, digital surveillance technologies became a major tool for exercising biopower. Contact-tracing apps were premeditated to notify and track people of likely exposure to viruses, which signifies a direct application of biopower. The contact-tracing apps let the authorities manage and monitor the connections and movements of the population at a granular level. Health monitoring systems also represent an application of biopower, hence depicting the importance of the Foucauldian concept in the surveillance of pandemics (Peters, 2020). Digital tools for symptoms' monitoring, tracking vaccination status, and managing quarantine compliance exemplify how biopower functions through technology to regulate collective and individual health. Besides, the Foucauldian analysis is relevant in understanding digital surveillance

during the pandemic through data analysis and predictive modeling (Peters, 2020). The use of big data to forecast the spread of viruses and inform policy decisions aligns with Foucault's belief in knowledge power, where scientific knowledge is capable of becoming a tool for the management of populations.

Foucauldian analysis is also relevant in understanding digital surveillance during the pandemic through biopolitics. Foucault's concept of biopolitics is highly relevant in analyzing the strategies that are employed to manage the pandemic in the following ways: population-level management. Digital government is known to have enabled governments to implement biopolitical strategies at an extraordinary scale, focusing on managing the behavior and health of people (Boersma et al., 2022). Another way in which biopolitics demonstrates the relevance of the Foucauldian concept is the normalization of health behaviors. Through notifications, constant reminders, and data visualization, digital tools endorse the adoption of new norms of health, e.g., social distancing, mask wearing, etc., which align with Foucault's ideas that power is capable of shaping the behavior of individuals (Tréguer, 2021). Besides, risk categorization is another way in which biopolitics demonstrates the relevance of Foucauldian analysis in digital surveillance during the pandemic. Digital surveillance enabled the categorization of groups and individuals based on their perceived risks (e.g., vaccination status, exposure status), influencing how they are managed and controlled.

Foucauldian analysis is also relevant in understanding digital surveillance during the pandemic through disciplinary power and digital surveillance. One aspect of disciplinary power and digital surveillance is self-regulation. According to Tréguer (2021), the consciousness of being pursued digitally led numerous people to self-regulate their behavior, which is reminiscent of Foucault's debate about internalized discipline. Another aspect is social control. Digital platforms developed as spaces for peer surveillance and application of the norms about the pandemic, as voiced by Tréguer (2021). Besides, another aspect of disciplinary power and

digital surveillance is access control. QR codes and digital health passes for venue check-ins are acknowledged as having formed novel mechanisms for monitoring access to services and spaces, embodying Foucault's ideas on how power functions through exclusion and access.

Foucauldian analysis provides a critical framework for understanding the complex subtleties of digital surveillance during the COVID-19 pandemic. It elucidates how power works through technology to shape behaviors, manage technologies, and generate novel forms of knowledge and control. By applying the ideas of biopolitics, biopower, and disciplinary power, among other ideas, to the measures of digital surveillance executed during the pandemic, it allows for the acquisition of insights into the broader implications of these technologies for society, governance, and individual autonomy.

3. Digital Surveillance during COVID-19

3.1 Overview of Digital Surveillance Technologies Implemented in the US

The advent of the COVID-19 pandemic triggered the swift development and deployment of plentiful technologies for digital surveillance in the United States. According to Wang et al. (2021), these technologies are believed to have been realized with the principal goal of monitoring, tracking, and managing the spread of the virus. The key surveillance technologies that were utilized include contact-tracing applications. Based on Mao et al. (2021), contact tracing apps are documented to have been premeditated to identify and alert persons who may have been exposed to COVID-19, which was aimed at overpowering the chains of disease transmission. Google and Apple joined forces to come up with the exposure notification systems that worked as the foundation of several state-level contact-tracing apps. According to a case study by Cirruzzo (2020), an assortment of state governments are documented to have developed their own apps. The apps were known to utilize Bluetooth low energy (BLE) technology to spot when the two devices were in close proximity, as expressed by Mao et al. (2021). When the user tests positive for the virus, the app could anonymously

alert other individuals who were in close contact with the user during the period of the pandemic.

Another digital surveillance technology that was executed during the COVID-19 pandemic in the United States is symptom tracking platforms. Based on Donelle et al. (2023), these platforms were established to collect self-reported symptom data from people to identify possible COVID-19 hotspots and track the evolution of the virus in communities. The users input their symptoms and data correlated to their location into mobile applications or on the web. The platforms are recognized for their ability to amass this data to produce a real-time map of possible COVID-19 activity. Some platforms blend this data with other sources, like search engine queries and social media trends. Temperature screening technologies are another digital surveillance technology that was realized during COVID-19 (Lyon, 2018). The temperature screening technologies were used to identify individuals with higher body temperatures, which is a likely symptom of COVID-19 in workplaces and public spaces. Infrared thermometers and thermal cameras were deployed in numerous public places, including schools, office structures, airports, and entertainment sites (Lyon, 2018). Some systems were amalgamated with facial recognition technology for more comprehensive tracking.

Besides, another essential digital surveillance technology that was employed during the COVID-19 pandemic in the United States is mobility data analysis, as per the survey by Omer (2020). The mobility data analysis was envisioned to track the activities of populations and assess adherence to stay-at-home guidelines as well as social distancing guidelines. Tech companies like Apple and Google presented anonymized mobility data attained from smartphone locations (Agre, 2003). This data was exploited by policymakers and scientists to comprehend the efficiency of lockdown procedures and forecast the probable spread of the virus. The data sources for mobility data analysis technology comprise vehicle traffic data,

smartphone GPS data, and public transit usage data (Lyon, 2018). Digital vaccine passports were another digital surveillance technology executed during the COVID-19 pandemic in the United States. The digital vaccine passports were aimed at providing certifiable evidence of vaccination status for admission to specific venues or for the purposes of traveling (Agre, 2003). Various states and private entities came up with the system of digital vaccine passports. New York's Excelsior Pass is known to have been one of the first state-level implementations.

Based on a survey by Omer (2020), wastewater surveillance systems are another digital surveillance technology implemented during COVID-19 in the United States. The purpose of the technologies was to spot the presence of SARS-CoV-2 in water as an early caution system for community spread. The CDC is known to have been responsible for launching the National Wastewater Surveillance System (NWSS) in partnership with local and state health departments. Many local governments and universities (Lyon, 2018). The results from wastewater testing were combined with other surveillance data to offer a more inclusive picture of the virus prevalence. Social media monitoring is another digital surveillance technology that was applied during COVID-19, as expressed by Donelle et al. (2023). Social media monitoring was envisioned to track the spread of misinformation concerning COVID-19 and gauge the opinions of the overall public regarding the pandemic and associated policies (Whitelaw et al., 2020). The scholars and government agencies utilized numerous tools to analyze the populations' social media posts related to COVID 19. Natural language processing techniques and AI were utilized in processing large data volumes. Moreover, telehealth platforms are other digital surveillance technologies employed during COVID-19 (Whitelaw et al., 2020). Although telehealth platforms were primarily for the delivery of healthcare, they also served as a form of health surveillance during the COVID-19 pandemic. The telehealth platforms functioned as virtual consultations with healthcare providers. Another function of telehealth platforms is the remote monitoring of patients with COVID-19 or other health conditions

(Lyon, 2018). The platforms gathered essential data on diagnoses, symptoms, and treatment outcomes.

3.2 Analysis of Policies and Strategies for Surveillance Deployment

The deployment of digital surveillance technologies in the U.S. during the period of the COVID-19 pandemic was attributed to the complex interplay of state, federal, and private sector initiatives. There are strategies and policies that shaped this deployment. According to Eck & Hatz (2020), one of the strategies employed is the decentralized approach. The US adopted a principally decentralized approach, with states taking the lead in the implementation of numerous surveillance technologies (Tréguer, 2021). This strategy is believed to have aligned with the traditional approach of the United States to public health, where states have substantial autonomy. Another essential approach utilized is a public-private partnership. Major technology companies like Apple, Microsoft, and Google played substantial roles in developing and deploying surveillance technologies (Tréguer, 2021). These partnerships are alleged to have leveraged private-sector resources and expertise. Privacy-preserving and design principles are another approach employed in the disposition of digital surveillance technologies. Numerous surveillance technologies, predominantly contact-tracing apps, are standard and have been designed with the preservation of privacy as a key principle (Peters, 2020). This approach is known to have been partly in response to civic concerns about government overreach. This approach is known to have impacted the development of privacy-focused procedures and legislation. According to Tréguer (2021), another approach employed by the US in the deployment of digital surveillance technologies is the voluntary participation model. The majority of digital surveillance tools, particularly contact-tracing apps, are known to have been executed on a voluntary basis. This strategy was aimed at harmonizing public health desires with personal privacy rights.

Besides, another policy employed in the placement of digital surveillance technologies in the United States is data minimization and purpose limitation (Kostkova et al., 2021). Several policies emphasize gathering only essential data and utilizing it solely for COVID-19 response. The approach aimed at averting mission creep and protecting against misuse of data in the future. The policy involved measures like the deletion of data after a particular period and restrictions on the sharing of data (Kostkova et al., 2021). Besides, another policy that was deployed during this time was regulatory flexibility. According to Scharf et al. (2023), agencies like the FDA are identified as having issued emergency use authorizations for certain digital health technologies. This allowed for the rapid deployment of novel platforms and tools. Another policy employed is interoperability and standards (Kostkova et al., 2021). This entailed initiatives to advance common ideals for interoperability and the sharing of data amongst distinct systems. The policy was aimed at improving the success of surveillance efforts across state lines. Another important strategy employed in the placement of surveillance technologies in the US during COVID-19 is equity considerations (Hussein et al., 2020). This entailed mounting recognition of the necessity to address the digital divide and safeguard impartial access to surveillance technologies. Additionally, equity contemplations also entailed exertions to reach undeserved communities and deal with language barriers.

Transparency and public communication are other approaches that were employed in the deployment of surveillance technologies (Hussein et al., 2020). The approach entailed an emphasis on open communication about the functionality, purpose, and restrictions of surveillance technologies. It was aimed at inspiring adoption of the technologies while building trust. Constitutional and legal deliberations were also vital policies employed in the United States in the placement of surveillance technologies (Kostkova et al., 2021). The surveillance plans were formed based on considerations of constitutional rights, explicitly freedom of movement and privacy. It led to more restrained tactics compared to some other countries.

Another strategy for deploying surveillance technologies involved amalgamation with traditional public health measures (Hussein et al., 2020). Digital surveillance was normally positioned as a counterpart to traditional measures rather than their replacement. The approach was purposed to integrate digital tools with the prevailing public health infrastructure. Besides, data governance and sharing policies were other policies assumed in the deployment of digital surveillance technologies in the United States during the COVID-19 pandemic (Scharf et al., 2023). The policy involved creating novel frameworks of ascendancy to manage the use, collection, and sharing of surveillance data. The efforts were purposed to balance the needs of public health and data protection principles.

3.3 Implications of Surveillance Measures on Public Health Governance

The emergence of COVID-19 prompted the amplified utilization of digital surveillance measures for the betterment of public health. The implications of digital surveillance measures on public health governance were complicated and noteworthy. One of the implications is that the surveillance technologies led to heightened data collection, which upgraded the tracking of the spread of COVID 19. (Tréguer, 2021). This enabled the public health sector to fashion more exact models of the transmission of diseases, quickly recognize hotspots, and understand people's movement patterns (Ajana, 2017). Another implication of surveillance measures is private concern. The extensive gathering of data raised substantial privacy issues. According to the sentiments of Hussein et al. (2020), there were concerns about the quantity and type of individual data collected, how it was stored, who had to access it, and how it would be reserved. There were also questions about possible data misuse, both in private and government agencies. Another implication of surveillance measures for public health is enhanced response time. Digital surveillance measures permitted for much quicker implementation of targeted public health interventions (Dodds et al., 2020). Real-time data enabled health authorities to quickly classify outbreak clusters and reply with localized measures like targeted quarantines, testing,

or temporary closures. This kind of agility saved lives by containing eruptions prior to their spreading widely.

Another implication of digital surveillance measures on public health governance is the civil liberties debate (Morley & Cowls, 2018). The implementation of digital surveillance actions is known to have sparked intense debates about the balance amid personal liberty and public safety. While many people are known to have acknowledged the need for extraordinary measures during the time of the pandemic, other people perceived the surveillance as an unbearable violation of individual liberty, based on Dodds et al. (2020). This is known to have led to discussions concerning the limits of the power of government in health emergencies, the freedom of movement, the right to privacy, and the likelihood of these measures being battered or extended beyond their original purpose. Trust in government is another implication of surveillance measures for public health governance (Tréguer, 2021). The utilization of digital surveillance had assorted effects on the trust of the public in their government. On one side, effective use of tools for the management of the plague could raise trust by demonstrating commitment and competence to public safety. Conversely, perceptions of the misuse or overreach of surveillance powers could seriously damage public trust (Tréguer, 2021). The level of transparency in the employment and communication of the measures played an imperative role in shaping the opinion of the public.

Another implication of digital surveillance measures on public health governance is policy challenges. Policymakers met substantial challenges in fashioning regulations surrounding digital surveillance that were both operative in handling the pandemic and ethically sound (Wang et al., 2021). They had to circumnavigate complex ethical, lethal, and practical considerations. This entailed determining the appropriate duration and scope of surveillance measures, guaranteeing data security, defining a clear purpose for the utilization of data, and creating mechanisms for answerability and oversight (Hussein et al., 2020).

Technological disparities are another implication of digital surveillance measures for public health governance. The reliance on digital tools for the management of public health highlighted and possibly intensified existing digital rifts in society (Hussein et al., 2020). Those who had no smartphones or reliable internet connections are likely to have been excluded from vital services or information.

3.4 Examination of Privacy Concerns and Their Impact on Individual Autonomy

The digital surveillance technologies are documented to have also posed privacy concerns and impacted individual autonomy. Firstly, in the case of contact tracing apps, there were hazards linked to the storage of data, including probable breaches. According to Rosen (2013), there were also concerns about who had to access the information and how it might be applied for former contact tracing. Concerning the effect on individual autonomy, the survey by Omer et al. (2020) points out that the handlers were likely to feel pressured to download and utilize apps, either by businesses, employers, or social pressure. The people could also self-censor their communications or movements to dodge quarantine notifications, which restricted their freedom of movement.

Regarding the thermal cameras and temperature checks, queries also arose regarding how the data was stored, who was to access the data, and for how long it would be kept. There were concerns about the precision of these kinds of methods and the implications of the false positives (Rosen, 2013). The impact on individual autonomy encompassed people being denied access to public spaces, some services, or workrooms based on the readings of their temperatures. This could also lead to discrimination against people with logically higher body temperatures or with health issues that are not associated with COVID 19. Besides, there were also secrecy concerns related to facial recognition for mask compliance (Agre, 2003). The concerns arose about how the data was stored and whether it might be utilized for other resolutions past mask compliance (Omer et al., 2020). These technologies had an effect on

individual autonomy. The presence of these systems led to augmented self-policing of behaviors in public areas. This could also unreasonably affect certain groups, such as those with medical exemptions for not wearing masks.

Remote work monitoring software also posed privacy concerns and impacted individual autonomy. There were apprehensions about the extent of monitoring, e.g., whether the monitoring extended past the hours of work or events related to work. Concerning the impact on autonomy, workers were likely to feel a loss of autonomy and privacy in their homes. The continuous monitoring could lead to amplified pressure and anxiety to appear productive at all times (Omer et al., 2020). Vaccine passports also pose privacy concerns for the public. They raised concerns about the safety of the data and who could access it. Based on Rosen (2013), this also had an impact on individual autonomy, as several people were denied access to travel services, travel, or events based on their status of vaccination. This led to discrimination against those who were not vaccinated or could not be vaccinated. Lastly, social media monitoring for misinformation posed privacy concerns and also had an impact on individual autonomy. They raised concerns about how the data was gathered, stored, or shared with the authorities (Agre, 2003). Concerning the impact on individual autonomy, the knowledge of being observed led to self-censorship and a chilling effect on free speech. This could disproportionately affect specific groups or viewpoints.

3.5 Influence of Surveillance on Individual Identity Construction

Digital surveillance technologies have had a significant influence on the construction of people's identities. The pandemic forced several aspects of people's daily lives online, from social relations to work and education. According to the case study by Mao et al. (2021), this theatrical shift augmented the digital footprints of people, making data accessible for surveillance but, in other ways, disturbing their behaviors. Regarding health monitoring, health status reporting and contact tracing turned out to be more common, which led to concerns about

data safety and privacy (Mao et al., 2021). This continuous health monitoring may have impacted how individuals perceive themselves as well as their bodies. Besides, social media behavior had an influence on identity construction. With minimized in-person interactions, social media arose as something even more central to the construction of identity (Newell, 2021). Awareness of possible surveillance may have led some people to self-censor or carefully curate their online personas.

Work-from-home surveillance has had an impact on the construction of individual identities. Many organizations are known to have employed digital monitoring tools for those who work remotely. The blurring of personal boundaries and work may have impacted how people construct their professional identities. Misinformation and conspiracy theories also led to the construction of individual identities. Based on the case study by Chan et al. (2021), the frequency of online conspiracy theories regarding surveillance during the pandemic impacted the world views of some people and their self-perception as either resisters or informed. Digital activism also impacted the construction of probable surveillance, which may have shaped how people engaged in activism and were capable of articulating their political identities (Westerlund et al., 2021). Online platforms are known to have emerged as crucial social and political movements. The awareness of possible surveillance may have fashioned how people engaged in activism and were capable of expressing their political identities (Westerlund et al., 2021). The digital surveillance also had health impacts. The combination of isolation, augmented screen time, and awareness of digital surveillance may have led to paranoia and anxiety for some people, affecting their wellbeing and sense of self (Newell, 2021).

The surveillance measures also impacted the construction of individual identities. Some people became more aware of digital privacy issues, which led to variations in online behavior and the adoption of privacy-enhancing tools, which in turn affected their digital identities. Soto-Vásquez et al., 2021). The execution of digital surveillance measures by corporations and

governments also impacted the trust of people in these institutions, affecting their sense of belonging and citizenship.

4. The Normalization and Impact of Digital Surveillance

4.1 Exploration of the Normalization Process during the Pandemic

The process of normalizing digital surveillance during the COVID-19 pandemic is a crucial aspect of how surveillance impacted societal and individual behavior. This process entails how practices that were likely to have been once considered extraordinary or intrusive became accepted as necessary and normal. Based on the findings, in the case of the gradual acceptance of health monitoring, initially daily health check-ins and contact-tracing apps were viewed as invasive (Allsopp et al., 2023). However, this became routine over time, with the majority of people sharing their data willingly. This shift normalized the idea of continuous health surveillance for the greater good. Regarding workplace surveillance, remote work is known to have led to the augmented use of productivity tracking software. Although these tools were initially regarded as controversial, they have become a standard in numerous industries (Allsopp et al., 2023). Employees began to accept this level of monitoring. Normalization has also been evident in public space monitoring. QR code check-ins and temperature checks in public venues became common. Although these practices were seen as intrusive originally, they were quickly adopted as safety measures (Adams et al., 2023). This normalized the idea of submitting their personal data for access to public spaces. Social media behavior has also been another way of normalizing the COVID-19 pandemic. According to an interview by NIH's Dr. Fauci, social media increased the time individuals spent on it, which led to significant comfort with sharing private information. The line between public and private life blurred further. Oversharing of information became more common, normalizing standards of digital transparency.

The normalization process was also depicted in educational settings. Proctoring software and online learning platforms became common (Fegter & Kost, 2023). Educators and students adapted to being monitored during exams and classes. This normalized surveillance in learning institutions has potentially been carried over post-pandemic. Besides, normalization was also evident in desensitization to privacy concerns. Habitual exposure to news concerning breaches of data and surveillance resulted in “privacy fatigue." Many people became less reactive to invasions of privacy over time, based on an interview by Shoshana Zuboff (Jackson, 2021). Also, a shifting of norms was evident. Virtual social interactions have become the norm, often on platforms known for the collection of data. This shift is believed to have normalized the idea of socializing under surveillance. Government rhetoric also depicted normalization during COVID-19, as official communication is known to have framed surveillance as often essential for public health (Fegter & Kost, 2023). The narrative helped normalize these kinds of practices in the public mind. The digital surveillance during COVID-19 also led to the adoption of technologies. The rapid adoption of video conferencing, among other forms of technology, has normalized being “on camera." Moreover, data-driven decision-making portrayed normalization. Increased dependence on data for decisions related to public health normalized the gathering and utilization of personal data (Adams et al., 2023). This shift is known to have extended to other segments of life, with data-driven strategies becoming more accepted.

4.2 Examination of New Power Structures Arising from Surveillance

The COVID-19 pandemic in the United States resulted in a noteworthy shift in power structures due to the amplified reliance on digital surveillance. These new dynamics of power emerged across numerous societal sectors. One of the ways in which new power structures arose was through tech companies. Chief tech corporations such as Apple, Google, and Facebook attained unparalleled influence due to their role in the collection of health data and

contact tracing (Tréguer, 2021). Their authority over vast amounts of personal data improved their power to shape health interventions and public policy. The government-corporate partnership also led to the rise of new power structures. The collaborations between tech companies and government agencies for data analysis and sharing created new centers of power (Gjerde, 2021). However, those partnerships raised questions about democratic oversight and accountability.

Digital surveillance also led to an increase in the influence of public health authorities. Health agencies are known to have attained significant power in their daily lives, with their recommendations directly impacting the behaviors of individuals. Based on Gjerde (2021), their capability to interpret and access large-scale health data reinforced their influence in decision-making. Besides, in workplace surveillance, employers have attained new levels of insight into the daily activities of employees through remote work monitoring tools. The shift gave the management more power over the employees, which potentially affected performance evaluations and job security (Patterson & Clark, 2020). In educational institutions, universities and schools were known to implement extensive digital monitoring systems for online learning. This is recognized as having given educators and administrators new forms of control over the learning environments and behaviors of students.

AI specialists and data analysts emerged as new power structures during COVID-19 surveillance. The demand for interpretation of data in social and health contexts elevated the status of AI experts and data analysts (Tréguer, 2021). Their ability to inform decision-making and predict trends gave them momentous experience. Social media platforms also gained more influence due to digital surveillance. These platforms became the principal areas of social interaction and sources of information during lockdowns. Their power to control the flow of information and shape public discourse increased dramatically (Tréguer, 2021). Besides, cyber security firms gained prominence due to amplified digital activity. Their role in guarding

sensitive information gave them leverage both in the private and public sectors, based on Patterson & Clark (2020). The e-commerce and delivery platforms were also new power structures that arose during the surveillance of COVID 19. Companies like food delivery services and Amazon witnessed their influence rise due to the ever-changing nature of consumer behaviors online. Their data on the habits of customers became progressively valuable for targeted interventions and market analysis (Tréguer, 2021). Moreover, telehealth providers also arose as new power structures during COVID 19. The swift adoption of telehealth services gave providers novel access to health records and patient data. This change may have transformed the balance of power between doctors, patients, and healthcare systems.

4.3 Analysis of how social norms were shaped by surveillance practices

The adoption of surveillance practices during the COVID-19 pandemic fashioned social norms significantly. The surveillance practices led to a new norm of sharing personal health data openly with health authorities. According to Pratt et al. (2022), people could reveal their test results, vaccination status, and likely exposure to others. Based on an interview by Edward Snowden, the surveillance practices also formed a norm of increased comfort with and dependence on digital platforms for connection (Al-Heeti, 2020). People adapted to upholding connections largely through social media and video calls. Based on an interview by Bruce Schneir, the norm is known to have redefined ideas of social closeness and acceptable forms of interaction (Eric Wallach, 2020). The surveillance practices also created a norm of acceptance of being monitored in public spaces for safety and health reasons. People adapted to checks on temperatures, QR code check-ins, and visible surveillance measures.

The surveillance measures also created a new norm in the work-from-home culture. Acceptance of workplace monitoring tools in remote settings has emerged as a novel norm (Eric Wallach, 2020). The surveillance measures also led to the development of digital

etiquette. The creation of new rules for online interactions and cybernetic presence has appeared as a new norm.

4.4 Implications for Individual Privacy, Autonomy, and Society

The employment of digital surveillance measures, particularly during the COVID-19 pandemic, had deep implications and suggestions for individual autonomy, privacy, and society as a whole. In the case of individual privacy, the massive storage of individual data through several digital devices and platforms raised fears about security, long-standing storage, and likely misuse of data, as per the interview by Shoshana Zuboff (Jackson, 2021). Increased sharing of sensitive information also led to a blurring of lines between the public and private spheres. Expanded digital trails of people's preferences, activities, and behaviors created a potential for predictive analysis and detailed profiling (Ioannou & Tussyadiah, 2021). Concerning implications for individual autonomy, the surveillance measures affected the decision-making influence of people. Data-driven interventions and algorithmic recommendations were likely to guide people's choices, as per the findings by Ioannou and Tussyadiah (2021). This led to a potential reduction in perceived freedom of choice. The digital surveillance measures also had an effect on the modification of behaviors. Awareness of surveillance was highly likely to lead to altered behavior or self-censorship (Jackson, 2021). This could have a chilling effect on the exploration of ideas and free expression. Besides, the surveillance measures affected individuals's control and consent. Questions about expressive consent in pervasive surveillance environments arose. This also led to challenges in the utilization and control of personal data.

The digital surveillance measures also had implications for society in the following ways: power dynamics. This entailed a shift in power towards the agencies controlling surveillance technologies and data. This could lead to potential manipulation and increased social control (Jackson, 2021). Another implication was trust in institutions. The surveillance

measures led to changing perceptions in corporations, the government, and other institutions that took part in surveillance. This could lead to a potential drop in trust or augmented acceptance based on supposed benefits. Another societal implication was social erosion. Digital divides were likely to be aggravated, leading to new forms of social stratification, as expressed by Rosen (2013). This was likely to lead to changes in how communities could interact or form. The surveillance technologies also affected society innovatively and economically (Kitchin, 2014). There was the formation of novel business models and economic opportunities that were centered on data. Besides, the measures also had impacts on culture, which impacted the immediate society. According to a survey by Omer et al. (2020), the varying notions of personal space, privacy, and social interactions caused cultural shifts. This had enduring impacts on cultural values and norms regarding the use of technology. Lastly, the surveillance measures had an impact on the wellbeing and mental health of people (Ioannou & Tussyadiah, 2021). This was as a result of the psychological impacts of continual connectivity and potential surveillance. The anxiety and stress led to a loss of autonomy or privacy.

5. Conclusion

5.1 Summary of Key Findings

The advent of the COVID-19 pandemic prompted the United States to embrace digital surveillance technologies to suppress the spread and effect of the disease on the population. Foucault's biopolitical framework was essential in addressing how digital surveillance technologies were employed to suppress COVID-19 and how that had an impact on individuals and society. Foucault's Biopolitical Framework was applied to digital surveillance in addressing COVID-19 in the United States through the following concepts: biopower in the digital age. Foucault's concept of power has taken on novel dimensions in our digital era. During the period of COVID-19, we witnessed a significant amplification of biopower through digital technologies. The digital biopower is likely to represent a fusion of traditional

biopolitical strategies with progressive technological capabilities. Other concepts in which Foucault's Biopolitical Framework was applied to digital surveillance included digital governmentality, which entails data-driven decision-making and algorithmic governance, and the concept of the knowledge-power nexus in the information age, which refers to the complex relationship between authority and information in society. The key aspects of Foucault's biopolitical framework include biopower, governmentality, and disciplinary power.

During COVID-19, digital surveillance technologies became a principal tool for exercising biopower. Contact-tracing apps were designed to notify and track individuals of potential exposure to viruses, which represents a direct application of biopower. The contact-tracing apps allow the authorities to manage and monitor the interactions and movements of the population at a granular level. Foucauldian analysis is also relevant in understanding digital surveillance during the pandemic through biopolitics. Foucault's concept of biopolitics is highly relevant in analyzing the strategies that are employed to manage the pandemic in the following ways: population-level management, normalization of health behavior, and categorization of risk. Foucauldian analysis is also relevant in Understanding Digital Surveillance During the Pandemic Through Discipline Power and Digital Surveillance, where the aspects of disciplinary power and digital surveillance included self-regulation, social control, and access control. The key surveillance technologies utilized in pandemic surveillance include contact tracing apps, symptom tracking platforms, mobility data analysis, and wastewater surveillance systems.

The strategies and policies employed during the deployment of surveillance technologies include a decentralized approach. The US adopted a principally decentralized approach, with states taking the lead in the implementation of numerous surveillance technologies. This strategy is believed to have aligned with the traditional approach of the United States to public health, where states have substantial autonomy. Another strategy

employed was a public-private partnership where major technology companies like Apple, Microsoft, and Google played significant roles in developing and deploying surveillance technologies. The voluntary participation model was another approach employed. The majority of digital surveillance tools, specifically contact-tracing apps, are known to have been implemented on a voluntary basis. Other policies include regulatory flexibility, data minimization and purpose limitation, equity considerations, transparency, and public communication, among others. Based on the findings, the adoption of digital surveillance technologies has had significant impacts on privacy and individual autonomy. The technologies posed risks connected to probable breaches. The users were likely to feel pressured to download and utilize apps, either by businesses, employers, or social pressure. The technologies also posed questions concerning how the data was stored, who was to access the data, and for how long it would be kept. Individual autonomy was affected as people were denied access to public spaces, some services, or workplaces based on the readings of their temperatures. The remote monitoring technologies raised concerns about whether the monitoring extended beyond the hours of work or activities related to work. Employees were likely to feel a loss of autonomy and privacy in their homes. Based on the findings, the surveillance also impacted the construction of individual identity by affecting their behaviors through a dramatic shift into digital ways. This continuous health monitoring may have affected how individuals perceive themselves as well as their bodies. With minimized in-person interactions, social media emerged as even more central to the construction of identity. Awareness of possible surveillance may have led some people to self-censor or carefully curate their online personas. Besides, the blurring of personal boundaries and work due to digital monitoring impacted how people constructed their professional identities.

Based on the findings, digital surveillance technologies have had an impact on the normalization process in society. The productivity tracking software that was aimed at

monitoring workers remotely during COVID-19 later became a standard in several industries. Since social media became a major way of interacting, oversharing of information became more common, normalizing standards of digital transparency. In educational settings, educators and students adapted to being monitored during exams and classes, which was practiced during COVID 19. The findings also showed that surveillance measures led to the rise of new power structures. Chief tech corporations such as Apple, Google, and Facebook attained unparalleled influence due to their role in the collection of health data and contact tracing. Their authority over vast amounts of personal data improved their power to shape health interventions and public policy. The collaborations between tech companies and government agencies for data analysis and sharing created new centers of power. Health agencies are known to have attained significant power in their daily lives, with their recommendations directly impacting the behaviors of individuals. Besides, AI specialists and data analysts emerged as new power structures during COVID-19 surveillance. The demand for interpretation of data in social and health contexts elevated the status of AI experts and data analysts.

5.2 Reflection on Contributions to Knowledge

Michel Foucault's biopolitical framework is a significant framework for analyzing digital surveillance measures during COVID-19 in the United States. Foucault's biopolitical framework is essential in dissecting the policing, power, leadership, and discipline that were required to tackle the COVID-19 pandemic. Addressing this topic helps in understanding that although technologies receive opposition at their initial induction, they end up becoming norms, hence running the lives of people. By applying the ideas of Foucault’s framework to digital surveillance, it helps in gaining more profound insights into how power is capable of operating in society. The analysis reveals subtle ways that algorithmic governance and data collection shape social norms and behaviors and contribute to an understanding of present-day

power structures. The study also helps in understanding how the measures that are intended for collective wellbeing can also function as mechanisms of control, contributing to more nuanced debates pertaining to the ethics of public health policies. The study also sheds light on how digital technologies are capable of new forms of population management. Moreover, the study helps in understanding the processes of identity formation in monocultural environments. Although this study focused on the United States, it contributes to a comparative analysis of digital surveillance practices worldwide. It therefore offers an essential framework for understanding how distinct societies navigate similar challenges, contributing to global dialogue on these issues.

5.3 Limitations of the study

One of the limitations of the study is the methodological challenges where the study relied heavily on secondary data, which could have led to missing out on important information if primary data (first-hand information) was used. Another limitation of the study is the scope constraint. The study focused solely on the US, which made it likely to miss significant comparative insights for other nations. Another limitation of this is theoretical bias, where heavy dependence on Foucault's framework might have led to the overlooking of alternative theories or interpretations. Besides, another limitation of the study is ethical concerns, where researching surveillance practices could have raised privacy concerns.

5.4 Recommendations for Future Research

The recommendations for future research include extending the study to other nations to compare how distinct cultural contexts and political systems influence the application of biopolitical surveillance. Another area of future research is examining how critical theories might offer distinct approaches to the surveillance of pandemics. Future research should also concentrate on investigating the actual efficiency of surveillance measures in controlling the pandemic, creating a balance between privacy concerns and public health benefits. Besides,

future research should also examine how advancements in data analytics and AI are likely to shape future applications of biopolitical surveillance.

References

Adams, A. M., Chen, X., Li, W., & Zhang, C. (2023). Normalizing the pandemic: exploring the cartographic issues in state government COVID-19 dashboards. *Journal of Maps*, *19*(1), 1-9.

Agre, P. E. (1994). *Surveillance and Capture: Two Models of Privacy.* Information Society, 10(2), 101–127. https://doi.org/10.1080/01972243.1994.9960162

Ajana, B. (2017). Digital health and the biopolitics of the Quantified Self. *Digital health*, *3*, 2055207616689509.

Al-Heeti, A. (2020). Edward Snowden Interview. Snowden warns government surveillance amid COVID-19 could be long lasting. accessed 2024-05-10. Available from: https://www.cnet.com/news/privacy/snowden-warns-government-surveillance-amid-covid-19-could-be-long-lasting/

Allsopp, K., Varese, F., French, P., White, H., Chung, P., Hassan, A. A., ... & Hind, D. (2023). Implementing psychological support for health and social care staff affected by the COVID-19 pandemic: a qualitative exploration of staff well-being hubs ('Resilience Hubs') using normalisation process theory. *BMJ open*, *13*(8), e071826.

Boersma, K., Büscher, M., & Fonio, C. (2022). Crisis management, surveillance, and digital ethics in the COVID-19 era. *Journal of Contingencies and Crisis Management*, *30*(1), 2-9.

Bruff, I. (2018). *Foucault, Politics, and Violence.*

Chan, J., Burke, K., Bedard, R., Grigg, J., Winters, J., Vessell, C., ... & MacDonald, R. (2021). COVID-19 in the New York City jail system: epidemiology and health care response, March–April 2020. *Public Health Reports*, *136*(3), 375-383.

Cirruzzo, C. (2020). VA Launches Contact Tracing App As States Grapple With Public Trust. *Inside CMS*, *23*(33), 1-3.

Dodds, K., Broto, V. C., Detterbeck, K., Jones, M., Mamadouh, V., Ramutsindela, M., ... & Woon, C. Y. (2020). The COVID-19 pandemic: Territorial, political and governance dimensions of the crisis. *Territory, Politics, Governance*, *8*(3), 289-298.

Donelle, L., Comer, L., Hiebert, B., Hall, J., Shelley, J. J., Smith, M. J., ... & Facca, D. (2023). Use of digital technologies for public health surveillance during the COVID-19 pandemic: A scoping review. *Digital Health*, *9*, 20552076231173220.

Eck, K., & Hatz, S. (2020). State surveillance and the COVID-19 crisis. *Journal of Human Rights*, *19*(5), 603-612.

Eric Wallach, E. (2020). An Interview with Bruce Schneier, Renowned Security Technologist.

accessed 2024-05-11. Available from: https://thepolitic.org/article/an-interview-with-bruce-schneier-renowned-security-technologist

Fegter, S., & Kost, M. (2023). Visibility and Well-Being in School Environments: Children's Reflections on the "New Normal" of Teaching and Learning during the Covid-19 Pandemic. *International journal on child maltreatment: research, policy and practice*, *6*(3), 415-429.

Foucault, M. (2008). *The Birth of Biopolitics: Lectures at the Collège de France, 1978-1979.* New York: Palgrave MacMillan

Gjerde, L. E. L. (2021). Governing humans and 'things': power and rule in Norway during the Covid-19 pandemic. *Journal of political power*, *14*(3), 472-492.

Hussein, M. R., Shams, A. B., Apu, E. H., Mamun, K. A. A., & Rahman, M. S. (2020). Digital surveillance systems for tracing COVID-19: Privacy and security challenges with recommendations. *arXiv preprint arXiv:2007.13182*.

Ioannou, A., & Tussyadiah, I. (2021). Privacy and surveillance attitudes during health crises: Acceptance of surveillance and privacy protection behaviours. *Technology in Society*, *67*, 101774.

Jackson, L (2021). Shoshana Zuboff Interview. Shoshana Zuboff Explains Why You Should Care About Privacy. accessed 2024-05-20. Available from: https://www.nytimes.com/2021/05/21/technology/shoshana-zuboff-apple-google-privacy.html

Keshet, Y. (2020). Fear of panoptic surveillance: using digital technology to control the COVID-19 epidemic. *Israel Journal of Health Policy Research*, *9*, 1-8.

Kitchin, R. (2014). *The Data Revolution: Big Data, Open Data, Data Infrastructures and Their Consequences.*California: SAGE publications

Kostkova, P., Saigí-Rubió, F., Eguia, H., Borbolla, D., Verschuuren, M., Hamilton, C., ... & Novillo-Ortiz, D. (2021). Data and digital solutions to support surveillance strategies in the context of the COVID-19 pandemic. *Frontiers in digital health*, *3*, 707902.

Kristensen, K. S. (2013). Michel Foucault on bio-power and biopolitics. *Unpublished Master's Thesis: University of Helsinki*.

Lemm, V., & Vatter, M. (2017). Michel Foucault's perspective on biopolitics. In *Handbook of biology and politics* (pp. 40-52). Edward Elgar Publishing.

Lyon, D. (2018). *The Culture of Surveillance: Watching as a Way of Life.*London:Polity

Mao, Z., Yao, H., Zou, Q., Zhang, W., & Dong, Y. (2021). Digital contact tracing based on a graph database algorithm for emergency management during the COVID-19 epidemic: Case study. *JMIR mHealth and uHealth*, *9*(1), e26836.

Morley, J., & Cowls, J. (2018). *The Ethics of AI in Health: An Analysis of the UK Landscape.*

Newell, B. (2021). Introduction: surveillance and the COVID-19 pandemic: views from around the world. *Surveillance & Society*, *19*(1), 81-84.

NIH's Dr. Fauci on the COVID-19 battle. NIAID director talks virus variants and careers in public health. 2021 accessed 2024-05-11. Available from: https://magazine.medlineplus.gov/article/nihs-dr-fauci-on-the-covid-19-battle

Omer, I., et al. (2020). *Digital surveillance in the COVID-19 era: A survey of privacy attitudes and practices among university students.*

Patterson, A., & Clark, M. A. (2020). COVID-19 and power in global health. *International Journal of Health Policy and Management*, *9*(10), 429.

Peters, M. A. (2020). Philosophy and pandemic in the postdigital era: Foucault, Agamben, Žižek. *Postdigital Science and Education*, *2*, 556-561.

Platto, S., Wang, Y., Zhou, J., & Carafoli, E. (2021). History of the COVID-19 pandemic: Origin, explosion, worldwide spreading. *Biochemical and biophysical research communications*, *538*, 14-23.

Pratt, B., Parker, M., & Bull, S. (2022). Equitable design and use of digital surveillance technologies during COVID-19: Norms and concerns. *Journal of Empirical Research on Human Research Ethics*, *17*(5), 573-586.

Rosen, J. (2000). *The Unwanted Gaze: The Destruction of Privacy in America.* New York: Random House.

Scharf, L. G., Adeniyi, K., Augustini, E., Boyd, D., Corvin, L., El Kalach, R., ... & Zell, E. (2023). Monitoring and reporting the US COVID-19 vaccination effort. *Vaccine*.

Siisiäinen, L. (2018). *Foucault, biopolitics and resistance*. London:Routledge.

Soto-Vásquez, A. D., Moody, K., Gonzalez, A. A., & Shi, W. (2023). Consumption, identity, and surveillance during COVID-19 as a crisis of pleasure. *Consumption Markets & Culture*, *26*(1), 81-97.

Suryasa, I. W., Rodríguez-Gámez, M., & Koldoris, T. (2021). The COVID-19 pandemic. *International Journal of Health Sciences*, *5*(2), 6-9.

Takács, Á. (2017). Biopolitics and biopower: The Foucauldian approach and its contemporary relevance. *Bioethics and Biopolitics: Theories, Applications and Connections*, 3-15.

Tréguer, F. (2021). The virus of surveillance: how the Covid-19 pandemic is fuelling Technologies of Control. *Political Anthropological Research on International Social Sciences (PARISS)*, *2*(1), 16-46.

Wallenstein, S. O., & Nilsson, J. (2013). *Foucault, biopolitics, and governmentality*. Huddinge: Södertörns högskola.

Wang, Q., Su, M., Zhang, M., & Li, R. (2021). Integrating digital technologies and public health to fight Covid-19 pandemic: key technologies, applications, challenges and outlook of digital healthcare. *International Journal of Environmental Research and Public Health*, *18*(11), 6053.

Wang, Q., Su, M., Zhang, M., & Li, R. (2021). Integrating digital technologies and public health to fight Covid-19 pandemic: key technologies, applications, challenges and outlook of digital healthcare. *International Journal of Environmental Research and Public Health*, *18*(11), 6053.

Westerlund, M., Isabelle, D. A., & Leminen, S. (2021). The acceptance of digital surveillance in an age of big data. *Technology Innovation Management Review*, *11*(3), 32-44.

Whitelaw, S., Mamas, M. A., Topol, E., & Van Spall, H. G. (2020). Applications of digital technology in COVID-19 pandemic planning and response. *The Lancet Digital Health*, *2*(8), e435-e440.

Zuboff, S. (2019). *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power.* New York: PublicAffairs