

INMATE CONSTITUTIONAL RIGHTS AND EXPOSURE TO EXTREME HEAT IN  
CORRECTIONAL FACILITIES

---

A Thesis

Presented to

The Faculty of the Department of Criminal Justice and Criminology

Sam Houston State University

---

In Partial Fulfillment

of the Requirements for the Degree of

Master of Arts

---

by

Jazmin E. Palacios

December 2021

INMATE CONSTITUTIONAL RIGHTS AND EXPOSURE TO EXTREME HEAT IN  
CORRECTIONAL FACILITIES

by

Jazmin E. Palacios

---

APPROVED:

Michael S. Vaughn, PhD  
Committee Director

Dennis Longmire, PhD  
Committee Member

Jurg Gerber, PhD  
Committee Member

Phillip Lyons, PhD  
Dean, College of Criminal Justice

## ABSTRACT

Palacios, Jazmin E., *Inmate constitutional rights and exposure to extreme heat in correctional facilities*. Master of Arts (Criminal Justice and Criminology), December, 2021, Sam Houston State University, Huntsville, Texas.

Climate scientists predict that a warming planet will affect every aspect of life. Correctional facilities are not immune from this phenomenon. During the summer months, some prisons have recorded indoor temperatures of up to 110 degrees Fahrenheit. Rising temperatures and severe heat waves, as a result of climate change, have led to a significant number of heat-related deaths and injuries among correctional populations in the United States. The current risk of death or illness in correctional facilities due to extreme heat remains a concern for correctional employees and health care personnel who are legally responsible for providing inmates their basic needs, including food, water, shelter, health, and safety. Inmates have resorted to federal courts for relief against heat-related conditions, arguing that exposure to extreme temperatures make their “conditions of confinement” unlivable, violating the Eighth Amendment’s prohibition against cruel and unusual punishment. This thesis analyzes cases from the U.S. Circuit Courts of Appeals and the U.S. District Courts, in which inmates challenged the constitutionality of their conditions of confinement in extremely hot facilities. The thesis applies inductive methods and analytic procedures of grounded theory to identify legal doctrines, concepts, representations, and themes of court litigation and case law concerning excessive heat in correctional facilities. By analyzing federal court decisions, this thesis examines the constitutionality of incarcerating inmates in extremely hot facilities and offers policy guidance to prison officials on mitigation efforts in heat-related conditions of confinement.

KEY WORDS: Inmate constitutional rights, Extreme heat, Heat index, Eighth Amendment, Deliberate indifference, Section 1983, Prison conditions of confinement, Prison litigation, Civil rights lawsuits

## **ACKNOWLEDGEMENTS**

I would first like to thank Dr. Michael S. Vaughn for serving as the chair of my thesis committee, as well as for his continual support and guidance throughout my academic career. I am grateful for his mentorship through both the writing process and in the completion of my master's degree at SHSU. I would also like to thank Dr. Longmire and Dr. Gerber for their valuable feedback and comments that helped improve my thesis. Finally, I would like to thank my family and friends for their endless love and support throughout this process.

# TABLE OF CONTENTS

	<b>Page</b>
ABSTRACT.....	iii
ACKNOWLEDGEMENTS.....	v
TABLE OF CONTENTS.....	vi
CHAPTER I: INTRODUCTION .....	1
CHAPTER II: METHODOLOGY.....	13
CHAPTER III: U.S. SUPREME COURT PRECEDENT .....	18
Eighth Amendment.....	18
CHAPTER IV: U.S. CIRCUIT COURTS OF APPEALS .....	26
Courts’ Decisions Where Inmates’ Prevailed.....	26
Courts’ Decisions Where Prison Officials’ Prevailed .....	43
CHAPTER V: U.S. DISTRICT COURTS.....	64
Courts’ Decisions Where Inmates’ Prevailed.....	64
Courts’ Decisions Where Prison Officials’ Prevailed .....	76
CHAPTER VI: DISCUSSION AND CONCLUSION.....	88
REFERENCES .....	96
VITA.....	127

## CHAPTER I

### Introduction

Due to the increased levels of carbon dioxide in the atmosphere and in the oceans, the United States Government predicts that climate change is impacting every single human activity (Buis, 2019; Lindsey, 2021). According to the National Aeronautics and Space Administration [NASA] (2021), the Earth's temperature has risen about 2.12 degrees Fahrenheit since the late nineteenth century, the start of the industrial revolution (see also Lindsey & Dahlman, 2021). The decade of the 2010s was declared the hottest ever recorded on the planet (National Oceanic and Atmospheric Administration [NOAA], 2020; Dennis et al., 2020). In the U.S. alone, temperatures have risen from 1.3 to 1.9 degrees Fahrenheit, and some southern cities, such as Las Vegas, El Paso, and Phoenix, have reported increases of at least 4.3 degrees Fahrenheit (*Climate Central*, 2019). Climate scientists warn that global temperatures should not exceed 3.6 degrees Fahrenheit (2 degrees Celsius) to avert catastrophic and irreversible damages to the planet (Leber, 2014; Mooney & Muyskens, 2019). Yet, over the past century, multiple locations around the world have surpassed this threshold (Buis, 2019).

Although the impacts of climate change are unequally felt across the globe, the southern part of the U.S. has seen increases in extreme heat, which are forecasted to continue over the next several decades (Cheng et al., 2019). According to Kloesel et al. (2018), the average highs in the Southern Great Plains are projected to increase 3.6 to 5.1 degrees Fahrenheit by the mid-21<sup>st</sup> century and 4.4 to 8.4 degrees by the late 21<sup>st</sup> century. Some of the hottest states in the country, including California, Louisiana, Alabama, Georgia, Texas, Florida, and Arizona are projected to see a dramatic rise in the number of

days above 90 degrees Fahrenheit (*Climate Central*, 2016; Vose et al., 2017). Among these Southern states, numerous metropolitan areas, such as McAllen, Miami, and Phoenix are predicted to have more than 100 days annually of extreme heat by 2050 (*Climate Central*, 2016; Vose et al., 2017). In the summer of 2019, Phoenix routinely recorded daily temperatures of up to 106 degrees Fahrenheit, and Las Vegas in 2018 faced its hottest summer ever with many days of temperatures at 105 degrees (Flavelle & Popovich, 2019). As global greenhouse gas emissions continue to rise, Phoenix is expected to see as many as 60 days above 115 degrees Fahrenheit each year by the end of the century (and 163 days per annum above 100 degrees Fahrenheit) (*Climate Central*, 2017). Research shows increases in average temperatures and extreme heat events will become the norm in many parts of the U.S. (Kloesel et al., 2018).

As dramatic changes in weather patterns affect the quality of life for tens of millions of Americans, the U.S. faces significant dangers to human health and well-being through injuries, illnesses, and deaths (Ebi et al., 2018). In 2016, the U.S. Environmental Protection Agency (EPA) and the U.S. Centers for Disease Control and Prevention (CDC) reported extreme heat causes more deaths than any other weather-related event (i.e., hurricanes, tornadoes, and/or flooding). Berko et al. (2014) reported that between 2006 and 2010 nearly one-third (3,332 deaths) of weather-related deaths were attributed to excessive natural heat. Since 2014, Arizona and Nevada have seen a sharp rise in the number of heat-related deaths, which more than tripled in Arizona from 76 deaths in 2014 to 235 in 2017 (Flavelle & Popovich, 2019). During the same time period, the number of heat-related deaths in Nevada increased five times from 29 to 139 (Flavelle & Popovich, 2019). Research shows long-term global warming through greenhouse gas



emissions will result in future increases in heat-related deaths across the country (Guo et al., 2018; Petkova et al., 2014).

As temperatures rise, people become susceptible to heat-related illnesses which may include mild (e.g., heat rash, heat cramps, and heat syncope or fainting) to more severe and life-threatening syndromes (e.g., heat exhaustion and heat stroke) (Gauer & Meyers, 2019; Kinkade & Warhol, 2018; U.S. CDC, 2018). Heat-related illnesses are caused by the body's inability to properly cool itself when exposed to heat stressful conditions, such as strenuous exercise and/or high ambient temperatures (Cramer & Jay, 2016; Gauer & Meyers, 2019; U.S. CDC, 2017a; Wexler, 2002). Thermoregulation is the processes (i.e., radiation, conduction, convection, and evaporation) by which the body rids itself of excess heat to maintain normal core temperature (Becker & Stewart, 2011; Cramer & Jay, 2016; Gauer & Meyers, 2019; Waters, 2001; Wexler, 2002).

Radiation is the transfer of heat between the body and the environment through electromagnetic waves, in which heat is gained "if mean radiant temperature exceeds skin temperature (e.g., heat wave) and lost if skin temperature exceeds mean radiant temperature (e.g., at room temperature)" (Cramer & Jay, 2016, p. 5). Conduction is the direct transfer of heat to a cooler surface, such as applying ice packs to the body or immersion in cold water (Becker & Stewart, 2011; Cramer & Jay, 2016; Gauer & Meyers, 2019; Wexler, 2002). Convection is the exchange of heat with the surrounding air in which the body gains heat as the air temperature exceeds skin temperature (Becker & Stewart, 2011; Cramer & Jay, 2016; Gauer & Meyers, 2019; Wexler, 2002). Lastly, evaporation of sweat from the skin is the primary thermoregulatory mechanism by which the body is able to dissipate heat during exercise and under high environmental

temperatures (Becker & Stewart, 2011; Cramer & Jay, 2016; Gauer & Meyers, 2019; Waters, 2001; Wexler, 2002).

Research shows several factors increase a person's risk of heat-related illness and/or death (Becker & Stewart, 2011; Gauer & Meyers, 2019; Itani et al., 2020; Kinkade & Warhol, 2018; Waters, 2001; Wexler, 2002). The U.S. EPA and U.S. CDC (2016) reported the following three major risk factors: (1) exposure (i.e., people who are regularly exposed to high temperatures); (2) sensitivity (i.e., people less tolerant of heat); and (3) ability to respond and prepare (i.e., people less able to avoid heat). People who work or exercise outside for long hours are subject to high heat exposure, which increases the risk of dehydration, electrolyte losses, and overtaxing of the body's thermoregulation mechanism (Auber, 2004; see also Lundgren et al., 2013). According to Lundgren et al. (2013), multiple individual and environmental factors, such as physical fitness, health status, clothing, and work setting, should be considered when assessing a worker's risk of heat-related injury and/or death.

Although the risks of climate change may appear to be universal, certain populations are highly vulnerable to the consequences of changing weather patterns (Ebi et al., 2018). Research shows adverse consequences of heat exposure on individuals less tolerant, such as pregnant mothers, infants, elderly, and those with chronic health conditions (i.e., those with suppressed immune systems, cardiovascular disease, schizophrenia, and diabetes) (Cil & Cameron, 2017; Hess et al., 2014; Hopp et al., 2018; Prudent et al., 2016; Zhang, Yu, & Wang, 2017). Due to age-weakened physiology and thermoregulation, Itani et al. (2020) found the elderly are subject to higher heat-related health risks compared to young adults. Moreover, Hess et al. (2014) showed that chronic

health conditions, including the number of conditions, increased the risk of hospital admission or death among patients with acute heat illness in U.S. emergency departments from 2006 to 2010.

Multiple studies have examined the disproportionate impacts of climate change on individuals less able to avoid heat, such as those with limited income who cannot afford air conditioning or reside in buildings without air conditioning (Cedeno Laurent et al., 2018; Christenson et al., 2013; Uejio et al., 2016; Williams et al., 2019). Three-quarters of U.S. households have air-conditioners (U.S. Department of Energy, n.d.). According to the U.S. Energy Information Administration (2011), however, low income households in the United States have less access to air-conditioning relative to other households. In general, 18% of households below the poverty line do not have air conditioning equipment at all (U.S. Energy Information Administration, 2011). As to the type of air conditioners, about a third of households below the poverty line use room air conditioning (individual window or wall units) compared to the 15% of households with an income above \$100,000 (U.S. Energy Information Administration, 2011). Furthermore, about 75% of households with incomes above \$100,000 use central air conditioning compared to just 44% of households below the poverty line (U.S. Energy Information Administration, 2011).

The criminal justice system is not immune to climate change. The U.S. houses approximately 2.3 million people in prisons and jails across the nation (Sawyer & Wagner, 2020; see also Kaeble & Cowhig, 2018). The Census of State and Federal Adult Correctional Facilities (2005) identified 69 facilities still in use that were built in the nineteenth century, with the oldest, the Metropolitan Transition Center in Baltimore,

constructed in 1811. One Census of Jail Facilities (2006) identified 34 jails still in use that were built in the nineteenth century, with the oldest, Bayou Dorcheat Correctional Center in Minden, Louisiana, opened in 1800. Although the majority of correctional facilities were built after the invention of air conditioning in 1902, at least 13 states in the South lack universal air conditioning in their prisons, including Texas, Alabama, Florida, Arizona, Louisiana, Mississippi, Georgia, Kansas, Kentucky, Missouri, North Carolina, South Carolina, and Virginia (Basile, 2014; Jones, 2019).

In August 2011, 57-year-old Texas prisoner, Michael Martone, died as a result of high temperatures in the Huntsville (Walls) Unit, which was built in 1849 and does not have air-conditioning in inmate housing areas (*Martone v. Livingston*, 2014; Census, 2005). In Texas alone, only 30 of its 109 correctional facilities are fully air-conditioned (Grissom, 2016; Jones, 2019; Kelly, 2019). Most Texas inmates who died from heat-related causes were housed in facilities opened in the past 30 years that failed to provide safe climatic and temperature conditions (Human Rights Clinic, 2014). As temperatures soared into the triple digits in St. Louis, Missouri, during a severe heatwave in July 2017, inmates at the Medium Security Institution jail, built in 1966, were heard screaming from the windows, “Help us!” and “We ain’t got no A/C!” (Baptiste, 2017, para. 9; see also Bott, 2018).

Correctional facilities are built to last longer than most conventional buildings (Phillips & Griebel, 2003). As evident by the use of heavy and durable construction materials, including, brick, stone, concrete, and steel, prisons and jails are intended to last decades, with some more than 100 years (Nadel & Mears, 2020; see also Casey, 1958; Holt, 2015; Johnston, 2000; Krasnow, 1998; Nalbone, 2004; Phillips & Griebel, 2003).

According to Phillips and Griebel (2003, p. 4), justice facilities have “grown up over many decades in an additive and sometimes ad hoc fashion.” In other words, as correctional facilities aged, existing structures were often added to in a haphazard manner (Johnston, 2000; Phillips, 2004).

In the early 20<sup>th</sup> century, the majority of U.S. prisons were designed for maximum security with gates, bars, watchtowers, and high surrounding walls that were commonplace in prison architecture (Johnston, 2000; see also Hancock & Jewkes, 2011). The construction of a new prison often required up to two years to build, verify operational systems, and commission the building to service (Nalbone, 2004). However, after World War II, the costs of building high-security prisons led to the development of a prisoner classification system in which new prisons were built to specific degrees of security, which included maximum, medium, and minimum facilities (Johnston, 2000). Along with less costs in building lower security prisons, the U.S. faced a rapidly growing prisoner population in the 1970s and 1980s, which increased the demand for more prisons (Johnston, 2000).

Due to severe prison overcrowding, several states went through a period of extensive new prison construction (Fairweather & McConville, 2000). The use of standard building plans, such as those issued by the Federal Bureau of Prisons (BOP), American Correctional Association (ACA), and the National Institute of Justice (NIJ), became popular among states as a cost-saving strategy (Johnston, 2000; see also Hancock & Jewkes, 2011; Phillips & Griebel, 2003; Trumbull & Witte, 1981).

Along with the half a million correctional employees, the effects of climate change will have direct consequences on more than 2.7 million people in correctional

facilities (Kaeble & Cowhig, 2018; Sawyer & Wagner, 2020; U.S. Bureau of Labor Statistics, 2020b). Heat in correctional facilities is currently presenting enormous challenges to administrators, wardens, medical staff, and rank-and-file correctional officers. From 2012 to 2013, at least 147 Texas Department of Criminal Justice (TDCJ) correctional officers suffered heat-related injuries, in addition, to the many who filed separate heat-related workers' compensation claims with the Texas Department of Insurance (Martin, 2013).

In November 2013, Lance Lowry, president of the Huntsville, Texas-based union chapter of the American Federation of State, County and Municipal Employees (AFSCME), joined a lawsuit against TDCJ after the state prison system announced it would spend \$750,000 to build new climate-controlled barns for its pigs (Clarke, 2014; Lowry, 2013; Melton, 2014). Outraged by the agency's decision to provide its livestock relief from the heat while neglecting inmates and correctional officers inside Texas facilities, Lowry wrote an op-ed piece in *The New York Times* condemning the sweltering conditions (Lowry, 2013). He argued that, "overheating in prisons is made even more dangerous by other cost-cutting measures[.]" including, inadequate employment screening and physician examination of prison guard applicants "– even though they'll be expected to work in a physically demanding job up to 12 hours a day, sometimes in heavy Kevlar vests, often in extreme heat" (Lowry, 2013, para. 6). What appears as an unusual ally for inmates in the fight for improved conditions is strengthened by an important commonality, "inmates' living conditions are the officers' working conditions" (Melton, 2014, para. 3). Therefore, as an officer said, "[i]f it's 120 [degrees] for

[inmates], it's 120 [degrees] for [correctional officers] all summer long” (WFAA, 2015, para. 10).

Correctional officers are required to perform job functions under extreme temperatures, as well as endure other technical aspects of correctional operations, including offender overcrowding, understaffing, shift work, mandatory overtime, equipment issues, noise, unclean space, high workload, low job autonomy, and little job variety (Spinaris, 2020). These working conditions interact with correctional officers' health, performance, and work engagement, increasing the risk of workplace injury and illness (Spinaris, 2020). According to Arbury et al. (2014, p. 662), heat-related deaths occur more often in occupations where employees are “performing tasks in hot environments, causing them to build metabolic heat faster than their bodies can release heat and cool down.” Indeed, from 1992 to 2016, exposure to environmental heat killed 783 U.S. workers and seriously injured 69,374 workers (Tanglis & Devine, 2018). Recently, the U.S. Bureau of Labor Statistics (2020a) reported the deaths of 60 workers from exposure to temperature extremes in 2018. The Public Citizen's 2011 petition, however, revealed these statistics significantly underestimate the prevalence of heat-induced death among U.S. workers, meaning the true mortality rate is likely higher (Almashat et al., 2011; Tanglis & Devine, 2018). Additionally, the American Federation of Labor and Congress of Industrial Organizations (AFL-CIO) noted a 49% decrease in the number of Occupational Safety and Health Administration (OSHA) inspections for heat under the Trump administration (AFL-CIO, 2019, 2020).

Multiple factors increase the risk of heat-related illness and death, including age and underlying health (Holt, 2015). According to the U.S. CDC (2017c), people 65 years

or older are more likely to suffer from heat-related health problems because of changes in the body's thermoregulatory responses to heat exposure. Itani et al. (2020) examined the physiological differences in metabolism, cardiac output and thermoregulation of young adults and the elderly population, and found the elderly had a decreased metabolic rate and cardiac output, in addition to a delayed onset of sweating, compared to young adults, as a person's ability to adapt to changes in temperature diminishes with age.

From 1993 to 2013, the number of state prisoners age 55 or older increased 400%, from 26,300 in 1993 to 131,500 in 2013 (Carson & Sabol, 2016). Not only is the prisoner population aging at an unprecedented rate, but it is also positively related to increased chronic illness. Mitka (2004) reported inmates over 55-years of age are more likely to have an average of three chronic health conditions, such as cardiovascular disease, diabetes, and pulmonary disease, compared to their younger counterparts. To treat their chronic illnesses, inmates are prescribed medications, such as psychotropic, endocrinological, and blood pressure drugs, that can interfere with body temperature regulation, thus increasing health risks from extreme heat (Chammah, 2017). Moreover, prisons and jails are ill-equipped to regulate facility temperatures (e.g., air-conditioning, ventilation), and the lack of exercise for some inmate populations results in a sedentary lifestyle that increases vulnerability to extreme temperatures (Reimer, 2008).

Overall, research on correctional employees' health conditions reveal the prevalence of chronic illness (i.e., heart disease, hypertension, and diabetes), obesity, and substance abuse (Adwell & Miller, 1985; Brower, 2013; Buden et al., 2016; Cheek & Miller, 1983; Ferdik & Smith, 2017; Spinaris, 2020; Wright & Northrup, 2001). All three of these health risks are shown to increase individual's vulnerability to heat-related injury



or death (Christenson et al., 2013; Page et al., 2012; U.S. CDC, 2017b; U.S. CDC, 2013b). In Wisconsin during summer 2012, 75% of heat-related fatalities were associated with heart disease (Christenson et al., 2013). Some types of heart disease involve atherosclerosis, in which plaque builds up in the walls of the arteries and restricts blood flow (American Heart Association [AHA], 2017). Under heat stress, the heart is required to pump double, triple, or even quadruple, the amount of blood through the circulatory system to maintain blood pressure (Waters, 2001). However, heart disease affects the primary thermoregulation mechanisms (i.e., cardiac output, systemic circulation, and skin blood flow) that help transfer heat from the skin to the environment and, thus, is proven to elevate core body temperature during heat exposure (Zhang, Noda, Himeno, et al., 2016).

Furthermore, Zhang, Noda, Himeno, and Liu (2016) examined the combined effects of obesity, aging, and heart diseases on human temperature regulation during exposure to heat stress. Individuals who are overweight or obese retain more body heat because the increased thickness of fat causes an increased thermal resistance between core and skin and hence a reduction of heat dissipation from core to skin (Zhang, Noda, Himeno, et al., 2016).

As the climate continues to change, however, the correctional system remains legally responsible for providing inmates a constitutional floor of basic needs, including food, water, shelter, health, and safety (*Estelle v. Gamble*, 1976; *Farmer v. Brennan*, 1994; *Helling v. McKinney*, 1993; Holt, 2015). Rising temperatures and severe heat waves have led to a significant number of heat-related deaths and injuries among the current incarcerated population (Baptiste, 2017; Holt, 2015; Human Rights Clinic, 2014).

Since 1998, for example, nearly two dozen Texas inmates have died due to extreme heat, and in August of 2019, the Texas Department of Criminal Justice (TDCJ) reported a total of 56 heat-related illnesses for prisoners and employees that year (McCullough, 2019). The current risk of death or illness in correctional facilities due to extreme heat remains a concern as climate change progresses (Holt, 2015).

Several inmates have resorted to federal courts for relief against heat-related conditions (Holt, 2015). This thesis will analyze cases from the U.S. District Courts and the U.S. Circuit Courts of Appeals, in which inmates challenged the constitutionality of their conditions of confinement in extremely hot facilities. It provides an overview of U.S. Supreme Court caselaw on conditions of confinement, which has established precedent and the legal standard of liability when prisoners are exposed to extreme heat in correctional facilities. Then, the thesis examines court litigation, including case law, settlements, and consent decrees on heat-related problems within correctional facilities. Inductive, doctrinal legal analysis within the grounded theory tradition is employed (Nolasco et al., 2010). Litigation is presented within an organization framework thematically representative of legal actions surrounding hot temperature extremes in prisons. The thesis concludes by offering policy guidance to prison officials based on the themes revealed in the examination of lower court cases challenging heat-related conditions of confinement.

## CHAPTER II

### Methodology

This thesis utilizes inductive methods involving analytic procedures of grounded theory to identify legal doctrines, concepts, representations, and themes of court litigation and case law concerning excessive heat in correctional facilities. Grounded theory is the “discovery of theory from [systematic] data” that provides relevant “predictions, explanations, interpretations, and applications” (Glaser & Strauss, 1999, p. 1). The data collected for grounded theory may derive from various sources, such as interviews, observations, and government documents (Corbin & Strauss, 1990). Charmaz (1996, p. 28) describes grounded theory methods as “systematic procedures for shaping and handling rich qualitative materials,” in which “you start with individual cases, incidents, or experiences and develop progressively more abstract conceptual categories to synthesize, to explain, and to understand your data and to identify patterned relationships within it.” The purpose of conceptualizing the “raw data” (i.e., experiences, incidents, and events) is to “build a theoretical explanation by specifying phenomena in terms of conditions that give rise to them, how they are expressed through action/interaction, [and] the consequences that result from them...” (Corbin & Strauss, 1990, p. 9). The concepts relevant to an “evolving-theory” is determined by its recurring presence or absence in the data (Corbin & Strauss, 1990, p. 7).

Doctrinal legal research involves an analysis of “legal precedent and[or] legislative interpretation” to “reveal a statement of the law relevant to the matter under investigation” (Gawas, 2017, p. 129). Nolasco et al. (2010, p. 7) define doctrinal legal research as the “process of analyzing facts, identifying and organizing legal issues,

finding, reading, and synthesizing ... law and legal doctrines from primary (judicial decisions and statutes) and secondary authorities (journal articles, books, and encyclopedias).” To reveal statements of law in a given analysis, relevant legal rules found within statutes and cases (the source of law) are organized in a “logical and coherent structure and describe their relationship to other rules” (Chynoweth, 2008, p. 29). Gawas (2017) provides six tools of doctrinal research, including statutory materials, reports of committees, legal history, judgments, case reports, and case and digest summaries.

According to LaRossa (2005, p. 850), grounded theory methods (GTM) rest on the following five principles: (a) language is central to social life; (b) words are the indicators upon which GTM theories are formed; (c) variables are developed through a series of empirical and conceptual comparisons; (d) theories’ hypothesis or propositions state how variables are related; and (e) “GTM were designed to facilitate the crafting of stories.” Although the specific procedures of a GTM analysis may vary, it is imperative that the researcher outline the coding operations utilized in their study (LaRossa, 2005). LaRossa (2005) discussed three phases of coding, including open coding, axial coding, and selective coding.

The first phase, termed open coding, involves identifying similarities and variations in words, phrases, or sentences, which are then given conceptual labels and grouped into categories and subcategories (LaRossa, 2005; Corbin & Strauss, 1990). The purpose of open coding is to conceptualize and categorize phenomena by breaking down data into smaller parts and conducting a deep analysis (Vollstedt & Rezat, 2019). During this phase, the researcher is attentive to patterns in the text and is able to verify and

saturate categories as they analyze and code the data (Glaser & Holton, 2004). The open coding process enables researchers to be theoretically sensitive to “new issues and more likely to take notice of their empirical implications” (Corbin & Strauss, 1990, p. 12).

Further, the systematic comparisons conducted in this stage help challenge researchers’ bias or presuppositions in relation to the phenomenon under investigation (Vollstedt & Rezat, 2019).

The second phase, axial coding, explores the interaction or relationship between categories and subcategories developed in the open coding process (Corbin & Strauss, 1990). The purpose of this phase is to integrate concepts into one core category, “which appears to account for most of the variation around the concern or problem that is the focus of the study” (Glaser & Holton, 2004, 3.9 Core variable section, para. 1).

Researchers utilize the coding paradigm to examine a category (the phenomenon) in relation to its “causal conditions, context, intervening conditions, action/interaction strategies, and consequences” (Vollstedt & Rezat, 2019, p. 88).

Selective coding is the third and final phase, in which all categories are integrated into an emerging theory (Vollstedt & Rezat, 2019; see also Glaser & Holton, 2004).

Corbin and Strauss (1990, p. 14) described it as “the process by which all categories are unified around a ‘core’ category, and categories that need further explication are filled-in with descriptive detail.” According to LaRossa (2005), this is the stage where the researcher tells the main story underlying the analysis. The researcher’s narrative is essential to the coding process as it serves to explain how a set of complex variables are interrelated (LaRossa, 2005). Grounded theory methods enable researchers to specify the conditions under which the phenomenon appeared in the data (Corbin & Strauss, 1990).

The cases analyzed in this thesis were collected from the Westlaw online legal database, which provides access to cases from state and federal courts in the United States. In chapter three, the thesis details U.S. Supreme Court precedent on conditions of confinement in correctional facilities. Inmate exposure to excessive heat is analyzed under the conditions of confinement umbrella. Prison conditions violate the constitution when they rise to the level of deliberate indifference. Inmates must demonstrate that their conditions of confinement violate the objective component (*Rhodes v. Chapman*, 1981) and the subjective component (*Wilson v. Seiter*, 1991) of the Eighth Amendment. This section of the thesis details the legal standards inmates must satisfy to raise a Section 1983 claim of exposure to excessive heat in correctional facilities.

In chapter four, the thesis examined cases from the U.S. Circuit Courts of Appeals when inmates challenged heat-related conditions of confinement. To find the cases in Westlaw the following search strategies were utilized: “conditions of confinement” w/30 “hot” and “conditions of confinement” w/30 “temperature.” The search strategy “conditions of confinement” w/30 “hot” produced 24 civil cases from the U.S. Circuit Courts of Appeals, of which 12 cases pertained to hot temperatures in correctional facilities. Therefore, 12 civil cases that were either duplicates or did not pertain to hot temperatures in correctional facilities were excluded from the analysis. The search strategy “conditions of confinement” w/30 “temperature” produced 54 civil cases from the U.S. Circuit Courts of Appeals, of which 16 cases pertained to hot temperatures in correctional facilities. Therefore, 38 civil cases that were either duplicates or did not pertain to hot temperatures in correctional facilities were excluded from the analysis. Within the 28 cases pertaining to hot prison conditions, the following search terms “heat”

or “hot” or “ventilation” produced 20 “keynote” citations. After including relevant keynoted citations, the final number of cases analyzed from the U.S. Circuit Court of Appeals was 48.

In chapter five, the thesis analyzed cases from the U.S. District Courts, in which inmates challenged the constitutionality of extreme heat in correctional facilities. The following search strategies were used for the selection of relevant cases: “conditions of confinement” w/30 “hot” and “conditions of confinement” w/30 “temperature.” The search strategy “conditions of confinement” w/30 “hot” produced 232 civil cases from the U.S. District Courts, of which 40 cases pertained to hot temperatures in correctional facilities. Therefore, 192 civil cases that were either duplicates or did not pertain to hot temperatures in correctional facilities were excluded from the analysis. The search strategy “conditions of confinement” w/30 “temperature” produced 420 civil cases from the U.S. District Courts, of which 79 cases pertained to hot temperatures in correctional facilities. Therefore, 341 civil cases that were either duplicates or did not pertain to hot temperatures in correctional facilities were excluded from the analysis. Within the 119 cases pertaining to hot prison conditions, the following search terms “heat” or “hot” or “ventilation” produced 14 “keynote” citations. After including relevant keynoted citations, the final number of cases analyzed from the U.S. District Courts was 133.

In chapter six, this thesis compares the themes revealed in the examination of U.S. Circuit Court of Appeals and U.S. District Courts cases challenging heat-related conditions of confinement. The analysis examines trends in law with respect to exposing inmates to excessive heat in correctional facilities. The thesis concludes with policy recommendations and suggested areas of future research.

## CHAPTER III

### U.S. Supreme Court Precedent

#### **Eighth Amendment**

##### ***Proportionality Review***

The Eighth Amendment to the United States Constitution declares, “Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishment inflicted.” According to *Weems v. United States* (1910, p. 350), the general language of the cruel and unusual punishment clause “may be capable of wider application than to the mischief giving it birth.” In other words, the provision is not necessarily confined to remedy early forms of cruel and unusual punishment, but “may acquire wider meaning as public opinion becomes enlightened by humane justice” (*Weems v. United States*, 1910, p. 350).

*Weems* was the first U.S. Supreme Court case to recognize the importance of considering public opinion when identifying cruel and unusual punishment (Matusiak, Vaughn, & del Carmen, 2014). This view became law under *Trop v. Dulles* (1958), when the Court affirmed the non-static interpretation of the Eighth Amendment, saying “[t]he Amendment must draw its meaning from the evolving standards of decency that mark the progress of a maturing society” (*Trop v. Dulles*, 1958, p. 101). The concept of “evolving standards of decency” focuses on protecting human dignity through the consideration of a “changed societal consensus on decency” (Varland, 2005, p. 336). Although controversial and subject to rigorous debate, the “evolving standards of decency” principle became the accepted framework for analyzing cruel and unusual punishment jurisprudence (Varland, 2005).



### ***Conditions of Confinement: Objective Component of Eighth Amendment***

Although *Weems* and *Trop* focused on the proportionality of punishment, the courts recognized the cruel and unusual punishment clause is equally applicable to conditions of confinement (see *Holt v. Sarver*, 1970; *Gates v. Collier*, 1972; *Pugh v. Locke*, 1976). In *Holt v. Sarver* (1970, p. 373), state prisoners of the Arkansas State Penitentiary System alleged their conditions of confinement, including “a trusty system, a system in which men are confined together in large numbers in open barracks, bad conditions in the isolation cells, [and] absence of a meaningful program of rehabilitation,” amounted to cruel and unusual punishment. The court argued confinement itself characterized by “conditions and practices so bad as to be shocking to the conscience of reasonably civilized people” may rise to cruel and unusual punishment, even when “a particular inmate may never personally be subject to any disciplinary action” (*Holt v. Sarver*, 1970, p. 373). Similarly, *Gates v. Collier* (1972, pp. 888, 894) described the Mississippi State Penitentiary’s “deplorable and sub-human” conditions, including prison officials “fail[ure] to provide adequate protection against physical assaults, abuses, indignities and cruelties of other inmates, [ ] placing excessive numbers of inmates in barracks without adequate classification or supervision, and [ ] assigning custodial responsibility to incompetent and untrained inmates.” Again, *Gates* confirmed that the Eighth Amendment is not only applicable to “specific acts directed at selected individuals[,]” but also to “conditions of confinement that may prevail at a prison” (*Gates v. Collier*, 1972, p. 893).

Furthermore, *Holt* discussed the concept of totality of conditions. The court argued prison conditions are not to be examined separately because they “exist in

combination; each affects the other; and taken together they have a cumulative impact on the inmates regardless of their status” (*Holt v. Sarver*, 1970, p. 373). The Alabama district court refined the totality concept in *Pugh v. Locke* (1976), in which inmates challenged conditions of confinement within the Alabama penal system. The pervasive conditions included “overcrowding, filth, rampant violence, idleness, lack of rehabilitation programs, unsanitary food, and inadequate mental health care” (Montick, 1983, p. 233). The court ruled the Alabama penal system subjected inmates to cruel and unusual punishment, as the debilitating conditions “b[ore] no reasonable relationship to legitimate institutional goals” and “deprive[d] inmates of any opportunity to rehabilitate themselves” or to avoid “physical, mental, or social deterioration” (*Pugh v. Locke*, 1976, pp. 329, 330). Under a totality analysis, *Pugh* examined several aspects of the prison environment as a whole, which allowed for the remedy of “practices and conditions that normally would have escaped judicial scrutiny” (Montick, 1983, p. 233). The totality of conditions approach became widely accepted by the courts; however, isolated instances of Eighth Amendment violations called for a separate constitutional framework, as was specified by the U.S. Supreme Court in *Estelle v. Gamble* (1976).

In *Bell v. Wolfish* (1979), the U.S. Supreme Court ruled on the constitutionality of pretrial detainees’ conditions of confinement in the New York City Metropolitan Correctional Center (MCC)—a federal jail. The pretrial detainees—those charged of a crime but have not yet been tried—alleged violations of their statutory and constitutional rights arising from the jail’s overcrowded conditions, undue length of confinement, improper searches, inadequate recreational, educational, and employment opportunities, insufficient staff, and restrictions on the purchase and receipt of personal items and books

(*Bell v. Wolfish*, 1979). The Court ruled that a condition of confinement that subjects a pretrial detainee to “genuine privations and hardship over an extended period of time” or is “not reasonably related to a legitimate goal” may constitute a due process violation (*Bell v. Wolfish*, 1979, p. 539, 542). In other words, pretrial detainees cannot be punished, but a condition or restriction imposed on a pretrial detainee for the purpose of maintaining institutional safety and security is not unconstitutional. Essentially, the Court applied the same constitutional framework for prison conditions of those convicted to jail conditions of pretrial detainees. The *Wolfish* decision upheld the constitutional rights of inmates housed in prisons and jails alike.

In *Rhodes v. Chapman* (1981), inmates at the Southern Ohio Correctional Facility (SOCF) challenged the housing of two inmates in a single cell (also called double celling) as a violation of the Eighth Amendment’s cruel and unusual punishment clause. The U.S. Supreme Court ruled the conditions did not deprive inmates of the “minimal civilized measure of life’s necessities,” as measured by “evolving standards of decency that mark the progress of a maturing society” (*Rhodes v. Chapman*, 1981, p. 347; *Trop v. Dulles*, 1958, p. 101). Further, the Court declared that “[w]e could agree that double celling is not desirable ... [b]ut there is no evidence in this case that double celling is viewed generally as violating decency” (*Rhodes v. Chapman*, 1981, p. 349). The *Rhodes* decision established the objective prong of the Eighth Amendment by which courts determine whether conditions of confinement are cruel and unusual.

In *Brown v. Plata* (2011), the Supreme Court again upheld the notion that the objective component of the Eighth Amendment within the conditions of confinement context is established on the “minimal civilized measure of life’s necessities,” as

determined by “evolving standards of decency that mark the progress of a maturing society” (*Rhodes v. Chapman*, 1981, p. 347; *Trop v. Dulles*, 1958, p. 101). *Brown* arose from a series of class action lawsuits that challenged overcrowded living conditions in the California prison system. The Court ruled that “the medical and mental health care provided by California’s prisons ha[d] fallen short of minimum constitutional requirements and ha[d] failed to meet prisoners’ basic health needs” (*Brown v. Plata*, 2011, p. 501). Therefore, the Supreme Court affirmed the lower court’s injunction, ordering the California prison system to release 46,000 inmates to alleviate overcrowding. The Court determined that without a reduction in overcrowding, the decency inmates must be afforded falls below the constitutional threshold required.

***Conditions of Confinement: Subjective Component of Eighth Amendment***

In *Estelle v. Gamble* (1976), Texas inmate, J. W. Gamble, alleged he was subjected to cruel and unusual punishment for inadequate medical care of a back injury. The Court ruled that, “deliberate indifference by prison personnel to a prisoner’s serious illness or injury constitutes cruel and unusual punishment” (*Estelle v. Gamble*, 1976, p. 97). This was the first time the Supreme Court used the phrase, deliberate indifference, but they failed to define its meaning other than indicate it was more culpability than negligence and less culpability than intent to cause harm (see *Farmer v. Brennan*, 1994). Quoting *Gregg v. Georgia* (1976, p. 173), the *Gamble* Court held that deliberately ignoring an inmate’s medical needs constitutes the “unnecessary and wanton infliction of pain,” in violation of the Eighth Amendment. However, a physician’s “inadvertent failure to provide adequate medical care,” such as being negligent in diagnosing or treating a prisoner’s medical condition, does not constitute cruel and unusual punishment (*Estelle v.*

*Gamble*, 1976, p. 105). The Court added that an inmate's disagreement with a physician's diagnostic techniques or treatment plan does not amount to deliberate indifference, but is at most medical malpractice that should be challenged in state courts under state tort law. After *Estelle*, the deliberate indifference standard was used to assess conditions of confinement cases, but lower courts had much disagreement on what the terms meant—some courts equated it on a “continuum of culpability” as “gross negligence” at one end and other courts equated it with “intent to cause harm” on the other end (see Newman, 1992; Reinert, 2009; Rubin, 1992; Vaughn, 1997; Vaughn & del Carmen, 1995).

In *Wilson v. Seiter* (1991), the Court ruled that a prisoner challenging conditions of confinement is required to show “deliberate indifference” on the part of prison officials. Again, the Court did not provide a clear definition of “deliberate indifference,” but described it as officials’ “culpable state of mind,” meaning some form of intent on their part in allowing unconstitutional conditions to persist (*Wilson v. Seiter*, 1991, p. 294). Furthermore, the Court ruled that the Eighth Amendment has both an objective and subjective component. The “deliberate indifference” standard applied in *Gamble* was declared the subjective component that a prisoner must satisfy in cases challenging conditions of confinement.

Eighteen years after *Estelle v. Gamble*, the Supreme Court defined deliberate indifference in *Farmer v. Brennan* (1994). The Court ruled that deliberate indifference was the equivalent of recklessness, as used in the criminal law. Criminal law recklessness means that “a person has disregarded a risk of harm of which [that person] was aware” (*Farmer v. Brennan*, 1994, p. 826). Therefore, the Court ruled that deliberate indifference

is when a prison official knew of a substantial risk of harm to an inmate's health or safety and recklessly disregarded that risk.

The subjective component was further explicated in *Helling v. McKinney* (1993), where state prisoner, William McKinney, alleged he had experienced health problems as a result of his involuntary exposure to environmental tobacco smoke (ETS) and, such conditions had violated his Eighth Amendment rights against cruel and unusual punishment. McKinney was a non-smoking inmate whose cellmate smoked five packs of cigarettes a day. The Court ruled that under the deliberate indifference standard, the prisoner does not have to show that he or she is currently experiencing health risks from a condition of confinement that is "sure or very likely to cause serious illness or needless suffering" in the future (*Helling v. McKinney*, 1993, p. 33). The subjective requirement, deliberate indifference, is satisfied when prison officials are aware that exposure to ETS poses a substantial risk of harm, which also places inmates' health at risk, and recklessly disregards that risk.

Historically speaking, up until the 1960s and 1970s civil rights movement, courts took a "hands-off" approach to prison operations ("Beyond the ken of the courts," 1963; Fritch, 1961; see also Jacobs, 1980; Murphy, 1973; Reynolds, 1985; Terrill & Unruh, 1979). During the "hands-off" period, under the concepts of federalism and separation of powers, the federal judiciary were reluctant to engage in the operation of prisons and jails (Collins, 2010). With respect to federalism, the federal courts allowed state and local jurisdictions to operate their prison and jail facilities without intervention (Robbins, 1978). Under the concept of separation of powers, the federal judiciary gave wide deference to the political branches of government (the executive and legislative branches)

to run correctional facilities as they wished (Friend, 1967). In the late 20<sup>th</sup> century, however, courts became more willing to scrutinize correctional facilities, ushering in the “hands-on” period (see *Bell v. Wolfish*, 1979; see also Eisenberg, 1993; Jacobs, 1980). During the hands-on period, federal courts assessed whether prison conditions met constitutional requirements (see *Holt v. Sarver*, 1970; *Gates v. Collier*, 1972; *Pugh v. Locke*, 1976; *Bell v. Wolfish*, 1979; see also Eisenberg, 1993; Jacobs, 1980; Westling & Rasmussen, 1985). As covered in this chapter, there have been a series of Supreme Court cases on conditions of confinement (*Estelle v. Gamble*, 1976; *Rhodes v. Chapman*, 1981; *Helling v. McKinney*, 1993; *Brown v. Plata*, 2011); however, the Supreme Court has yet to rule on a case challenging temperature extremes in correctional facilities. The lack of guidance from the Supreme Court has not limited the lower federal courts from developing standards used to examine prisoners’ Eighth Amendment rights (Fair, 1979; see Reynolds, 1985). Indeed, this thesis explores inmate Section 1983 lawsuits in the U.S. Circuit Courts of Appeals and the U.S. District Courts showing that, in some situations, exposure of prisoners to excessive heat violates the Eighth Amendment’s prohibition against cruel and unusual punishment.

## CHAPTER IV

### U.S. Circuit Courts of Appeals

#### Courts' Decisions Where Inmates' Prevailed

One of the primary ways inmates challenge conditions of confinement is through class action suits (see *Holt v. Sarver*, 1970; *Gates v. Collier*, 1973; *Pugh v. Locke*, 1976; *Bell v. Wolfish*, 1979; *Rhodes v. Chapman*, 1981; *Gates v. Cook*, 2004; *Brown v. Plata*, 2011). A class action allows for one or more plaintiffs to represent a larger class of people who have suffered, or perhaps will suffer in the future, similar harmful conditions. It is the combination of separate individual cases into a single suit that prevents the “unnecessary waste of judicial resources and the possibility of inconsistent judgments” (Sherman, 1987, p. 507). Class actions are important because they can result in settlements, consent decrees, and injunctions that are aimed at remedying systemic failures of correctional administrators in running prisons that adhere to minimal constitutional safeguards. In 1969, for example, three cases that involved allegations of unconstitutional practices at the Arkansas State Penitentiary (ASP) were consolidated and tried (*Holt v. Sarver*, 1970). The court ruled the prison conditions unconstitutional, and the ASP entered into a consent decree, which brought about improvements, including the elimination of gross overcrowding in isolation cells (*Holt v. Sarver*, 1970). More recently, a series of class action lawsuits challenged overcrowded living conditions in the California prison system, which resulted in a remedial injunction, ordering a population reduction of 46,000 inmates (*Brown v. Plata*, 2011).

Similar inmate litigation has occurred with respect to heat-related illnesses experienced in extremely hot correctional facilities (*Webb v. Livingston*, 2015; *Graves v.*



*Arpaio*, 2010; *Yates v. Collier*, 2017). First, this chapter examines court decisions from the U.S. Circuit Courts of Appeals where inmates prevailed. In this study, a court decision where inmates prevailed means the judge declared the defendant(s) violated an inmate's Eighth Amendment right to be free from extreme heat and, therefore, seek to remedy the constitutional violation by granting the inmate's relief (e.g., injunctive, declaratory, and compensatory). The patterns revealed in the court cases developed into the following themes, *inmates with heat-sensitive health conditions* and *excessive heat index*. The theme, *inmates with heat-sensitive health conditions*, evolved from litigation filed by inmates whose chronic medical conditions increased the risk of heat-related illness and death. Another significant factor in courts decisions was a record of daily indoor temperatures, which established the theme, *excessive heat index*. The theme summaries provide a comparison of the relief granted to inmates and its implications on facility-wide responses to extreme heat in correctional settings.

### ***Inmates with Heat-Sensitive Health Conditions***

According to the U.S. CDC (2017b), extreme heat can be especially dangerous for those with chronic medical conditions, as they are less likely to sense and respond to changes in temperature. Research shows that incarcerated populations suffer higher rates of chronic conditions (i.e., heart disease, diabetes, asthma, mental illness, and obesity) compared to the non-institutionalized population (Bai et al., 2015; Binswanger et al., 2009; Maruschak et al., 2015; Wilper et al., 2009). From 2011 to 2012, an estimated 50% of state and federal prisoners and jail inmates reported ever having a chronic medical condition, while 40% reported currently having a chronic condition (Maruschak et al., 2015). Among those who reported a current chronic condition, 66% of prisoners and 40%

of jail detainees reported taking prescription medication (Maruschak et al., 2015). Some medications used to treat chronic health conditions (i.e., psychotropics, diuretics, and antiparkinsonics) interfere with the body's normal thermoregulatory function, which increases the risk of heat-related illness and/or death (AHA, 2015; Cimons, 2020; Levine et al., 2012; National Collaborating Centre for Environmental Health [NCCEH], 2010; Ohio Department of Mental Health and Addiction Services [OhioMHAS], 2016; Page et al., 2012; U.S. CDC, 2012; U.S. Pharmacist, 2019). Psychotropics (e.g., anti-anxiety drugs, sedatives), for example, affect brain function (i.e., heat perception), which may lead to behavioral change (i.e., heat avoidance); diuretics (i.e., often prescribed to treat high blood pressure) deplete the body of sodium and water, which can result in dehydration; and antiparkinsonics (i.e., medications for Parkinson's disease) inhibit perspiration, which is a vital cooling mechanism to maintain normal body temperature (AHA, 2015; Cimons, 2020; NCCEH, 2010; OhioMHAS, 2016; U.S. CDC, 2012).

During the summers of 2011 and 2012, five Texas prisoners died as a result of extremely hot temperatures in Texas Department of Criminal Justice (TDCJ) facilities. The Texas prisoner population is particularly vulnerable to heat, as a study found their prevalence estimates for the following chronic conditions: hypertension, 19%; asthma, 5%; diabetes, 4%; and ischemic heart disease, 2% (Harzke et al., 2010). Moreover, 21% of Texas prisoners are prescribed psychotropic medications and 19% are taking medication for high blood pressure (Chammah, 2017).

Case law also shows these trends. In *Webb v. Livingston* (2015, p. 205), for example, each decedent had a heat-sensitive medical condition that increased their vulnerability to a heatstroke, including "hypertension, diabetes, depression, or a

combination thereof, which required them to take medication that interfered with their bodies' ability to regulate temperature." Outside temperatures where decedents were housed exceeded 100 degrees Fahrenheit for several weeks, which caused indoor temperatures within TDCJ facilities to "feel like" above 100 degrees. The decedents' family members filed three separate Section 1983 lawsuits against TDCJ executives, alleging they "acted with deliberate indifference to decedents' health and safety needs in violation of the Eighth and Fourteenth Amendments" (p. 204). Furthermore, the decedents' family members argued that the defendants were aware of the decedents health conditions, yet failed to take appropriate measures to protect them from extreme heat, thus causing their deaths.

The TDCJ executives filed motions to dismiss on the basis of qualified immunity. Qualified immunity protects government officials "from liability for civil damages insofar as their conduct does not violate clearly established statutory or constitutional rights of which a reasonable person would have known" (*Harlow v. Fitzgerald*, 1982, p. 800). To survive a defense of qualified immunity, the plaintiffs "must allege facts that, if proven, would demonstrate that [TDCJ] violated clearly established statutory or constitutional rights" (*Wicks v. Miss. State Emp't Servs.*, 1995, p. 995). The plaintiffs allegations of extreme heat satisfied both the objective and substantial risk of serious harm requirements of an Eighth Amendment violation, referencing previous Fifth Circuit precedent, including *Ball v. Leblanc* (2015), *Gates v. Cook* (2004), and *Smith v. Sullivan* (1977).

Furthermore, the Fifth Circuit held that TDCJ "knew of, but were deliberately indifferent to, this known risk of harm" (*Webb v. Livingston*, 2015, p. 208). The court

explained the defendants knew the inmates were experiencing a severe heatwave; indoor prison temperatures routinely exceeded 100 degrees, inmate living areas were not air conditioned or cooled to bring down extreme temperatures, and extreme temperatures led to heatstroke, especially among heat-sensitive prisoners. In addition, the court said TDCJ's own documents and actions confirmed they knew of the problem. They "routinely reviewed documents reporting heat-related injuries suffered by prisoners and staff, sent out an informal email warning of the risk, and provided (inadequate) training to correctional officers highlighting the warning signs of heat-related illness" (p. 208). In conclusion, the Fifth Circuit opined that TDCJ had "fair warning that their alleged treatment of [the decedents] was unconstitutional" (*Hope v. Pelzer et al.*, 2002, p. 730), stating that "a prisoner's right to be free from extreme temperatures was clearly established in 2011"; thus, the allegations were sufficient to overcome defendants' qualified immunity defense<sup>1</sup> (*Webb v. Livingston*, 2015, p. 209).

Other border states have also had heat-related problems with their correctional systems. Sheriff Joe Arpaio of Maricopa County became infamous for bringing back the chain gang, housing inmates in tents, and making inmates wear pink underwear in the hot Arizona desert (Lynch, 2004). In *Graves v. Arpaio* (2010), Arizona pretrial detainees brought a class action lawsuit against the Maricopa County Sheriff and Board of Supervisors, alleging "dangerously high temperatures" at the jail violated their constitutional rights (p. 1046). In 2008, the district court ordered Sheriff Arpaio to "house pretrial detainees taking psychotropic medications in cells where the temperature does not exceed 85 degrees Fahrenheit" (p. 1047). On appeal, Sheriff Arpaio argued that the "temperature . . . in Maricopa County jails do not violate the Eighth or Fourteenth

Amendments and, even if it did, the ordered relief is not the least intrusive means to correct those violations” (p. 1047). The district court found that “air temperatures above 85 degrees Fahrenheit greatly increase the risk of heat-related illnesses for individuals who take psychotropic medications” (p. 1048). The detainees’ expert testified to the significantly increased risk of heat-related illness among patients taking psychotropic medications and exposed to temperatures above 85 degrees Fahrenheit. Before the Ninth Circuit, Sheriff Arpaio contended “that some psychotropic medications affect the body’s ability to regulate heat but not all such medications” (p. 1049).

The Ninth Circuit ruled that “pretrial detainees taking psychotropic medications have been held in areas where the temperature has exceeded 85 degrees Fahrenheit” (p. 1049). The court added that Sheriff Arpaio failed to provide evidence supporting his claim that pretrial detainees taking psychotropic medications are not housed in dangerously high temperatures. Since “temperatures in excess of 85 degrees Fahrenheit increase the risk of heat-related illness for pretrial detainees taking psychotropic medications” (p. 1049), it was appropriate for the district court’s order to cover all pretrial detainees taking psychotropic medications and not just those taking psychotropic medications that affect the body’s ability to regulate heat. Within the jail, there were inadequate mental health screening and record keeping so that Sheriff Arpaio did not know which pretrial detainees are taking such heat-sensitive medications. Thus, limiting relief to only a small group of pretrial detainees would have been inadequate to correct the Eighth and Fourteenth Amendment violations.

In another case, *Yates v. Collier* (2017, p. 358), six Texas inmates confined at the Wallace Pack Unit claimed they were subject to “high temperatures in the prison housing

areas.” Inmates alleged that prison officials’ failure to provide reasonable accommodations for prisoners with heat-sensitive disabilities violated the Eighth Amendment, the Americans with Disabilities Act, and the Rehabilitation Act. With non-air-conditioned housing areas during the summer months, the indoor temperatures “can reach 100 degrees and consistently exceed 90 degrees” (p. 358). Five of the six inmates are older than 60 and suffer from serious medical conditions, including Type II diabetes, coronary arterial disease, high blood pressure, high cholesterol, hypertension, schizoaffective disorder, and obesity. The inmates requested specific injunctive relief that would require prison officials to maintain all housing areas of the Pack Unit at a heat index of 88 degrees Fahrenheit or less.

Plaintiffs moved to certify one general class and two subclasses of inmates. The General Class included all inmates incarcerated in the Pack Unit “who are subjected to TDCJ’s policy and practice of failing to regulate high indoor heat index temperatures in the housing areas” (p. 359). The Heat-Sensitive Subclass included inmates who “(1) have a physiological condition that places them at increased risk of heat-related illness, injury, or death . . . or (2) are prescribed an anticonvulsant, anticholinergic, antipsychotic, antihistamine, antidepressant, beta blocker, or diuretic; or (3) are over the age 65” (p. 359). The Disability Subclass included inmates that “suffer from a disability that substantially limits one or more of their major life activities and who are at increased risk of heat-related illness, injury, or death due to their disability or any medical treatment necessary to treat their disability” (p. 359).

The district court identified two issues: (1) “that excessive heat constitutes a condition of confinement that poses a substantial risk of serious harm to the health of all

inmates”; and (2) “that TDCJ officials were deliberately indifferent to the risk posed to the inmates” (p. 362). The district court concluded that the “heat-sensitive subclass has the same common contentions as the general class, but the subclass must only prove a substantial risk of serious harm, and deliberate indifference, to the inmates with heat sensitivity” (p. 362). Lastly, the district court stated “[o]ne additional common contention of the disability subclass is that TDCJ officials failed to provide reasonable accommodations to inmates suffering from disabilities that may impact (or that cause the inmates to take medication that may impact) their ability to withstand extreme heat” (p. 362).

On appeal to the Fifth Circuit, the defendants argued that plaintiffs were required to prove “that even the youngest, healthiest, and most acclimatized inmates face a substantial threat of serious harm despite TDCJ’s existing heat-mitigation measures” (p. 363). The district court ruled, TDCJ’s heat-mitigation measures (e.g., frequent showers, cold drinking water, fans, and temporary access to air-conditioned areas) were “ineffective to reduce the risk of serious harm to a constitutionally permissible level for any inmate, including the healthy inmates” (p. 363). The plaintiff’s experts, Dr. McGeehin and Dr. Vassallo, testified on the inadequacies of TDCJ’s heat-mitigation measures, arguing that inmates temporary access to an air-conditioned respite area is not “an adequate plan to deal with the heat risk[,]” because inmates must take the initiative and request to be taken to an air-conditioned space which may not be available upon request and/or inmates may suffer the harmful effects of excessive heat before realizing it and by then it may be too late (p. 364). Affirming the district court, the Fifth Circuit stated that the defendants failed to demonstrate that the district court’s factual finding

was clearly erroneous. Rather, “TDCJ’s heat-mitigation measures are ineffective to reduce the heat-related risk of serious harm below the constitutional baseline” (p. 365). The court ordered TDCJ to provide inmates with cooler cell temperatures by blowing air over ice chests; however, the Fifth Circuit ruled that prison officials were not required to adhere to the maximum heat index of temperatures below 88 degrees (*Ball v. LeBlanc*, 2018, p. 346).

The Lone Star State has also had inmates suffer with heat stroke during the lengthy summer season. Such was the case with Texas inmate, Albert Hinojosa, who died from a heatstroke while in prison. In *Hinojosa v. Livingston* (2015), Hinojosa’s mother sued, alleging the conditions Hinojosa was housed in violated his Eighth Amendment rights as they “posed a substantial risk of serious harm, and [prison officials] acted with deliberate indifference toward Hinojosa’s health and safety needs” (p. 661). According to the complaint, Hinojosa was 44-years-old, obese, and suffered from various medical conditions (hypertension, diabetes, depression, and schizophrenia), which increased his risk to heat-related illness. In addition, Hinojosa’s medications made him more vulnerable to the heat. Before arriving at the non-air-conditioned TDCJ facility, Hinojosa was confined in a climate-controlled county jail, which maintained temperatures between 65- and 85-degrees Fahrenheit. Summer temperatures within the TDCJ facility “surpassed 100-degrees Fahrenheit. Indeed, in 27 of the 28 days preceding [Hinojosa’s] death, the temperature rose above 95-degrees Fahrenheit” (p. 662). Despite prison officials having reviewed reports of heat-related injuries and deaths, prison officials failed to make housing accommodations for “newly arrived inmates or inmates with heat-sensitive medical conditions” (p. 662).



Prison officials moved to dismiss the lawsuit on the basis of qualified immunity, arguing they were not “personally responsible for—and did not personally participate [in]—any decisions regarding Hinojosa’s housing or medical needs,” so they did not violate law (p. 663). The Fifth Circuit ruled that the facility’s routine temperatures exceeding 90- and even 100-degrees Fahrenheit, and the “grossly inadequate amounts of water” provided to inmates, are sufficient to “set forth conditions constituting a substantial risk of serious harm to inmates” (*Hinojosa v. Livingston*, 2015, p. 666, citing *Ball v. LeBlanc*, 2015; *Gates v. Cook*, 2004; *Blackmon v. Garza*, 2012). The court also ruled that on the basis of the following, defendants were aware of the heat risk and consciously disregarded it: the death of 13 other inmates from heat-related causes between 2007 until Hinojosa’s death in 2012, the inadequate training provided by defendants regarding extreme temperatures, defendant Livingston’s approval for cooling measures to protect the pigs slaughtered by TDCJ, and a letter sent to defendant Livingston from a state representative urging TDCJ to take preventative measures. The Fifth Circuit held that based on Circuit precedent “it [is] very clear that inmates have a right, under the Eighth Amendment, not to be subjected to extreme temperatures without adequate remedial measures . . .” (*Hinojosa v. Livingston*, 2015, p. 670, citing *Gates v. Cook*, 2004; *Blackmon v. Garza*, 2012); therefore, Hinojosa’s allegations, if true, would defeat a qualified immunity defense, because it would establish that prison officials knew Hinojosa was vulnerable to the heat and the prison system did not ensure he received meaningful relief.

### ***Summary of Inmates with Heat-Sensitive Health Conditions***

The U.S. CDC (2017a) warns that older adults, the very young, and people with mental illness and chronic diseases are particularly vulnerable to extreme heat. Certain factors have been shown to increase a person's risk of developing a heat-related illness including, obesity, dehydration, prescription drug use, heart disease, and poor circulation (U.S. CDC, 2017a). Most of the cases in this section were class action lawsuits filed by or for inmates whose age and health made them especially sensitive to high temperatures. The dangers of extreme heat to those with chronic health conditions is well established by medical evidence (Hess et al., 2014; Hopp et al., 2018; Prudent et al., 2016); thus, the courts focused their attention on prison officials' heat mitigation responses or lack thereof. In *Webb v. Livingston* (2015) and *Hinojosa v. Livingston* (2015), for example, the cases involving the deaths of Texas inmates, where the Fifth Circuit ruled that prison officials had failed to take appropriate measures to alleviate the heat (e.g., housing accommodations, air-conditioning, adequate amounts of water, and officer training) despite their knowledge of the risk to heat-sensitive inmates. They knew of their risk because officials had reviewed reports of heat-related injuries and deaths and received a letter from a state representative urging TDCJ to take preventative measures.

TDCJ's heat-mitigation efforts were evaluated again in *Yates v. Collier* (2017), wherein the court ruled that more frequent showers, cold drinking water, fans, and temporary access to air-conditioned "respite areas" were "ineffective to reduce the risk of serious harm to a constitutionally permissible level for any inmate, including the healthy inmates" (p. 363). As indicated by the Plaintiff's experts, research shows that cooling methods, such as showers and fans, do not prevent heat-related illness when temperatures

rise into the high 90s and above (Waters, 2001; see Jardine, 2007; Kinkade & Warhol, 2018; U.S. CDC, 2017d). The *Collier* decision is significant as it relies on scientific evidence to determine the effectiveness of heat-mitigation measures through the “statistically significant” or insignificant reduction they have on an inmate’s risk of death from heat exposure (p. 364). In other words, *Collier* suggests that cooling measures fall below the constitutional baseline or minimum when they do not significantly reduce inmate’s health risks from extreme heat.

To correct the ongoing constitutional violation, the *Collier* court ordered the TDCJ to provide temporary air conditioning in all Pack Unit housing areas, each year between April 15 and October 15, until the installation of permanent air conditioning by April 15, 2020. Air conditioning is considered the most effective remedy because it not only reduces the serious health risks created by excessive heat, but it also eliminates such risks in inmate housing areas (*Cole v. Collier*, 2017). The Prison Litigation Reform Act (PLRA) (1996), however, makes it difficult for courts to grant a remedy as effective as air conditioning because the courts must find the relief is narrowly drawn, extends no further than necessary to correct the constitutional violation, and is the least intrusive means necessary to correct the constitutional violation (18 U.S.C. Section 3626(a)(1)(A)). In *Graves v. Arpaio* (2010), for example, the defendants argued the court’s prospective relief, which required Sheriff Arpaio to house all detainees taking psychotropic medications in temperatures at or below 85 degrees Fahrenheit, violated the PLRA’s narrowly drawn mandate of remedies, for the temperatures above this threshold were dangerous only for the pretrial detainees taking psychotropic medications that affect the body’s ability to regulate heat. The *Arpaio* court, however, found that temperatures above

85 degrees Fahrenheit greatly increase the risk of heat-related illnesses for individuals who take psychotropic medications. Thus, the defendants' claims were rejected since limiting relief to a narrower category of pretrial detainees was insufficient to correct the constitutional violation.

### ***Excessive Heat Index***

Relative humidity, which is the percentage of the air's maximum capacity to carry moisture, is an important factor that plays a role in how heat affects the human body (Cooper, 2002; National Weather Service [NWS] & NOAA, n.d.). The combination of high temperatures and high humidity levels restricts the body's physiological mechanisms to dissipate heat, including evaporation (Occupational Safety and Health Administration [OSHA], n.d.; U.S. CDC, 2012; Waters, 2001). Typically, 30% of cooling is from evaporative heat loss (Waters, 2001); however, as the amount of moisture in the air rises, the potential for evaporative heat loss diminishes because the sweat on the skin no longer provides a cooling effect but, instead, increases dehydration and the risk of heat-related illnesses (Waters, 2001).

The heat index combines both air temperature and relative humidity into a single value to measure what the temperature actually "feels like" to the human body (NWS & NOAA, n.d.). From July 15 to August 5, 2013, the United States Risk Management (USRM) office utilized the heat index to monitor the temperatures in the Louisiana Department of Corrections' death row facility. Without factoring in the humidity, the temperature in the housing areas ranged from 78.26 to 92.66 degrees Fahrenheit, but the heat index revealed the "feels like" temperature actually ranged from 81.5 to 107.79 degrees Fahrenheit. Inmates on death row are confined to their cells 23-hours-a-day and

are allowed only one-hour to recreate or shower. Under these circumstances, three Louisiana death-row inmates sued the Louisiana Department of Corrections in *Ball v. LeBlanc* (2015), alleging excessive heat in their cells violated the Eighth Amendment. The inmates claimed the heat exacerbated their medical conditions, including hypertension, diabetes, obesity, depression, high cholesterol, and hepatitis, which caused dizziness, headaches, and cramps. After depositions and interlocutories, the district court held a three-day bench trial, in which the court ruled the conditions on death-row were unconstitutional, issuing a permanent injunction “requiring the state to develop a plan to keep the heat index at or below 88 degrees Fahrenheit” (p. 591). On the basis of the summer weather in Louisiana, the court’s order was tantamount to requiring air conditioning on death row.

On appeal, the defendants claimed that the district court made “several erroneous evidentiary rulings, wrongly found a constitutional violation, and issued an overboard injunction contrary to the PLRA” (p. 591). First, the defendants argued that the “heat index, on which the district court based its ruling, is inherently unreliable and inappropriate in prison settings” (p. 591). To the contrary, the Fifth Circuit held the district court did not abuse its discretion by admitting evidence of or relying on the heat index due to its use in previous court decisions (see *Gates v. Cook*, 2004). Additionally, the plaintiffs’ expert testified that “peer reviewed scientific articles measure the correlation between heat index and morbidity and mortality” (p. 591).

Second, the defendants’ asserted that the death-row inmates were “not at substantial risk of serious harm and its officials were not deliberately indifferent to this risk” (p. 592). Based on the medical evidence presented at the bench trial, the district

court found that heat placed chronically ill inmates at substantial risk of serious harm. Similarly, the Fifth Circuit said the evidence showed that prisoners with diabetes, hypertension, or other chronic illnesses, are at an increased risk of heat stroke due to the demands heat places on the cardiovascular system. Third, the defendants argued “no death-row prisoner has ever suffered a heat-related incident” and “prisoners’ medical records showed no signs of heat-related illness;” however, to “prove unconstitutional prison conditions, [according to the court,] inmates need not show that death or serious injury has already occurred” (p. 593, citing *Helling v. McKinney*, 1993, p. 33). They need only show there is a “substantial risk of harm” (*Farmer v. Brennan*, 1994, p. 842; *Gates v. Cook*, 2004, p. 333).

Fourth, the defendants asserted that it was “prisoners’ poor dietary choices and [their] failure to exercise [that] caused their health problems[;]” nevertheless, the district court found “canteen food comprises only part of the prisoners’ diets, and their medical conditions arise from a combination of factors, many of which are outside their control” (pp. 593–594). Finally, while the defendants contended that prisoners suffered year-round high blood pressure, the Fifth Circuit said that was irrelevant to the district court’s substantial risk finding. The evidence shows defendants knew of and disregarded a substantial risk to the prisoners’ health, as medical personnel routinely monitored prisoners and correctional officers recorded their temperatures on death row every two hours. Accordingly, the Fifth Circuit affirmed the district court’s conclusion, but ordered the district court to provide the inmates narrower relief that is more closely aligned with *Gates v. Cook* (e.g., increased access to water, ice, and cold showers), because installing air conditioning is unnecessary to correct the Eighth Amendment violation.

On August 9, 2001, an industrial hygienist monitored the temperature and humidity in the Wisconsin Supermax Correctional Institution and recorded an outdoor temperature of 91 degrees. The hygienist reported a heat index of above 100 degrees inside the segregation cells (91.75 degrees, 59.4% humidity). The inmates at the Supermax facility challenged these conditions in *Jones-El v. Berge* (2004), alleging they were subjected to extreme temperatures in violation of the Eighth Amendment. Evidence showed that the inmates cannot regulate the temperature in their cells, and the lack of air-conditioning and windows prevents air from circulating. Heat mitigation measures are limited as inmates are permitted to shower only three times a week and allowed four hours of exercise a week in a slightly larger windowless cell.

In May 2001, the Wisconsin Legislative Audit Bureau reported that more than 15% of the prisoners housed at the Supermax facility suffered from mental illness, which was defined as those prescribed psychotropic medications. Inmates in segregated housing units with a history of serious mental illness and/or taking psychotropic medications were at an increased risk of harm from extreme heat. In the inmates' motion for preliminary injunction, the district court ruled the inmates have shown "a negligible chance of success . . . that the conditions of confinement at Supermax pose significant risks to seriously mentally ill inmates" (*Jones-El v. Berge*, 2001, p. 1121). Prison officials had a Mental Health Screening Tool in place that deemed some mentally ill inmates inappropriate for transfer to Supermax, which indicates defendants were aware that the harsh conditions in Supermax posed significant risks to the mentally ill population. Thus, the district court granted the preliminary injunction, requiring that inmates susceptible to elevated temperatures be immediately removed from Supermax.

After the court decision, both parties entered into a consent decree, in which the Wisconsin Department of Corrections (DOC) agreed to “investigate and implement as practical a means of cooling the cells during the summer heat waves” (2004, p. 543). In October 2003, inmates moved to enforce the decree that required the DOC to implement a means of cooling the cells, in which prison officials admitted to having taken no steps to do so. The court stated, “the installation of the air conditioning shall be done immediately, so as to be operative before the first heat [wave] of 2004” (*Jones-El v. Berge*, 2003, p. 1). The court added, “defendants have no justification for delaying any longer in carrying out their obligation under the settlement agreement” (*Jones-El v. Berge*, 2003, p. 1). The defendants appealed the district court’s award of relief to the inmates, arguing the order failed to comply with the requirements for prospective relief under the Prison Litigation Reform Act (PLRA) that mandates the relief must be narrowly drawn, extend no further than necessary to correct the violation, and be the least intrusive means necessary to correct the violation (18 U.S.C. Section 3626(a)(1)(A)). The Seventh Circuit ruled that the defendants failed to make fact-bound arguments as to why the order would violate the PLRA in their brief which deprived the inmates of a meaningful opportunity to respond. The defendants also argued that the air conditioning of cells would “entice inmates at other prisons to attack prison guards and/or other inmates in order to be transferred there” (2004, p. 545). The Seventh Circuit affirmed the district court’s enforcement order, saying that defendant’s claim was “dubious in the extreme” (2004, p. 545).



### ***Summary of Excessive Heat Index***

According to the Heat Index Chart, temperatures in the low 90s with as low as 40% humidity are classified as conditions of “Extreme Caution,” which indicates the possibility of heat stroke, heat cramps, or heat exhaustion with prolonged exposure and/or physical activity (NWS & NOAA, n.d.). In *Ball v. LeBlanc* (2015) and *Jones-El v. Berge* (2004), the heat index not only revealed the dangerously high temperatures that prisoners were subjected to during their confinement, but also reinforced the tool’s appropriate use in prison settings. A third party or separate entity (e.g., United States Office of Risk Management and an industrial hygienist) monitored the heat index in each facility, which the courts may consider strengthens the data collection process and, thus, provides reliable evidence. The majority of Texas prisons without air conditioning, for example, do not require prison officials to monitor or record daily temperatures inside inmate housing areas (McCullough, 2019).

### **Courts’ Decisions Where Prison Officials’ Prevailed**

According to Dolovich (2009), the state’s obligation to provide for prisoners’ basic human needs is a result of incarcerating a person in potentially dangerous conditions while depriving them of the capacity to provide for their own care and protection. This obligation may be understood as the state’s carceral burden (Dolovich, 2009). Chief Justice Rehnquist described it as the state’s “affirmative duty to protect” that “arises not from the State’s knowledge of the individual’s predicament or from its expressions of intent to help him, but from the limitation which it has imposed on his freedom to act on his own behalf” (*DeShaney v. Winnebago County Dep’t of Soc. Servs.*, 1989, p. 190). In other words, the Constitution imposes on the state a responsibility for

the safety and wellbeing of a person who is taken into custody and held there against his will (*DeShaney v. Winnebago County Dep't of Soc. Servs.*, 1989). Therefore, prison officials are to provide prisoners those “basic needs which all human beings must satisfy if they are to avoid serious physical and psychological suffering” (Dolovich, 2009, p. 915). The U.S. Supreme Court maintains prisoners’ basic human needs include medical care, food, warmth, exercise, and reasonable safety (*Estelle v. Gamble*, 1976; *Wilson v. Seiter*, 1991; *Helling v. McKinney*, 1993). Since inmates must rely on prison officials to provide their basic needs, a prison official’s “deliberate indifference” to any of those needs constitutes an Eighth Amendment violation (*Estelle v. Gamble*, 1976; *Wilson v. Seiter*, 1991). A prison official shows deliberate indifference to a basic human need if he or she “knows that inmates face a substantial risk of serious harm and disregards that risk by failing to take reasonable measures to abate it” (*Farmer v. Brennan*, 1994, p. 847).

Prison officials, however, cannot be held liable if they prove that they were unaware or lacked knowledge of a risk to inmate health or safety, as well as prison officials who knew of a substantial risk, but responded reasonably, even if the harm ultimately was not averted (*Farmer v. Brennan*, 1994). This section examines precisely these court decisions from the U.S. Circuit Courts of Appeals where the defendants prevailed. The patterns revealed in the court decisions developed into the following themes, no right to “*comfortable prisons*” and *reasonable staff responses to heat exposure*.

### ***No Right to “Comfortable Prisons”***

The U.S. Supreme Court said that the “Constitution ‘does not mandate comfortable prisons,’ but prison officials must provide inmates humane conditions of

confinement” (*Farmer v. Brennan*, 1994, p. 832; quoting *Rhodes v. Chapman*, 1981, p. 349). Therefore, conditions “must not involve the wanton and unnecessary infliction of pain” (*Rhodes v. Chapman*, 1981, p. 347). It is well established that inmates’ exposure to extreme temperatures may constitute cruel and unusual punishment in violation of the Eighth Amendment (*Ball v. LeBlanc*, 2018; *Graves v. Arpaio*, 2010; *Wilson v. Seiter*, 1991). Because routine discomfort is “part of the penalty that criminal offenders pay for their offense against society,” the deprivation alleged must be “sufficiently serious” as to deprive prisoners of the “minimal civilized measure of life’s necessities” (*Rhodes v. Chapman*, 1981, p. 337; *Wilson v. Seiter*, 1991, p. 298; see also *Hudson v. McMillian et al.*, 1992). Moreover, the conditions must be shown to “pos[e] a substantial risk of serious harm” to the inmate’s current and/or future health (*Farmer v. Brennan*, 1994, p. 834; see also *Helling v. McKinney*, 1993). The court is required to assess whether society considers the risk from such conditions “so grave that it violates contemporary standards of decency to expose anyone unwillingly to such a risk” (*Helling v. McKinney*, 1993, p. 36).

Inadequate ventilation increases the spread of airborne infectious diseases, germs, viruses, mold, mites, toxins, and other health risks (Association for the prevention of torture [APT], 2019; Atkinson et al., 2009; Hoge et al., 1994; Koo et al., 1997; Murray, 2009; Sheldon & Atherton, 2017). The combination of high temperatures and inadequate ventilation in correctional facilities makes inmates especially vulnerable to these health and sanitation problems (see *Hoptowit v. Spellman*, 1985; *Ramos v. Lamm*, 1980). The 10<sup>th</sup> Circuit, for example, found that “inadequate ventilation, especially in the cells and shower areas, results in excessive odors, heat, and humidity with the effect of creating

stagnant air as well as excessive mold and fungus growth,” which fails to “meet minimal shelter and sanitation standards contribut[ing] immeasurably in making the main living areas unfit for human habitation” (*Ramos v. Lamm*, 1980, pp. 569-570). Similar conditions were described by a class of inmates confined in Maryland’s Eastern Correctional Institution (ECI) who filed a Section 1983 lawsuit against prison officials in the summer of 1988, alleging poor ventilation. In *Lopez v. Robinson* (1990), the inmates claimed that the ventilation systems were “deficient, defective, or otherwise incapable of providing adequate airflow within the individual cells[,]” thus creating a “stagnant or stifling environment in the cells, particularly during the summer months” (p. 490). The inmates further alleged these conditions resulted in “stress, anxiety and physical harm” (p. 490). By the spring of 1989, prison officials filed a motion for summary judgment, arguing that they were entitled to qualified immunity.

Six Maryland prison officials appealed the district court’s interlocutory order that denied their motion for summary judgment. The Fourth Circuit first addressed the applicability of the qualified immunity defense to the inmates’ claims of inadequate ventilation. The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) standards require a minimum of 20 cfm (i.e., cubic feet per minute of air flow) per person of outside air, or recirculated filtered air, of which at least one-third (or 7 cfm) is fresh outside air (Powitz, 2005). Evidence showed that the “ECI’s ventilation system was designed to provide each cell with 100 cfm of ventilation to keep cell temperatures fluctuating in a narrow range around 75 degrees” (*Lopez v. Robinson*, 1990, p. 491). Additionally, the system monitored ventilation and cell temperatures twice daily, indicating the cell temperatures never rose above 80 degrees during the month of

August 1988. The Fourth Circuit ruled that the inmates did not present any evidence in the summary judgment record that would suggest the kind of “obduracy and wantonness” associated with conditions of confinement that rise to an Eighth Amendment violation (p. 491). The court concluded by granting the prison officials’ summary judgment on the grounds of qualified immunity because “the record disclose[d] no harm of constitutional magnitude” (p. 491).

Despite the U.S. EPA and U.S. CDC’s (2016) warning against fan use in temperatures over 95 degrees Fahrenheit, some research shows marginal benefits of fan use based on age, health status, and humidity levels (Gagnon & Crandall, 2017; Gagnon et al., 2017; Jay et al., 2015; Morris et al., 2019). Kansas state prisoner, Michael Lee Strope, alleged the removal of state-issued fans made prison cell-houses “excessively hot and improperly ventilated,” and that high temperatures made it difficult to sleep (p. 765). Strope appealed the district court’s dismissal of his Section 1983 lawsuit in *Strope v. Sebelius* (2006), arguing his conditions of confinement violated his Eighth Amendment rights to be free from cruel and unusual punishment. According to the Tenth Circuit, “a state must provide within [a prisoner’s] living space reasonably adequate ventilation” (*Ramos v. Lamm*, 1980, p. 568). The Tenth Circuit, however, affirmed the district court’s ruling, declaring the conditions “uncomfortable,” but insufficient to state an Eighth Amendment violation (2006, p. 766). Furthermore, the court said fans were available for purchase in the prison canteen, but Strope did not claim he lacked funds to purchase a fan.

Thirteen of the top 25 U.S. cities projected to see the highest number of dangerous heat days—heat index exceeds 104 degrees Fahrenheit—by 2050 are all located in the

State of Florida (*Climate Central*, 2016). Because of the heat, Florida death-row inmates brought a class action lawsuit against prison officials in *Chandler v. Crosby* (2004, p. 1295), stating that “the combination of harsh summer temperatures, high humidity, and inadequate ventilation [in their cells] have created unconstitutional conditions of confinement.” The Northeast Unit where the death-row inmates are housed has neither circulating fans nor air-conditioning and relies on natural ventilation to provide relief from the summer heat. Facilities that rely on natural ventilation are required to have windows and wall openings (at least 12.5% of the floor space) that allow for cross ventilation (Powitz, 2005; see Atkinson et al., 2009). The summer ventilation system in the Northeast Unit consists of two windows on the walls across from each cell that allow for air to enter the prison, the air then travels through the exhaust vents on the back wall of each cell, and into the “chase” or “a long corridor” before being exhausted through fans on the roof.

According to the district court’s dispositive order, “the Unit cools itself by cyclically exchanging air with the outside environment” (p. 1284). Evidence showed “the building mass remains at a relatively constant temperature, between approximately 80 degrees at night to approximately 85 or 86 degrees during the day” (p. 1285). In addition, cell temperature readings taken in July and August of 1998 and July of 1999 revealed that only on seven occasions the temperature rose to 95 degrees Fahrenheit or higher, but none exceeded 100 degrees Fahrenheit. As to the Unit’s humidity and air circulation, the court found that the “relative humidity in the building rarely [rose] above 70%, the humidity level needed to support the growth of mold and mildew” (pp. 1285-1286). The U.S. CDC (2020) recommends keeping humidity levels lower than 50 percent all day

long to prevent mold growth. Based on the evidence, the Eleventh Circuit agreed with the district court's finding that "the temperatures and ventilation on the . . . Unit during the summer months are almost always consistent with reasonable levels of comfort and slight discomfort which are to be expected in a residential setting in Florida in a building that is not air-conditioned" (p. 1297). Lastly, the court commented on numerous alleviation measures at the Unit that ameliorated exposure to excessive heat, including the cells' minimal exposure to direct sunlight, inmates' clothing requirements during the summer months, access to cold water, and inmates' access to air-conditioning during visitation. Thus, the Eleventh Circuit held that while the summertime temperatures at the Unit might be unpleasant, the heat is not unconstitutionally excessive.

Prisons with higher levels of facility disorder remove populations at high risk of sexual and physical harm, including lesbian, gay, and bisexual individuals, from the general facility population to provide safety, which is defined as protective segregation or protective custody (Beck, 2015; Browne, Cambier, & Agha, 2011; Browne, Hastings, Kall, et al., 2015; Frost & Monteiro, 2016; U.S. Department of Justice, 2016). From 1990 through 1993, Illinois prisoner, Anthony Dixon, was confined in the Stateville Correctional Center's protective custody wing, which he claims had a poorly functioning ventilation system. He sued in *Dixon v. Godinez* (1997), pursuant to Section 1983, alleging the faulty ventilation system "resulted in stagnant air, causing him to smell human odors, such as feces" (*Dixon v. Godinez*, 1995, p. 1). He also claimed, "when an outbreak of tuberculosis occurred in the wing in June 1993, defendants, by failing to correct the ventilation problem, unnecessarily and unreasonably increased the risk of [him] catching tuberculosis" (*Dixon v. Godinez*, 1995, p. 1). Thus, he contended that the

conditions of his confinement in the protective custody wing violated the Eighth Amendment.

The district court said that the ventilation problem must be extreme to be unconstitutional (*Ramos v. Lamm*, 1980; *Toussaint v. McCarthy*, 1984). In *Ramos*, the Tenth Circuit found that poor ventilation had not only resulted in “excessive odors, heat, and humidity with the effect of creating stagnant air,” but also in “excessive mold and fungus growth,” thereby giving rise to serious health and sanitation problems (1980, p. 569). In *Toussaint*, an expert testified that “no measurable air movement” was detected throughout most of the prison, in addition to evidence of a “putrid odor” caused by inmates’ bodily functions (1984, p. 1396). In the *Dixon* case, however, the Seventh Circuit ruled that Dixon did not present any evidence resembling that found in *Ramos* or *Toussaint*, as defendants claimed that Dixon’s cell had an electrical fan, a window, and a chuckhole in the door which provided a minimum of cross-ventilation. The district court concluded that the alleged deprivation was not serious enough to state a constitutional claim, because Dixon “can control the flow of air in his cell through the use of any of these devices” (*Dixon v. Godinez*, 1995, p. 2).

With regard to his allegations of respiratory problems, the Seventh Circuit held that Dixon offered only conclusory allegations, without evidence from medical or scientific sources, “that the rank air exposed him to diseases and caused respiratory problems which he would not otherwise have suffered” (*Dixon v. Godinez*, 1997, p. 645; see *Christensen v. Lewis*, 1994). Thus, the Seventh Circuit affirmed the district court’s grant of summary judgment for defendants, as Dixon failed to show that his alleged



conditions of confinement were sufficiently serious to constitute cruel and unusual punishment.

As a means to escape daily exposure to second-hand smoke or environmental tobacco smoke (ETS), Georgia prisoner, James Manuel Phillips, Jr., requested to be placed in protective custody. Unless a facility has separate protective custody housing that allows for programming and other activities, at-risk prisoners are typically housed for an indeterminate term in high-security isolation cells, which are used for disciplinary and administrative segregation (Browne, Hastings, Kall, et al., 2015; U.S. Department of Justice, 2016). Ultimately, Phillips was placed in administrative segregation where he claims in *Phillips v. Governor, State of Georgia* (2017, p. 2) that he was exposed to “excessive heat and forced to take excessively hot showers, despite his heart condition.” Heart disease is a risk factor for heat-related illnesses, as the body requires a rise in cardiac output to dissipate heat which may be prevented by certain heart medications, such as beta-blockers and diuretics (AHA, 2015; Gaudio & Grissom, 2016; Glazer, 2005; Waters, 2001). Phillips sued under Section 1983, alleging his conditions in administrative segregation violated his Eighth Amendment rights to be free from cruel and unusual punishment. Rejecting Phillips’ lawsuit, the Eleventh Circuit held that “the Constitution does not mandate comfortable prisons”; thus, “mere discomfort, without more, does not offend the Eighth Amendment” (*Chandler v. Crosby*, 2004, pp. 1289, 1295). The Eighth Amendment is implicated when the prisoner shows conditions “that pose an unreasonable risk of serious damage to [the prisoner’s] future health” and demonstrates that prison officials were deliberately indifferent to such risk (*Helling v. McKinney*, 1993, p. 35). Further, the Eleventh Circuit stated that “none of Phillips’ allegations rise to the level of

an ‘extreme’ deprivation because . . . mere discomfort without any injury at all is insufficient,” concluding that the district court’s dismissal of Phillip’s conditions of confinement claim were proper (*Phillips v. Governor, State of Georgia*, 2017, p. 8).

“Extended lockdown” is an “indeterminate period of lockdown characterized by routine 90-day classification reviews to determine [the prisoner’s] eligibility/suitability for release from this status” (*Woods v. Edwards*, 1995, p. 583). This type of segregation is used for prisoners who the Disciplinary Board finds guilty of “violating one or more serious rules, [is] dangerous to himself or others, [is] a serious escape risk, or [is] posing a clear threat to the security of the facility” (*Woods v. Edwards*, 1995, p. 583). Louisiana state prisoner, Claude Woods, was placed in extended lockdown after he was found guilty of writing threatening letters to individuals outside the prison and forging the name of another prisoner as the author. In *Woods v. Edwards* (1995), he claimed his segregation cell was “inadequately cooled and that the high temperature, while uncomfortable[,]” aggravated his sinus condition (p. 581). Woods filed a Section 1983 lawsuit against corrections officials, alleging the conditions of his confinement violated the Eighth Amendment. The defendants motioned for summary judgment, “present[ing] evidence that the portion of the jail housing prisoners in extended lockdown is equipped with fans used to circulate the air” (p. 581). The Fifth Circuit said that under the objective component of the Eighth Amendment, the condition must be serious enough to “deprive prisoners of the minimal civilized measure of life’s necessities,” and under the subjective requirement, the prison official must be “deliberately indifferent to inmate health or safety” (*Farmer v. Brennan*, 1994, p. 825). The court ruled that Woods “failed to present medical evidence of any significance nor has he identified a basic human need that the

prison has failed to meet” (p. 581). Further, the Fifth Circuit noted, “while the temperature in extended lockdown may be uncomfortable, that alone cannot support a finding that the plaintiff was subjected to cruel and unusual punishment[,]” concluding that the defendants’ summary judgment motion was proper (p. 581).

After a visitation from his wife, who prison officials believed introduced drugs into the facility, California prisoner, Rex Chappell, was placed six-days under contraband watch (“body cavity search”) where he was “closely monitored and his bowel movements searched to determine whether he ha[d] ingested or secreted contraband in his digestive tract” (p. 1055). Under contraband watch, the prisoner is first searched and placed in two pairs of underwear taped at the waist and thighs to prevent the prisoner from removing any excreted contraband from his clothing. The prisoner is also placed in two jumpsuits taped at the thighs, ankles, waist, and upper arms, to close any openings in the clothing. The prisoner is restrained with handcuffs chained to his waist to prevent the prisoner’s hands from reaching his rectum. The prisoner is then placed in a cell with 24-hour surveillance and lighting, which allows prison officials to watch the prisoner at all times. Once the prisoner wishes to defecate, he must notify prison staff who search the waste for contraband.

In addition to the continuous lighting and the clothing restraints, Chappell claims his cell was hot and had no ventilation. In *Chappell v. Mandeville* (2013), he argued the combination of conditions during contraband watch was unconstitutional. Under Supreme Court precedent, a combination of conditions can amount to an Eighth Amendment violation when the conditions “have a mutually enforcing effect that produces the deprivation of a single, identifiable human need such as food, warmth, or exercise—for

example, a low cell temperature at night combined with a failure to issue blankets” (*Wilson v. Seiter*, 1991, p. 294). Applied to Chappell’s claim, the district court adopted the magistrate’s finding that multiple conditions produced a “mutually enforcing effect of sleep deprivation that any reasonable officer would know comprised unconstitutional conditions of confinement” (*Chappell v. Mandeville*, 2013, p. 1061).

On appeal, prison officials challenged the denial of summary judgment, arguing that they were entitled to qualified immunity since prison officials had no “fair warning” that their actions were unconstitutional (*Hope v. Pelzer et al.*, 2002, p. 730). The Eleventh Circuit disagreed, stating that “Chappell ha[d] not alleged the deprivation of any such need[,]” and “[h]e did not specifically claim that he was sleep deprived during the contraband watch, but only that he was ‘deteriorating mentally’ and had to ‘attempt to sleep that way’” (p. 1061). Furthermore, the Eleventh Circuit concluded that defendants were entitled to qualified immunity since no cases at the time of Chappell’s contraband watch (April-May 2002) had established that the conditions he experienced—either in isolation or combination—violated the Eighth Amendment.

In *Wilson v. Seiter* (1991), Justice Scalia wrote that in prison conditions cases, inmates must show, at a minimum the loss of a single identifiable human right. This issue arose when Virginia inmate, Robert Dale Strickler, brought suit under Section 1983, alleging the conditions of confinement within the Portsmouth City Jail violated his Eighth and Fourteenth Amendment rights. In *Strickler v. Waters* (1993), Strickler contends the “climatological conditions inside the jail were occasionally uncomfortable, as fans[,] . . . ventilation and air conditioning were inefficient” (p. 1378). The Fourth Circuit opined that under Supreme Court precedent, to establish a constitutional violation under the

Eighth and Fourteenth Amendments, he must show (1) the deprivation of a basic human need was “sufficiently serious” and (2) “the officials act[ed] with a sufficiently culpable state of mind” (*Wilson v. Seiter*, 1991, p. 294).

The Fourth Circuit held Strickler did not “produce evidence of a serious or significant physical or emotional injury resulting from the challenged conditions” (p. 1381). Strickler only alleges the conditions resulted in an “explosive situation,” which does not deprive him of any “single, identifiable human need” (p. 1382, citing *Wilson v. Seiter*, 1991, p. 294). Further, the court found “the jail was equipped with fans when the temperatures were hot”; therefore “there was some degree of ventilation and fresh air” (p. 1382). The Fourth Circuit reiterating that Strickler failed to establish “the serious deprivation of a basic human need required to survive summary judgment” (p. 1379). Since Strickler did not meet the first requirement to establish an Eighth Amendment violation, the court did not need to consider if the defendant “acted with an intent sufficient to satisfy the Amendment’s state-of-mind requirement” (p. 1379).

The prisoner must also plead how the length of the exposure caused serious health problems or potentially could cause serious health problems. With civil lawsuits, plaintiffs must show that the extreme exposure of excessive temperatures was the moving force behind their adverse health outcomes. These issues were litigated in *Vasquez v. Frank* (2008), where inmate Luis Vasquez claimed that extremely hot temperatures in his cell at the Wisconsin Waupun Correctional Institution caused him to suffer from physical and psychological conditions, which violated his Eighth Amendment rights. As a result of high temperatures and poor ventilation in his cell, Vasquez experienced heat exhaustion, insomnia, dizziness, and difficulty breathing. Further, he claimed the heat exacerbated the

side effects of his medications and the poor ventilation caused nasal congestion, frequent nose bleeds, and he “coughed up blood” (*Vasquez v. Frank*, 2005, p. 3).

First, the Seventh Circuit ruled Vasquez “presented no evidence regarding the duration of the alleged excessive heat and no evidence that his medical problems resulted from the conditions of his confinement” (*Vasquez v. Frank*, 2008, p. 929). Further, the court found that Vasquez’s medical records failed to show a “causal link between the conditions in his cell and his medical symptoms” (p. 929). Vasquez also did not present any evidence that high temperatures in his cell posed an “extreme” or “objectively serious” deprivation, as prison officials showed the ventilation system in the prison was functional and adequate (see *Chandler v. Crosby*, 2004, p. 1278). Lastly, said the court, Vasquez failed to provide evidence that prison officials were deliberately indifferent to his complaints, as prison staff promptly addressed his health concerns and believed the ventilation system was adequate.

In addition to being at a higher risk for suicide, research shows that more than half of veterans involved in the criminal justice system suffer from mental health problems (i.e., Post Traumatic Stress Disorder (PTSD), depression, and/or high rates of anxiety) or substance-abuse disorders (i.e., alcohol or cocaine addiction) (Richman, 2018). The U.S. Department of Veterans Affairs provides outreach programs to veterans in criminal justice settings (Richman, 2018). Such was the case for United States Army veteran and pretrial detainee, Donald A. Smith, who was placed in a special program for veterans that granted him a job in the jail laundry. In *Smith v. Dart* (2015), Smith said he was “subjected to inhumane working conditions,” alleging that his job required him to stand in a “hot, smelly room” for seven-to-eight hours a day (p. 307). Smith argued the working

conditions he was “compelled to work under” violated the Thirteenth and Fourteenth Amendments (p. 313). As a pretrial detainee, Smith asserted he was protected from conditions of confinement that amount to punishment under the Due Process Clause of the Fourteenth Amendment (*Bell v. Wolfish*, 1979). Further, Smith claimed that the Thirteenth Amendment provides that “[n]either slavery nor involuntary servitude . . . shall exist within the United States” (U.S. Const. amend. XIII, Section 1). After the district court dismissed his lawsuit, Smith appealed to the Eleventh Circuit, which affirmed, explaining that his “servitude was not involuntary, nor can it be considered punishment,” as he voluntarily chose to participate in the veteran’s program that included a job in the jail’s laundry room (*Smith v. Dart*, 2015, p. 314).

### ***Summary of No Right to “Comfortable Prisons”***

A large body of research has linked poor ventilation workplaces, housing structures, and residences to immediate and long-term health consequences (APT, 2019; Atkinson et al., 2009; Hoge et al., 1994; Koo et al., 1997; Kowalski, 2007; Murray, 2009; Nembrini, 2005; Rim et al., 2013; Sheldon & Atherton, 2017; Wells et al., 2012). Across most of the cases, inmates claimed a causal link existed between their exposure to inadequate ventilation and their health problems (*Chappell v. Mandeville*, 2013; *Dixon v. Godinez*, 1997; *Lopez v. Robinson*, 1990; *Phillips v. Governor, State of Georgia*, 2017; *Strope v. Sebelius*, 2006; *Vasquez v. Frank*, 2008; *Woods v. Edwards*, 1995). Because prison officials often challenged these connections, Helppie-Schmieder (2016) argued that the causation evidence is crucial to the inmate’s case. Inmates may rely on different types of proof, such as scientific studies and medical expert testimony, to demonstrate causation as well as the seriousness of the risk (Helppie-Schmieder, 2016). In other

words, inmate's must show that their risk of harm from excessive heat is "not one that today's society chooses to tolerate" (*Helling v. McKinney*, 1993, p. 36). In *Dixon v. Godinez* (1997), for instance, the Seventh Circuit held that Dixon's allegations without evidence from medical or scientific sources failed to show his respiratory problems were caused by his exposure to inadequate ventilation. Likewise, Phillip and Woods failed to present medical evidence that proved the high temperatures in their segregation cells aggravated their health problems (*Phillips v. Governor, State of Georgia*, 2017; *Woods v. Edwards*, 1995).

Based on the court decisions, prison officials' evidence demonstrating inmates had access to some form of heat-mitigation measures (e.g., fans, windows, and holes in cell doors) was enough to establish that officials were not indifferent to the risk of heat-related illnesses (*Chandler v. Crosby*, 2004; *Dixon v. Godinez*, 1997; *Lopez v. Robinson*, 1990; *Strickler v. Waters*, 1993; *Strope v. Sebelius*, 2006; *Woods v. Edwards*, 1995). In some cases, prison officials also presented evidence of temperature and humidity readings taken inside the facility, which helped officials dispute the severity of the heat and seriousness of the risk (*Chandler v. Crosby*, 2004; *Lopez v. Robinson*, 1990). Ultimately, the prison officials' response to the heat risk was not measured by its adequacy or success, but by the officials attempts to alleviate extreme heat.

### ***Reasonable Staff Responses to Heat Exposure***

As climate change progresses and temperatures continue to rise, correctional departments can expect to see an increase in heat-based litigation (Holt, 2015). Departments that fail to adapt to a changing climate will be the most vulnerable to such lawsuits; however, those that implement climate adaptation strategies may reduce or



rectify unconstitutional conditions of confinement (Holt, 2015). Some states, for example, have taken a more active approach to protecting inmates from extreme heat by requiring inmate housing areas to be within a permissible temperature range or below a maximum temperature. In addition, several departments have adopted specific heat-mitigation measures, such as providing inmates extra ice, cold water, frequent showers, fans, and air-conditioned respite areas, when temperatures exceed a given threshold. Research demonstrates that basic cooling measures (e.g., fans, showers), however, are ineffective in reducing the risk of heat-related illness or death (U.S. CDC, 2017d; Waters, 2001; see Jardine, 2007; Kinkade & Warhol, 2018).

Nevertheless, prison authorities' reasonable attempts to mitigate heat exposure have withstood inmate lawsuits, as was the case in *Moore v. Monahan* (2011). Illinois prisoner, Allen L. Moore, alleged he was subjected to unconstitutional conditions of confinement while detained at a treatment facility in Joliet, Illinois. He stated, "the temperature controls of unit A and B at the Joliet Treatment and Detention Facility (TDF) were inadequate leading to excessive heat in the summer" (*Moore v. Monahan*, 2009, p. 6). The court examined several factors to determine whether extreme heat amounts to a serious constitutional deprivation, including the severity of the heat, the duration, whether the inmate has alternative means of protection against extreme temperatures, and if the inmate is subjected to other harsh conditions (see *Dixon v. Godinez*, 1997). The daily temperature readings demonstrate units A and B were around 90 degrees Fahrenheit on one occasion and were routinely 10 to 15 degrees warmer than the other units; however, many of the temperature logs were incomplete or missing.

According to the evidence, not only did Moore have alternative means of protecting himself against extreme heat, such as a fan, but the duration of his stay at the treatment facility was only a few months. Furthermore, the facility policy and practice for maintenance staff during extremely warm weather included the use of exhaust fans in A and B wings, inmates' access to an ice machine, and permission to take ice into inmate living quarters. In addition, Moore was allowed to go to the day room, the yard, and the weight room, during appropriate hours. Based on the evidence, the district court held Moore failed to establish the defendants acted with deliberate indifference to the heat in the units, because the defendants took reasonable measures to abate the heat. The Seventh Circuit affirmed the district court's grant of defendants' partial summary judgment motion, stating Moore "merely repeat[ed] the allegations in the complaint without challenging the basis in the evidentiary record for the order of summary judgment" (*Moore v. Monahan*, 2011, p. 629).

Similarly, more than 30 inmates filed Section 1983 lawsuits when the air conditioning stopped working for a total of 23 days at the Rushville Treatment and Detention Facility. The inmates alleged that during the outage, "Rushville's director and employees were deliberately indifferent to the discomfort and health risks resulting from the extreme heat" (*Rogers v. Scott*, 2017, p. 156). In *Rogers v. Scott* (2017), plaintiffs claimed that the temperature in the facility was at least 80 degrees, and sometimes up to 100 degrees. Rogers stated he was allowed outside only one-hour per day, was not given "cold" water, and did not receive extra ice until after he filed a lawsuit (p. 158). Roger weighed 345 pounds and suffered from diabetes, high blood pressure, and a breathing disorder, which he claimed made it difficult to breath during nighttime lockup. Plaintiffs

also alleged that they were “constantly sweating and suffered skin sores and rashes as a result of the heat” (p. 158). The *Rogers* three judge panel looked to Seventh Circuit precedent, saying that to establish deliberate indifference under the Due Process Clause of the Fourteenth Amendment, the offenders must show that “(1) they were exposed to extreme cell temperatures that caused severe discomfort or created a risk of harm and (2) Rushville employees acted with deliberate indifference to those conditions” (p. 158).

Applying this standard, the Seventh Circuit concluded that “a high temperature of 85 degrees was not hot enough to trigger a constitutional violation; therefore, “the plaintiffs could not establish that they suffered a sufficiently serious deprivation despite the uncomfortably hot conditions” (p. 159). During the day, offenders were given access to air-conditioned areas, in addition to cold showers, ice, water, and medical care. At night when offenders were confined to their cells, detention staff would leave the outside door open for cooler air to enter the unit. Moreover, the court ruled there was no evidence that the facility director and employees were deliberately indifferent to the heat and its effects on the offenders. The Seventh Circuit concluded that defendants “kept the ventilation system running, placed industrial-sized fans in the dayroom, and . . . responded favorably to the few written requests from residents for accommodations and medical care” (p. 160).

Under U.S. Supreme Court precedent in *Estelle v. Gamble* (1976), a constitutional deprivation impacts a serious medical need. In the case of exposure to extreme temperatures in prison, the plaintiff must show the heat caused a deprivation of a serious medical need, which was a result of prison or medical personnel’s deliberate indifference. Florida prisoner, Stephen Scott Green alleged inadequate air conditioning and ventilation

in the dormitories caused him to suffer from numerous health problems. In *Green v. Secretary of Dept. of Corrections* (2006), Green claimed, “summer temperatures caused the dormitories to become very hot and caused ‘extreme heat’ to inmates,” which was cruel and usual (p. 870). The Eleventh Circuit ruled Green failed to demonstrate a “sufficiently severe condition,” as the evidence showed (1) the facility’s ventilation and air circulation exceeded standards set forth by the American Correctional Association; (2) defendant provided extra fans in the dormitories during the hottest days of the summer; and (3) Green had access to water and medical relief (p. 872).

Some inmates can properly be housed in hot segregation units with high temperatures as long as medical officials monitor their care and provide clinical intervention when medically necessary. Louisiana prisoner, Henry Kimball, claimed he was placed in the segregation unit where temperatures rose above 100 degrees Fahrenheit, and these temperatures exacerbated his medical condition. In *Kimball v. Benjamin* (2016), Kimball argued the defendant, Dr. Cleveland, “deprived him of the ‘minimal civilized measure of life’s necessities’ when he ordered nurses to place him in the non-air-conditioned segregation unit” (p. 232, citing *Rhodes v. Chapman*, 1981, p. 346). The Fifth Circuit held Kimball failed to inform prison officials that the high temperatures were causing his burns to be more painful. Moreover, Dr. Cleveland did not know about the uncomfortable temperatures and failed to alleviate Kimball’s pain. To the contrary, Kimball’s medical records demonstrated that Dr. Cleveland personally evaluated Kimball’s medical condition, placed him in medical isolation for safety purposes, provided antibiotics, and monitored his healing process.

### ***Summary of Reasonable Staff Responses to Heat Exposure***

To establish deliberate indifference, inmates must not only prove prison official's knowledge of the risk, but also their disregard of the risk by "failing to take reasonable measures to abate it" (*Farmer v. Brennan*, 1994, p. 847). According to Helppie-Schmieder (2016), officials' deliberate disregard of the risk may be proven through the absence of a prison policy that addresses the risk. In the court cases, prison officials were able to prove they had implemented heat-mitigation policies or practices during periods of extreme heat (*Green v. Secretary of Dept. of Corrections*, 2006; *Kimball v. Benjamin*, 2016; *Moore v. Monahan*, 2011; *Rogers v. Scott*, 2017). In *Moore v. Monahan* (2011), for example, the facility policy and practice during extremely warm weather included using exhaust fans, giving inmates' access to the ice machine, and allowing inmates to take ice into their cells. Despite the ineffectiveness of these measures in preventing heat-related illnesses, courts ruled that those reasonable actions kept officials from being found liable under Section 1983. In other words, prison and/or medical staff must perform some sort of common sense/reasonable heat mitigation measure to avoid an Eighth Amendment violation. For instance, medical staff were not held liable for placing an inmate with burn injuries in a hot segregation cell without air-conditioning, because the official demonstrated he had monitored the inmate and provided antibiotics for his wounds (*Kimball v. Benjamin*, 2016). In sum, even if the heat-mitigation measures are ineffective in alleviating inmate suffering from heat exhaustion or preventing heat stroke, the measures themselves are evidence of not recklessly disregarding a risk to inmate health and are therefore sufficient to ward off Section 1983 liability.

## CHAPTER V

### U.S. District Courts

#### Courts' Decisions Where Inmates' Prevailed

The U.S. Supreme Court has yet to rule on a case challenging extreme heat in correctional facilities. Despite the lack of guidance from the Supreme Court, the lower courts have used the “deliberate indifference” standard from which to judge the constitutionality of conditions of confinement when inmates are exposed to stifling hot prisons. The Constitution does not define what is cruel and unusual punishment, so the lower courts must rely on the U.S. Supreme Court’s evolving definition of the concept. According to Cripe et al. (2013, p. 260), a court must “test the waters” of our society and decide whether certain punishment exceeds the current “standards of decency.” While doing this, the lower courts are guided by the language of the Supreme Court, which states that “a punishment is cruel and unusual if it is greatly disproportionate to the offense for which it has been imposed or if it goes far beyond what is necessary to achieve a sentencing aim, even if that aim is justified” (Cripe et al., 2013, p. 260). To meet the test of acceptability, the Supreme Court declares that punishment must not involve the “unnecessary and wanton infliction of pain,” nor be “grossly out of proportion to the severity of the crime” (Cripe et al., 2013, p. 262). In the following cases, the district courts examine the constitutionality of excessive heat conditions through the language and tests of the Supreme Court, as well as through language of “second generation” cases, in which lower courts articulate a constitutionally based minimum set of standards (see Taggart, 1989).

The cases examined in this section involve court decisions where inmates prevailed. The U.S. District Courts have decided cases that can be categorized into two themes: *inmates with heat-sensitive health conditions* and *systematic failures of correctional personnel*.

### ***Inmates with Heat-Sensitive Health Conditions***

Use of segregation varies by institution, but it is commonly applied “as a form of punishment for rule violations, as a way to remove prisoners from the general prison population who are thought to pose a risk to security or safety, and as a way to provide safety to prisoners believed to be at risk in the general prison population” (Browne, Cambier, & Agha, 2011, p. 46). Illinois prisoner, Brian Trainauskas, was placed in disciplinary segregation after being charged and found guilty of mailing two letters that violated the Illinois Department of Corrections (IDOC) Rules. As his punishment, he was placed in disciplinary segregation for four months and eleven days. In *Trainauskas v. Fralicker* (2018, p. 4), Trainauskas claimed that in disciplinary segregation he was subjected to cell temperatures that “exceeded 100 degrees during the summer months” and had little access to fresh air due to his cell’s “boxcar-style, thick door.” Segregation cells with “heavy gauge perforated metal” doors were also noted in the infamous Pelican Bay Supermax Prison case, *Madrid v. Gomez* (1995, p. 1228), where the judge ruled that “while incarceration may extinguish or curtail many rights, the Eighth Amendment’s protection against cruel and unusual punishment still retains its ‘full force’ behind prison doors” (*Madrid v. Gomez*, 1995, pp. 1244-1245, citing *Michenfelder v. Sumner*, 1988, p. 335).

As a result of his conditions of confinement, Trainauskas said he lost “more than 20 pounds, incurred severe lower back pain, [ ] developed schizo-affective disorder[,] and is now classified as seriously mentally ill” (p. 4). Indeed, a large body of research has found negative physiological and psychological consequences on prisoners who serve time in solitary confinement (Frost & Monteiro, 2016; Beck, 2015; American Civil Liberties Union [ACLU], 2014; Browne, Cambier, & Agha, 2011; O’Keefe, 2008; Arrigo & Bullock, 2007; Grassian, 1983, 2006; Smith, 2006; Haney & Lynch, 1997; Grassian & Friedman, 1986). Similarly, Trainauskas sued the prison warden for the conditions he endured while in disciplinary segregation.

The court said that the objective component of the Eighth Amendment can be satisfied by exposing inmates to extreme temperatures in their cells (*Walker v. Schult*, 2013; *Willis v. Hulick*, 2010). Moreover, the court cited a Seventh Circuit precedent that held an inmate “sufficiently stated [a] conditions of confinement claim based on temperatures over 100 degrees and a lack of ventilation” (*White v. Monohan*, 2009, p. 387). The U.S. District Court for the Southern District of Illinois found the plaintiff’s allegations sufficient to meet the objective element of a conditions of confinement claim.

With respect to the subjective component of the Eighth Amendment, the court said prison officials must know of an excessive risk of harm and recklessly disregard the risk. The court reasoned that officials possess “knowledge of the potential harm . . . [when] the circumstances suggest that the defendant official being sued had been exposed to information concerning the risk and thus ‘must have known about it’” (*Delaney v. DeTella*, 2001, p. 685, quoting *Farmer v. Brennan*, 1994, p. 842). In his amended complaint, Trainauskas alleged that the prison warden was made aware of the extremely



hot conditions because he had received numerous grievances, and he knew of an inmate who died from heat exhaustion.

While the U.S. Magistrate Judge noted that Trainauskas “did not identify who sent the grievances, when they were filed, or how he is aware [the defendant] received them[,]” the court declared that the allegations against the defendant were sufficient at this point to satisfy the subjective element of a conditions of confinement claim (p. 4). The court cited Seventh Circuit precedent that held a conditions of confinement claim requires the development of a factual record (*Budd v. Motley*, 2013), and that the warden is the proper defendant for conditions of confinement claims (*Delaney v. DeTella*, 2001). The court concluded that Trainauskas’s allegations that the prison warden was made aware of the conditions and did nothing to address them stated an actionable Section 1983 claim; therefore, the district court allowed Trainauskas to proceed on his complaint.

Inmate self-report data taken from 2011-2012 shows that 54% of prison inmates and 68% of jail inmates who spent 30 days or longer in restrictive housing in the past year or since arriving at the facility had been in a fight or were written-up for assaulting another inmate or staff (Beck, 2015). After serving 19 months in administrative segregation for assault against a correctional officer, Ode Obataiye was transferred from Connecticut’s McDougal Correctional Facility to the New Jersey State Prison (NJSP), where he was immediately placed in the Management Control Unit (MCU) for six-and-a-half years. The MCU is a close custody unit for inmates who pose a “substantial threat (1) to the safety of others, (2) of damage to or destruction of property, or (3) of interrupting the operation of a state correctional facility” (*Obataiye v. Lanigan*, 2019, p. 6). As a result, in *Obataiye v. Lanigan* (2019), Obataiye brought suit under Section 1983,

alleging the conditions of his confinement in MCU violated the Eighth Amendment and the New Jersey Civil Rights Act (NJCRRA) during his six-and-a-half-year confinement. In the MCU, Obataiye claims he suffered extremely hot conditions that caused severe headaches, difficulty breathing, extreme exhaustion, and a constant dried and bloody nose (*Obataiye v. Lanigan*, 2016). Furthermore, he reported that his exposure to extreme heat placed him on “chronic care” status and on “blood pressure medication for hypertension, which he did not have prior to his placement in the MCU” (*Obataiye v. Lanigan*, 2016, p. 3). Lastly, Obataiye alleged that prison officials were aware of the extreme temperatures, as it was “a long historical documented MCU issue” (*Obataiye v. Lanigan*, 2016, p. 3).

Quoting *Wilson v. Seiter* (1991, p. 298), the U.S. District Court for New Jersey said that a prisoner must satisfy both the objective component (“Was the deprivation sufficiently serious?”) and the subjective component (“Did the officials act with a sufficiently culpable state of mind?”) of an Eighth Amendment conditions of confinement claim. In the motion to dismiss, the prison officials claimed that Obataiye’s allegations of extreme temperatures failed to satisfy the objective component as they were “insufficiently specific to establish a [serious] risk to health and safety” (*Obataiye v. Lanigan*, 2018, p. 10). Moreover, the prison officials contended that Obataiye alleged “nothing more than that the temperature he was exposed to was something he personally found unpleasant,” and that he did not specify the actual temperature he was subjected to (*Obataiye v. Lanigan*, 2018, p. 10). Rejecting the prison officials’ motion to dismiss, the U.S. District Court for New Jersey declared that “Obataiye [ ] alleges considerably more than that he was subjected to temperatures that were uncomfortable, instead claiming that they caused him a wide variety of health problems” (*Obataiye v. Lanigan*, 2018, p. 10).

Assuming Obataiye was not provided with a thermometer, the court held he had no legal obligation to “allege the temperature with such specificity” at this early stage of the judicial proceedings (*Obataiye v. Lanigan*, 2018, p. 10).

Under the subjective test, the prison officials argued that Obataiye failed to provide sufficient evidence from which the court could infer that they were on notice of the alleged Eighth Amendment violations (*Obataiye v. Lanigan*, 2016). According to the U.S. Supreme Court decision in *Farmer v. Brennan* (1994, p. 842), evidence demonstrates a substantial risk of serious harm if the problem was “longstanding, pervasive, well-documented, or expressly noted by prison officials in the past, and the circumstances suggest that the [prison officials] being sued had been exposed to information concerning the risk and thus ‘must have known’ about it.” Thus, evidence was sufficient to find the prison officials had actual knowledge of the risk. In addition to allegations of longstanding extreme heat issues at MCU, Obataiye identified the defendants as administrators of the New Jersey State Prison (NJSP) who were responsible for daily prison operations, including “overseeing, maintaining, enforcing, and enacting policies[,] customs[,] and practices governing the [MCU]” (*Obataiye v. Lanigan*, 2016, p. 11). The U.S. District Court for New Jersey held the facts presented were sufficient to infer that the prison officials were exposed to information regarding the extreme temperatures, as such condition relates to the operation of the prison; thus, the court allowed Obataiye’s complaint against prison officials to proceed.

### ***Summary of Inmates with Heat-Sensitive Health Conditions***

Data from the National Inmate Survey (NIS) showed that prison and jail inmates with symptoms of serious psychological distress (SPD) were more likely than inmates

with no mental health symptoms to have spent time in restrictive housing, including disciplinary or administrative segregation or solitary confinement (Beck, 2015). Among inmates with symptoms of psychological distress, 29% of prisoners and 22% of jail inmates had spent time in restrictive housing in the past 12 months or since coming to the facility, while only about 15% of inmates with no mental health problems had been in restrictive housing (Beck, 2015). The U.S. CDC (2017b) warns that people with mental illness are more vulnerable to extreme heat, as they are less likely to sense and respond to changes in temperature and may be taking medications that interfere with the body's thermoregulatory responses to heat. In *Trainauskas v. Fralicker* (2018) and *Obataiye v. Lanigan* (2019), both inmates had been placed in some form of restrictive housing, where they were exposed to extremely hot conditions that caused a variety of health problems.

Segregation cells are generally designed to isolate the inmate under conditions that provide little to no sensory stimulation and minimal contact or interaction with other people (Arrigo & Bullock, 2007). Therefore, most segregation cells do not have windows, which limit inmates' access to "fresh air" (*Trainauskas v. Fralicker*, 2018, p. 4; see Arrigo & Bullock, 2007; Grassian, 1983, 2006). In both cases, the inmates' allegations of serious harm or injury caused by extreme heat were sufficient to establish the severity of the temperatures in their cells (see *Dixon v. Godinez*, 1997; *Helling v. McKinney*, 1993). Furthermore, Obataiye filed his claims against the prison administrators, who are responsible for overseeing prison operations, including temperatures within segregation cells. Courts conclude that a prison administrator knows about inmate exposure to extreme temperatures and, thus, may be held liable for such conditions.

### ***Systematic Failures of Correctional Personnel***

According to the U.S. EPA and U.S. CDC (2016), certain measures can be taken during extreme heat events to prevent heat-related illness, injury, and death, including use of air-conditioners and electric fans, taking cool showers or baths, drinking plenty of water, eating light and easy-to-digest foods (e.g., fruit or salads), wearing loose-fitting and light-colored clothing, and knowing the symptoms of and responses to heat-related illnesses. Inmates rely on prison officials to provide some of these basic needs, such as water and showers, that can help alleviate heat exposure and possibly prevent heat-related illnesses. As evident in the following court decisions, a combination of systematic failures within a correctional institution (e.g., inadequate ventilation and lack of water) increase inmates' heat-related risk of harm which, as a whole, gives rise to a constitutional claim. For instance, Illinois prisoner, Quennel Augusta, brought suit under Section 1983 in *Augusta v. Waggoner* (2018), alleging he was subjected to hot cell temperatures, broken water fountains, and a lack of cold drinking water for seven months at the Vandalia Correctional Center. Further, Augusta asserted that the defendant was aware of the conditions, but failed to take remedial action.

The U.S. District Court for the Southern District of Illinois referenced two Seventh Circuit precedents that affirmed inmate's constitutional right against exposure to extreme temperatures (*Vinning-El v. Long*, 2007; *Dixon v. Godinez*, 1997). In *Vinning-El v. Long* (2007, p. 924), the plaintiff was stripped of his clothing and placed in a cell "without a mattress, sheets, toilet paper, towels, shoes, . . . or any personal property, for six days." The court ruled the conditions "deprived [the inmate] of the minimal civilized measure of life's necessities" (*Vinning-El v. Long*, 2007, p. 924, quoting *Rhodes v.*

*Chapman*, 1981, p. 347). The court in *Dixon v. Godinez* (1997) opined that “prisoners are . . . entitled to ‘the minimal civilized measure of life’s necessities,’ including adequate shelter. For this reason, prisoners have the right to protection from extreme cold” (*Dixon v. Godinez*, 1997, p. 642, quoting *Rhodes v. Chapman*, 1981, p. 347). *Dixon* suggested that courts examine the following factors to assess whether an inmate’s conditions of confinement provide constitutionally adequate shelter or the necessary minimum protection against extreme temperatures, “such as the severity of the cold; its duration; whether the prisoner has alternative means to protect himself from the cold; the adequacy of such alternatives; as well as whether he must endure other uncomfortable conditions as well as cold” (p. 644).

Similar to the *Vinning-El* and *Dixon* cases, Augusta’s exposure to a combination of conditions, including hot cell temperatures in the summer, inoperable drinking fountains, and a lack of access to cold drinking water, was “objectively serious enough to indicate possible violations of the Eighth Amendment” (p. 3). To succeed in a conditions of confinement claim, a prisoner must also show that prison officials were deliberately indifferent to his needs (*Wilson v. Seiter*, 1991). Augusta asserted that the defendant was aware of the conditions, but failed to take action to alleviate the extreme temperatures. The district court concluded that the claims against the defendant will receive further review and ordered the defendant to file an appropriate responsive pleading to the complaint.

Another Illinois prisoner, Martin Roman, filed similar claims in *Roman v. Hileman* (2018), alleging he was subjected to extremely hot temperatures and poor ventilation in combination with other unsanitary conditions at the Shawnee Correctional

Center (SCC), including dirty food trays, sewage backups, vermin infestations, and mold in the showers. Furthermore, Roman alleged the prison Warden failed to take action to remedy the conditions, despite having known about them either through grievances, complaints, and/or personal observation, for many of the conditions were allegedly systemic. In 2012, the John Howard Association of Illinois (JHA) inspected the SCC and found that the facility was in need of significant repairs, especially the windows (Troyer, 2012). In 2018, an Inmate Survey conducted at SCC revealed that the majority of inmate respondents strongly disagreed with the following statements about the facility: temperature is comfortable, 53%; ventilation is adequate, 49%; when something is broken it is fixed in a timely manner, 58% (John Howard Association of Illinois [JHA], 2018). Quoting *Wilson v. Seiter* (1991, p. 304), the U.S. District Court for the Southern District of Illinois held that the conditions “in combination” had a “mutually enforcing effect” that deprived Roman of his constitutional right to adequate and healthy ventilation, which increased the risk to his health and safety.

As the head administrator of the SCC, the Warden can be held accountable for the alleged unsanitary and hazardous conditions, as he/she “can realistically be expected to know about or participate in creating systematic [prison] conditions” (*Sanders v. Sheahan*, 1999, p. 629). Therefore, the district court held that Roman’s claims against the Warden may proceed, because they demonstrated genuine disputes of material fact that must be resolved by a trier of fact. Moreover, the court denied the Warden’s motion for summary judgment on the basis of qualified immunity, declaring that a prisoner’s right to adequate ventilation was clearly established at the time of Roman’s allegations.

A prison regulation that infringes on inmates' constitutional rights is valid if it is "reasonably related" to legitimate penological interests (*Turner v. Safley*, 1987, p. 78; see *Bell v. Wolfish*, 1979; Zick, 1991). The reasonableness of a prison regulation is determined by the following four factors: (1) whether a logical connection exists between the regulation and the legitimate prison interests to justify it; (2) whether alternative means of exercising the constitutional right remain available to inmates; (3) whether accommodation of the constitutional right will adversely affect guards, other inmates, and the allocation of prison resources generally; (4) whether there is an alternative to the regulation that "fully accommodates the prisoner's rights at de minimis cost to valid penological interests" (*Turner v. Safley* (1987, pp. 89-91; see Robertson, 2006; Zick, 1991). In *Steele v. Knight* (2016), prisoner, Shaun Steele, alleged the Indiana Department of Correction's (IDOC) policies and procedures subjected him to unconstitutional conditions of confinement, including high temperatures, inadequate ventilation, and unsanitary housing, for more than three years. As a consequence of the IDOC's prison lockdowns and inmate counts, Steele alleged that "he was occasionally locked in his cell for several hours or more [during the summer months] without access to a fan, air conditioner, or drinking water, while temperatures exceeded 90 degrees [Fahrenheit]" (p. 3). Moreover, he claimed the windows in his cell were "barred shut and there was little air flow from the small crack under the cell door" (p. 3). According to Steele, the combination of extreme heat and poor ventilation only exacerbated the malodor and unsanitary conditions that resulted from him urinating and defecating in his cell because he was not given access to a toilet.



First, the U.S. District Court for the Southern District of Indiana determined whether the alleged conditions were “sufficiently serious” to establish that prison officials’ actions or lack thereof deprived Steele of the “minimal civilized measure of life’s necessities” and, thus, satisfied the objective prong of an Eighth Amendment violation (*Rhodes v. Chapman*, 1981, p. 347; see *Wilson v. Seiter*, 1991). Based on the undisputed evidence presented at summary judgment, the district court concluded that a “reasonable factfinder could find Steele’s three-year detention in the complained of conditions sufficiently serious to violate the Eighth Amendment” (p. 8). Therefore, the court denied the prison official’s request for summary judgment on Steele’s Eighth Amendment claim.

Lastly, Steele alleged that the prison official had “extensive knowledge of the prison’s operations but ignored the complained of violations” (p. 8). In response, the prison official asked for summary judgment on the subjective element of Steele’s allegations, arguing the evidence failed to show her personal involvement in the alleged conditions, as well as “her actual intent to cause harm or inflict unnecessary pain” (p. 8). Indeed, the prison official claimed that the evidence showed “she acted within her discretion to determine how to best operate the prison facility” (p. 8). Rejecting the prison official’s claims, the district court found that the discovery process confirmed the official’s knowledge of the conditions at issue, particularly with regard to Steele’s allegations that he was locked in his cell for hours without access to a toilet and, as a result, had to defecate and urinate in his cell. Poor ventilation in the cell could potentially magnify stifling temperatures leading to serious health complications. Thus, the court did not grant the prison official summary judgment as a matter of law because Steele had

presented sufficient evidence at this stage of the litigation to create an issue of fact regarding the prison official's deliberate indifference.

### ***Summary of Systematic Failures of Correctional Personnel***

Heat-related deaths and illnesses are preventable; however, despite this fact, hundreds of people in the United States die from extreme heat every year (U.S. CDC, 2021). Climate change requires all public agencies, including correctional departments, to prepare and implement adaptation strategies to minimize the negative impacts of extreme heat on their mission, programs, and operations (Holt, 2015). Correctional administrators are urged to make proactive policy choices to minimize the harmful consequences to the correctional population, including staff and inmates (Holt, 2015, p. 66). Scientific and medical research highlights basic preventative actions, such as drinking plenty of fluids and having access to proper ventilation, to decrease the risk of heat-related deaths and illnesses (U.S. CDC, 2017d). However, these heat-mitigation efforts were not implemented into the daily functions and operations of the correctional facilities examined in these cases (*Augusta v. Waggoner*, 2018; *Roman v. Hileman*, 2018; *Steele v. Knight*, 2016). The district courts held that inmates' exposure to extreme temperatures, as well as other harsh conditions, for extended periods of time without access to the basic means of protection, including water and proper ventilation, was sufficient to violate the cruel and unusual punishment clause (see *Dixon v. Godinez*, 1997).

### **Courts' Decisions Where Prison Officials' Prevailed**

The U.S. District Court for the Middle District of Pennsylvania explained that Eighth Amendment violations only occur when inmates are "denied basic human needs, such as food, clothing, shelter, sanitation, medical care [or] personal safety" (*Griffin v.*

*Vaughn*, 1997, p. 709). The court went on to say that the objective component of the Eighth Amendment is implicated when prisoners are deprived of “the minimal civilized measure of life's necessities” (*Rhodes v. Chapman*, 1981, p. 347). To have an actionable Section 1983 claim, the deprivations must be of some basic human need that is identifiable and articulable (*Wilson v. Seiter*, 1991). Basic needs “in combination” may raise an actionable claim “when each would not do so alone, but only when they have a mutually enforcing effect that produces the deprivation of a single, identifiable human need such as food, warmth, or exercise—for example, a low cell temperature at night combined with a failure to issue blankets” (*Wilson v. Seiter*, 1991, pp. 304-305).

It is also relevant to consider how long an inmate must suffer the deprivation in order to have an actionable Section 1983 lawsuit. Along these lines, the Supreme Court has ruled that “the length of confinement cannot be ignored in deciding whether the confinement meets constitutional standards. A filthy, overcrowded cell and a diet of ‘grue’ might be tolerable for a few days and intolerably cruel for weeks or months” (*Hutto v. Finney*, 1978, pp. 686-687). Additionally, to trigger the objective component of the Eighth Amendment, the deprivation must be serious (*Tucker v. Rose*, 1997, p. 816); hence, it is relevant to consider whether “the seriousness of the potential harm and the likelihood that such injury to health will actually be caused by exposure to the conditions” (*Helling v. McKinney*, 1993, p. 36). Conditions that do not violate contemporary standards of decency are those that society “chooses to tolerate” (*Helling v. McKinney*, 1993, p. 36). And, the Supreme Court has held that there is no constitutional right to a comfortable prison (*Rhodes v. Chapman*, 1981).

### ***No Right to “Comfortable Prisons”***

Evidence in *Kates v. Bledsoe* showed that Kates and several other inmates claimed that their prison cells were excessively hot with poor ventilation. One inmate said “that it was like living in a microwave and being roasted alive”; another inmate claimed “the cells are about 115 to 125 degrees”; a third inmate claimed that “[t]he cell is too hot in the summer time because there isn't any air conditioning or cooling system”; another prisoner complained “that . . . water leaks and humidity from the hot weather [was intolerable with no] . . . air ventilation system” (*Kates v. Bledsoe*, 2013, p. 8).

Considering the inmates' allegations, the district court said that “the Constitution does not give inmates the right to be free from all discomfort” (*Kates v. Bledsoe*, 2013, p. 8, quoting *Shelby County Jail Inmates v. Westlake*, 1986, p. 1087). Moreover, the court said Kates had not shown the number of days he and the other inmates were allegedly exposed to “excessive heat” (*Kates v. Bledsoe*, 2013, p. 8). Other than discomfort, the district court ruled that the plaintiff had not shown any actual harm that he suffered from the heat. The court added that Kates had running cold water in his cell and a window, “both of which can be seen to ameliorate somewhat excessively hot conditions” (*Kates v. Bledsoe*, 2013, p. 8).

With respect to the subjective requirement of the Eighth Amendment, the district court said that plaintiff must show that defendants' blameworthiness was at the level of deliberate indifference to the inmate's health or safety. Quoting *Farmer v. Brennan* (1994, p. 847), the district court said prison officials must know that “inmates face a substantial risk of serious harm and disregard that risk by failing to take reasonable measures to abate it.” Applying this standard to the *Kates* case, the district court said:

The plaintiff failed to prove that the defendant was deliberately indifferent to a substantial risk of serious harm. Although Kates alleges harsh conditions and that those conditions caused him medical problems, he has not presented evidence to support many of his allegations, and he has offered no competent medical evidence to support a connection between his problems and the conditions . . .

Moreover, the mere fact that Kates, and others, complained about conditions does not show that the defendant believed that those conditions posed a substantial risk of serious harm . . . In fact, there is no evidence in the record that the defendant subjectively knew that the conditions posed a substantial risk of serious harm.

(*Kates v. Bledsoe*, 2013, p. 8)

On appeal, the Third Circuit upheld the district court, granting the defendant's motion for summary judgment, saying that even if the plaintiff showed the extreme temperatures to which he was exposed denied him of “the minimal civilized measure of life's necessities,” Kates failed to satisfy the subjective component of the Eighth Amendment. In other words, defendants were not deliberately indifferent to his health and safety (*Kates v. USP Lewisburg*, 2013, p. 95).

In *Austin v. Smith* (2018), David D. Austin II, sued under Section 1983, alleging the conditions of his confinement violated the Eighth and Fourteenth Amendments. Specifically, Austin claims the acrylic sheets covering the windows of the cells in the R-Unit and W-Unit caused the cells to be extremely hot and potentially unsafe. Other inmates, who were class action members in this case, said they suffered from “asthma, nasal congestion, difficulty breathing, difficulty sleeping, and headaches, . . .” while housed in R-Unit or W-Unit (p. 2). The U.S. District Court for the Western District of

Wisconsin held Austin did not present any evidence showing an inmate housed in the R-Unit or W-Unit suffered a serious, heat-related health problem nor that their symptoms were caused by extreme temperatures. The court elaborated that, “inmates have access to measures offering relief from the heat: cool water, ice, and fans, in addition to the ventilation system” (p. 4). Using language from the Supreme Court’s *Sandin v. Conner* (1995) decision, the district court implied Austin had no Fourteenth Amendment due process liberty interest implicated, because he failed to present evidence showing the hot temperatures posed an “atypical and significant hardship,” as “many people, both in and out of prison, must deal with the uncomfortable heat and humidity that accompany summer in Wisconsin” (p. 4). Then, switching back to the Eighth Amendment, the district court concluded that the conditions in R-Unit and W-Unit were “not so dangerous” as to violate the cruel and unusual punishment clause (p. 5).

In *Bentz v. Butler* (2017), David Robert Bentz, confined in the Menard Correctional Center filed a Section 1983 lawsuit, alleging he and other inmates were subjected to excessive heat for several years. Specifically, Bentz claimed “he was required to endure heat indexes of 90 degrees and above with no adequate relief” (p. 6), asserting that he informed prison officials “that the conditions were intolerable, but they did nothing to alleviate the heat” (p. 6). The U.S. District Court for the Southern District of Illinois ruled that Bentz failed to present any evidence that the heat was serious enough to violate the Eighth Amendment. The only evidence presented were his statements of excessive heat in the summertime; “he knew that the temperature or heat index was over 100 degrees because he watched the Weather Channel and local weather for Chester, Illinois, which is the town near Menard” (p. 7). The court’s research revealed that “the

average maximum temperature during the summer of 2014 was between 81 and 84 degrees, and the temperature never reached 100 degrees” (p. 7).

Additionally, the court said that Bentz did not present any evidence that he was harmed or suffered health complications from the excessive heat. Rather, Bentz alleged “he experienced some swelling, cramping, and faintness, . . .” but the court stated these “. . . are common issues experienced by anyone who spends a length of time in the summer heat” (p. 8). The court ruled, “there is no evidence reflecting the intensity and duration of the heat and no evidence demonstrating that Bentz faced anything other than the usual discomforts to be expected . . .” in a non-air-conditioned building in southern Illinois (p. 8). Lastly, Bentz claimed prison officials “refused to provide him with ways to beat the heat in the cell house in order to retaliate against him [for] filing lawsuits and grievances” (p. 8). The district court held Bentz’s vague and conclusory statements failed to provide sufficient evidence to suggest the prison officials actions amounted to retaliation.

A district court in Texas said that the Fifth Circuit has recognized that exposure to extreme heat under certain circumstances may violate the Eighth Amendment; however, such claims are evaluated on a case-by-case basis. The court referenced a case in which, for example, extreme heat may be problematic for one inmate, but not another (*Johnson v. Texas Bd. of Crim. Justice*, 2008). In *Flores v. TDCJ Transitorial Planning Dept. Southern Region Inst. Div.* (2015), Reynaldo Flores claims he was housed in temperatures over 100 degrees while confined at the Garza East Transfer Facility (p. 8). The U.S. District Court for the Southern District of Texas ruled that Flores failed to show he suffered any heat-related injuries during the time he was subjected to such conditions, which is insufficient to state a constitutional claim. Further, Flores failed to “allege that

the Garza Unit defendants knew of a serious risk to his health and safety and then ignored that risk” (p. 9); therefore, the court dismissed Flores’ claims with prejudice.

In *Loe v. Wilkinson* (1984), Richard C. Loe, housed in the United States Penitentiary System filed a civil rights action, alleging that the special housing unit (“S.H.U”) in the prison had an inadequate ventilation system. The building engineer explained that the inmates have “no control over the temperature from inside the cell, [because] the temperature is monitored by a unit outside the prison which senses the outside temperature and activates the [system] automatically” (p. 132). The U.S. District Court for the Middle District of Pennsylvania held that a more desirable system would allow inmates to individually control the temperature, however, the failure to provide such a system does not amount to a constitutional violation.

Loe also claimed there were approximately 50 small holes in the cell walls and openings around the door that allow for an exchange of air, which the penitentiary engineer said was a “natural” ventilation system (p. 133). The court stated, “the S.H.U. may not contain the same ventilation system as exists in general population, [but] it is sufficient for Eighth Amendment purposes” (p. 133). Although it was evident to the court that humidity and temperatures are high in the hot summer months, “this alone . . . or in combination with other conditions existing in the S.H.U., does not offend contemporary standards of decency” (p. 133). Therefore, the court dismissed Loe’s Eighth Amendment claims.

### ***Summary of No Right to “Comfortable Prisons”***

Being “comfortable” once incarcerated by the state is not a condition of confinement required by the constitution. Several factors were considered by the district



courts to determine whether extreme heat amounted to a constitutional deprivation, including the severity of the heat, the duration, whether the inmate had alternative means of protection against extreme temperatures, and if the inmate was subjected to other harsh conditions (see *Dixon v. Godinez*, 1997). It was evident that lower court decisions were guided by the constitutionally based minimum set of standards articulated in the *Dixon* decision. For example, in *Kates v. Bledsoe* (2013) and *Bentz v. Butler* (2017), the courts underlined the lack of evidence demonstrating how many days the inmates were exposed to the alleged hot temperatures. Another significant factor in the courts' decisions was the severity of the heat. These courts required that inmates provide some sort of medical evidence showing that the extreme heat caused actual harm or injury (*Austin v. Smith*, 2018; *Flores v. TDCJ Transitorial Planning Dept. Southern Region Inst. Div.*, 2015; *Kates v. Bledsoe*, 2013). Furthermore, the courts considered whether the inmate had alternative means of protection against extreme temperatures (see *Dixon v. Godinez*, 1997). In *Loe v. Wilkinson* (1984, p. 133), the court declared that the ventilation from "50 small holes in the [inmate's] cell walls and openings around the door" was sufficient means of protection against extreme temperatures.

### ***Reasonable Staff Responses to Heat Exposure***

In *Burgess v. Whorton* (2010), Marshall Burgess, Jr., filed a Section 1983 lawsuit against prison administrators and employees, saying he was subjected to extremely hot temperatures in his cell during the summer of 2006, which caused him to suffer from heat exhaustion, bites from bugs, and "crabs" (p. 1). Burgess stated that when he arrived at the Nevada State Prison on June 21, 2006, the air conditioning system in Unit 12 was not functioning. Burgess alleged the heat in his cell was excessive for 42 days, as the

temperatures reached into the 90s and lower 100s. Furthermore, Burgess claimed the correctional officers provided only two cups of ice water to each inmate and drank the remaining water themselves.

The U.S. District Court for Nevada held that Burgess failed to show that the defendants acted with deliberate indifference, as the evidence indicated the defendants were aware of the high temperatures and took immediate action to protect inmates from potential harm. Evidence showed defendants purchased seven fans and circulated several notices of the air conditioning system's repair and measures to be taken. Burgess's claim regarding inadequate ice water "fails to show that any of the named defendants were involved in depriving plaintiff of ice water or that they had knowledge that such circumstances existed" (p. 4). As to Burgess's claim of heat exhaustion, the court ruled he failed to show he suffered from such a condition nor that defendants were aware of any of his medical symptoms. The court also ruled Burgess failed to demonstrate a causal relationship between the high temperature in his cell and contracting crabs.

In *Hernandez v. Battaglia* (2009), Hector Hernandez was confined in the state of Illinois at the Stateville Correctional Facility. He sued under Section 1983, alleging that he and other inmates were exposed to high temperatures for three to five hours. The facts showed that a facility-wide shakedown was performed, in which Hernandez and other inmates were kept in the segregation yard for three to five hours in temperatures of up to 80 to 85 degrees with no shaded areas. Although the "the inmates were forced to remain outside, handcuffed, on a hot day without water or shade . . . [,]" the U.S. District Court for the Northern District of Illinois held, ". . . this exposure to the elements is just not severe or serious enough to warrant relief under the Eighth Amendment" (p. 678).

Further, Hernandez relied on the U.S. Supreme Court's *Hope v. Pelzer et al.* (2002) decision, arguing that the totality of conditions amounted to a constitutional violation. The district court found no evidence that prison officials extended the shakedown process longer than necessary to cause harm to the inmates, and "there was no attempt made to worsen the effects of the sun and heat, nor was there any taunting or obvious enjoyment on the part of the prison guards or officials" (p. 679). Granting the defendant's motion for summary judgment, the court concluded that the events neither cumulatively nor individually amounted to an Eighth Amendment violation.

In *Willis v. Barksdale* (1985), Kelly Jean Willis, the sister of deceased pretrial detainee, Michael B. Lott, sued under Section 1983, alleging the county sheriff's policy decisions regarding the jail's ventilation violated her brother's substantive due process rights to reasonably safe conditions of confinement. On July 16, 1980, Lott was found dead in his cell at the Shelby County Jail, wherein the Medical Examiner determined the cause of death was heat stroke. In July 1980, Memphis, Tennessee, experienced a severe heat wave, as temperatures rose above 100 degrees Fahrenheit for 15 consecutive days and approximately 80 people died from heat-related causes. Willis argued that the "defendant's failure to expend large sums of money for ventilation equipment was an 'arbitrary and purposeless' response to the jail's air circulation problems" (p. 416). During the heat wave, however, the defendant implemented measures to alleviate the heat, such as "providing additional ice, water, and salt and by permitting inmates to remove outer clothing" (p. 416).

At the time of Lott's death, a new Shelby County Jail was under construction. The defendant was advised by his superiors "to hold down spending on the old facility

pending the move” and to “make no plans for major capital expenditures” (p. 414). The U.S. District Court for the Western District of Tennessee said that, the defendant’s decision not to purchase “circulation equipment was not an irrational, arbitrary or purposeless response to the jail’s ventilation problems, particularly in light of the fact that a new jail was nearing completion” (p. 417).

Willis further claimed that the defendant failed to “institute procedures by which jail personnel could discover and accommodate the unique medical needs of individual prisoners” (p. 417). While confined at the Shelby County Jail, Lott was taking two antipsychotic drugs, Haldol and Congentin, which “are known to be related to heat stroke and reduce the body’s ability to sweat[,]” in addition to impairing “the body’s ability to regulate its temperature” (p. 414). The court noted that, “No extra measures were taken to protect Lott from heat due to the drugs he was taking. He was exposed to the same conditions as all other inmates” (p. 414); however, the court stated that, health department employees were responsible to “discover the medical needs of particular inmates and to advise jail administrators of those needs” (p. 414). The court concluded that the “defendants’ conduct was not intended to harm Lott and does not shock the court’s conscience” (p. 418). Lastly, Willis contends that the defendants’ ventilation policies “constitute the ‘established state procedure’ by which the state deprived Lott of life” (p. 418). Rejecting that claim, the court ruled that Willis claim does not constitute a procedural due process violation and, therefore, the prison officials were entitled to summary judgment.

### ***Summary of Reasonable Staff Responses to Heat Exposure***

Although the U.S. CDC (2017d) advises not to use electric fans when the temperature reaches the high 90s, correctional departments continue to rely on fans as a standard cooling measure, as shown in *Burgess v. Whorton* (2010). In *Willis v. Barksdale* (1985), the court declared that prison officials heat-mitigation measures, such as inmates access to ice, water, and salt, and the removal of their outer clothing, was sufficient to protect them against a deadly heat wave, where temperatures rose above 100 degrees Fahrenheit for 15 consecutive days and approximately 80 people in the city of Memphis died from heat-related causes. Moreover, in *Hernandez v. Battaglia* (2009), inmates were exposed to hot temperatures for hours without access to any heat-mitigation measures, such as water or shade; however, the lack of evidence showing prison officials extended the shakedown process longer than necessary to cause harm to the inmates, attempted to worsen the effects of the sun and heat, or showed any form of taunting or enjoyment, failed to establish an Eighth Amendment claim. The courts decisions in *Willis v. Barksdale* (1985) and *Hernandez v. Battaglia* (2009) demonstrate that a correctional facility's security and financial concerns supersede the enforcement of heat-mitigation efforts.

## CHAPTER VI

### Discussion and Conclusion

In fear of a government that would make swift and easy changes in law and could concentrate all authority in a single branch, the framers founded the American federal system on the principles of federalism, separation of powers, and checks and balances (Beckett, 1988). Through these principles, the framers dispersed constitutional authority to the three branches of government (legislative, executive, and judiciary) and between national and state governments (Beckett, 1988). Furthermore, the framers designed the system to safeguard a balance of power between the different branches of government by making cooperation between them necessary to function properly (Beckett, 1988).

Prior to the Civil War, popular views about federal-state relations emphasized the autonomy of national and state governments, in addition to the states as dominant actors in the federal system (“Developments,” 1977). Supreme Court Justice Hugo Black described “Our Federalism” as a system with proper respect for state functions, in which the federal government is required to protect federal rights “in ways that will not unduly interfere with the legitimate activities of the States” (*Younger v. Harris*, 1971, p. 44). Despite the supremacy of national law, the national government was limited to the few areas of national concern enumerated in the Constitution (“Developments,” 1977; Elazar, 1964; Levi, 1976). To further control government power, the Founders adopted the doctrine of separation of powers, which is the division of power among three government institutions, executive, legislative, and judicial (“Developments,” 1977; Levi, 1976). Each branch of government is responsible for separate functions, such as the executive branch carries out laws, the legislative branch makes laws, and the judicial branch

interprets laws (USAGov, 2021). Lastly, the Founders built into the structure of government a set of checks and balances, which prevent the accumulation of power in a single branch and serve to “block the adoption or continuation of unwise policy” (Beckett, 1988, p. 639; see Burns & Markman, 1987; Clark, 2001; Entin, 1990; Levi, 1976; Kurland, 1986). As a result, “two branches of government must cooperate before laws destructive of liberty can be enacted, and two branches of government must cooperate in the enforcement of the law” (Beckett, 1988, p. 640; see Kurland, 1986).

In the early days of the Republic, the states retained the bulk of the powers not delegated to the national government, including police powers, control over municipal and local governments, and the definition and protection of civil rights (Beckett, 1988; “Developments,” 1977). Under this government of state sovereignty, “the scope of federal activity was limited and the states were largely shielded from federal power” (“Developments,” 1977, p. 1141). Moreover, it was the role of the federal courts to protect the sovereignty of states from intrusion by the federal government (Chemerinsky, 2006). For example, in *Dred Scott v. Sandford* (1856), Chief Justice Roger B. Taney ruled that the Missouri Compromise of 1820, which banned slavery in certain states, could not be enforced because Congress had no power to prohibit slavery in those territories. Chief Justice Taney characterized the federal government as an agent and trustee of the states, whereby both are granted common and equal benefit of the territory (*Dred Scott v. Sandford*, 1856). Similarly, in *Kentucky v. Dennison* (1861), the Court limited federal power established in Article 4, Section 2 of the Constitution, which required any state with a fugitive from justice to be extradited to the state having jurisdiction of the crime. The Court concluded that the “Federal Government, under the

Constitution, has no power to impose on a State officer, as such, any duty, whatever, and compel him to perform it” (*Kentucky v. Dennison*, 1861, p. 107).

As the popular states’ rights philosophy took hold on the federal courts, several courts adopted a hands-off approach to state penal affairs (“Developments,” 1977; Friend, 1967; Gutterman, 1995; Lapinsky, 1989; Mitchell, 2003). The courts adherence to the hands-off doctrine was grounded on the principles of federalism and separation of powers, as well as on the belief that courts lacked sufficient expertise to interfere in the internal operations of state prisons (“Beyond the ken of the courts,” 1963; Friend, 1967). Many courts felt they did not have “the necessary expertise to understand the realities and necessities of prison operation,” as their actions “might interfere with the orderly operation of powder-keg prisons” and “somehow compromise the ability of the prison officials to accomplish the goals of the penal system” (Friend, 1967, p. 180; see “Beyond the ken of the courts,” 1963). Furthermore, the popular view of the prisoner as a “slave of the State,” who forfeited his or her liberty and personal rights as a consequence of his or her crime, was apparent in judicial opinion (*Ruffin v. Commonwealth*, 1871; see Friend, 1967; Gutterman, 1995). Therefore, most courts at the time failed to review prisoner complaints about conditions of confinement because the Eighth Amendment was not applied to state prisoners (Cripe et al., 2013; Friend, 1967; Gutterman, 1995). As the civil rights movement in 1960s and 1970s gained momentum, however, attention was drawn to marginalized groups in society, including the incarcerated population (Gutterman, 1995; Mitchell, 2003). The conditions of confinement revealed within American penal institutions was woefully inadequate and in need of extensive prison reform (Gutterman, 1995; “Mastering Intervention,” 1979).



During this period of increased judicial intervention, several state prison systems were declared unconstitutional. According to Cantwell and Greenfeld (1984), entire prison systems in eight states had been declared unconstitutional (Alabama, Florida, Michigan, Mississippi, Oklahoma, Rhode Island, Tennessee, and Texas) and an additional 21 states had one or more institutions under court order by the end of 1983. The U.S. Supreme Court played a significant role in prison reform, but the lower federal courts were considered to be at the forefront of the “hands-on” movement (Taggart, 1989). In response to the high influx of prisoners’ rights suits, federal judges developed policies and programs to ensure comprehensive prison reform, such as court orders and consent decrees (Taggart, 1989). Furthermore, the lower courts established a constitutionally based minimum set of standards for conditions of confinement cases that remain in use, which guides court decisions today.

According to Collins (1990, p. 5), today the courts have adopted a “one-hand-on, one-hand-off” philosophy, in which the Supreme Court gives Constitutional rights to inmates at a lesser degree than lower courts. Considering that the Supreme Court has yet to rule on a case challenging inmate exposure to extreme heat in correctional facilities, the lower courts have provided more insight on the criterion by which these cases are decided. The court decisions examined in this thesis reveal the importance of identifying the challenges extreme heat will place on correctional departments and developing adaptation strategies informed by medical and scientific research. The U.S. Circuit Courts of Appeals decisions where the inmates prevailed show an expansion of constitutional protections for inmates who are most vulnerable to extreme heat, including the elderly, those with chronic medical conditions, and the physically disabled. The courts seek to

protect these vulnerable populations by ordering correctional administrators to provide medically and scientifically proven effective relief, such as air-conditioning. In the U.S. Circuit Courts of Appeals decisions where the prison officials prevailed, the courts require inmates to provide strong evidence, such as scientific studies and medical expert testimony, that shows the seriousness of their exposure to extreme heat. Moreover, the inmate must establish the causal link between exposure to extreme heat and the inmate's injuries and/or risk of harm.

In contrast to the U.S. Circuit Courts of Appeals, the U.S. District Courts decisions where inmates prevailed demonstrated that the courts did not seek to expand inmates' constitutional protections but, instead, focused on whether an inmate's case could proceed based on the facts presented. The district courts would apply the legal principles to the facts and, if the facts stated a legitimate "cause of action," the inmate's suit was allowed to proceed. The U.S. District Courts decisions where the prison officials prevailed, however, was similar to the U.S. Courts of Appeals decisions, in which the courts demanded evidence that showed the severity of the temperature extremes, as well as its causal link to the inmate's injuries and/or risk of harm.

While "healthy prisons" can be built (Ismail & de Viggiani, 2018; Jewkes, 2018), there are opponents to providing air conditioning to prisoners (Blinder, 2016; Etim, 2016; Tribune News Service, 2021). Some have pointed out that society does not expect the carceral experience to be comfortable (Clear, 1994; Cullen, 1995), and the U.S. Supreme Court has held that prisoners have no constitutional right to "comfortable prisons" (*Rhodes v. Chapman*, 1981). Additionally, the "penal harm movement" asserts that amenities—such as air conditioning in prisons and jails—violates the principle of less

eligibility (Vaughn & Smith, 1999), which posits that prison conditions of confinement must be worse or of a lower quality than what exists for the poorest people in the free world (Moran, Jewkes, & Turner, 2016).

Politicians and correctional administrators also claim that air-conditioned prisons cost too much money, even though cost estimates have been grossly inflated by correctional officials (Blinder, 2016; Lyon, 2019). Architects and construction engineers who design and plan new prisons, however, have shown that prisons can be built in such a way that reduces the financial burden of air conditioning. A study in Abu Dhabi, for example, a country in a desert with a hot climate, found that innovative prison building design of the “façade” and the “building’s envelope... can reduce...[energy] requirements for air conditioning...by as much as 30%” (Al-Hosany & Elkadi, 2000, p. 1811). Thus, more research needs to be conducted on climate-friendly prisons that uncover design schematics and efficient construction materials that mitigate heat, enhance air flow, and increases ventilation in correctional facilities (Awofeso, 2011).

The limits of law should also be acknowledged (Stanton-Ife, 2016). While litigated prison reform has greatly improved conditions of confinement within correctional facilities (Crouch & Marquart, 1989), there remain questions about how far public policy can be altered through the legal system. In conditions of confinement Civil Rights litigation pursuant to Title 42 U.S. Code Section 1983, an actionable prisoner’s claim must show deliberate indifference to serious medical needs (*Estelle v. Gamble*, 1976; *Wilson v. Seiter*, 1991). This means that prison officials’ negligence, inadvertence, or mistake cannot form the basis for a successful lawsuit (Vaughn & Carroll, 1998). Moreover, legal standards establish the rule of law that prison officials should follow

when establishing conditions of confinement, but the legal system has no way to guarantee that prison officials will implement such standards inside the insular, hidden world of corrections.

With respect to policy implications emanating from this thesis, since so many prisoners are on medications that risk severe illness and death when exposed to excessive heat, correctional administrators and prison medical personnel need to keep real-time records of inmates taking these medications, what their work assignments are, where they are housed, and what remedial efforts are being taken to ameliorate heat exposure. As well, other inmates and detainees not taking high-risk medications, but nevertheless have a history of heat-related illnesses also need to be carefully monitored by officials to lessen sickness and reduce deaths. At intake, vulnerability to heat-related illnesses needs to be documented in each prisoners' medical records. Prison officials need to consult more fully with free-world health care personnel about all measures available to moderate heat-related illnesses. There needs to be a realization in the corrections community and among elected officials that as global warming intensifies, what was once considered a luxury, i.e., air conditioning, has now become a medical necessity to avoid the adverse outcomes associated with exposure to extreme heat. Moreover, correctional officers and medical personnel need to be trained on the symptoms of heat-related illnesses, so they can identify and help assuage prisoners' exposure to extreme heat. And, finally, from a practical perspective, policy makers and elected officials need to be mindful that when allocating resources for correctional institutions that the government has a constitutional duty to provide medical care for serious medical needs and heat-related illnesses fall into this category.

Future researchers need to document the extent of air conditioning across the nations' correctional facilities. Researchers need to accurately estimate what it would cost to retrofit existing facilities with air conditioning or measures short of air conditioning that would relieve exposure to extreme heat. Researchers need to document the number of negative medical outcomes from exposure to heat extremes in all state and federal prisons, jails, and detention facilities. From case law analysis, it appears that what is currently known about heat-related illnesses is the tip of iceberg of the total number of inmates suffering from these ailments. Hence, researchers need to investigate whether summer-time heart attacks, strokes, and kidney failure deaths are attributed to heat-related illnesses or to the underlying health conditions themselves. Moreover, research needs to uncover the full range of medical complications suffered by prisoners who are exposed to extreme heat. Research is also needed to uncover all kinds of temperature extremes, including facilities that are too cold, which involves litigation associated with failure to provide enough warmth for inmates during the colder winter months. Case law pertaining to inmate exposure to cold conditions of confinement was plentiful, but was not highlighted in this thesis. Inmate exposure to heat extremes appears to be a condition of confinement that will bedevil correctional administrators and medical officials as global warming endures and as the United States continues to incarcerate millions of prisoners and detainees.

## REFERENCES

- Adwell, S.T., & Miller, L.E. (1985). Occupational burnout. *Corrections Today*, 47, 70-72.
- Al-Hosany, N., & Elkadi, H. (2000). Energy management and façade design in prison buildings in hot climate: The case of Abu Dhabi. In A.A.M. Sayigh (Ed.), *World renewable energy congress VI* (pp. 1808-1811). Elsevier Science.
- Almashat, S., Bernard, T., Ruiz, V., Hovis, J., & Wolfe, S. (2011). [Letter to petition for federal heat safety standards in the workplace]. Public Citizen.  
<https://www.citizen.org/wp-content/uploads/petition-for-a-heat-standard-090111.pdf>
- American Civil Liberties Union [ACLU]. (2014). *The dangerous overuse of solitary confinement in the United States*.  
[https://www.aclu.org/sites/default/files/assets/stop\\_solitary\\_briefing\\_paper\\_updated\\_august\\_2014.pdf](https://www.aclu.org/sites/default/files/assets/stop_solitary_briefing_paper_updated_august_2014.pdf)
- American Federation of Labor and Congress of Industrial Organizations [AFL-CIO]. (2020). *Death on the job: The toll of neglect*.  
[https://aflcio.org/sites/default/files/2020-10/DOTJ2020\\_Final\\_100620\\_nb.pdf](https://aflcio.org/sites/default/files/2020-10/DOTJ2020_Final_100620_nb.pdf)
- American Federation of Labor and Congress of Industrial Organizations [AFL-CIO]. (2019). *Death on the job: The toll of neglect*.  
[https://aflcio.org/sites/default/files/2019-05/DOTJ2019Fnb\\_1.pdf](https://aflcio.org/sites/default/files/2019-05/DOTJ2019Fnb_1.pdf)
- American Heart Association [AHA]. (2017). *What is cardiovascular disease?*  
<https://www.heart.org/en/health-topics/consumer-healthcare/what-is-cardiovascular-disease>

- American Heart Association [AHA]. (2015). *Protect your heart in the heat*.  
<https://www.heart.org/en/health-topics/consumer-healthcare/what-is-cardiovascular-disease/protect-your-heart-in-the-heat>
- Arbury, S., Jacklitsch, B., Farquah, O., Hodgson, M., Lamson, G., Martin, H., & Profitt, A. (2014). Heat illness and death among workers – Unites States, 2012-2013. *Morbidity and Mortality Weekly Report*, 63(31), 661-665.
- Arrigo, B.A., & Bullock, J.L. (2007). The psychological effects of solitary confinement on prisoners in supermax units. *International Journal of Offender Therapy and Comparative Criminology*, 52(6), 622-640.
- Association for the Prevention of Torture [APT]. (2019). *Lighting and ventilation*.  
[https://www.appt.ch/en/dfd\\_print/614/analysis/en](https://www.appt.ch/en/dfd_print/614/analysis/en)
- Atkinson, J., Chartier, Y., Pessoa-Silva, C.L., Jensen, P., Li, Y., & Seto, W. (Eds.). (2009). *Natural ventilation for infection control in health-care settings*. World Health Organization.
- Auber, G.J. (2004). Taking the heat off: How to manage heat injuries. *Nursing*, 34(7), 50-52.
- Augusta v. Waggoner*, WL 3831336 (S.D. Ill. 2018).
- Austin v. Smith*, WL 3611949 (W.D. Wis. 2018), WL 945105 (W.D. Wis. 2017).
- Awofeso, N. (2011). Disciplinary architecture: Prison design and prisoners' health. *Hektoen International: A Journal of Medical Humanities*, 3(1).  
<https://hekint.org/2017/01/29/disciplinary-architecture-prison-design-and-prisoners-health/>

- Bai, J.R., Befus, M., Mukherjee, D.V., Lowy, F.D., & Larson, E.L. (2015). Prevalence and predictors of chronic health conditions of inmates newly admitted to maximum security prisons. *Journal of Correctional Health Care*, 21(3), 255-264.
- Ball v. LeBlanc*, 988 F.Supp.2d 639 (M.D. La. 2013), *stay pending appeal denied*; WL231920 (M.D. L.A. 2014), *affirmed in part, vacated in part, remanded*, 792 F.3d 584 (5<sup>th</sup> Cir. 2015), *on remand*, 223 F.Supp.3d 529 (M.D. La. 2016), *rev'd and remanded*, 881 F.3d 346 (5<sup>th</sup> Cir. 2018), *cert. denied*, 139 S.Ct. 499 (2018).
- Baptiste, N. (2017, August 14). *Some of America's prisons are literally hell during the summer*. Mother Jones.  
<https://www.motherjones.com/environment/2017/08/some-of-americas-prisons-are-literally-hell-during-the-summer/>
- Basile, S. (2014). *Cool: How air conditioning changed everything*. Fordham University Press.
- Beck, A.J. (2015). Use of restrictive housing in U.S. prisons and jails, 2011-12. *Bureau of Justice Statistics*. (Report No. NCJ 249209). U.S. Department of Justice.
- Becker, J.A., & Stewart, L.K. (2011). Heat-related illness. *American Family Physician*, 83(11), 1325-1330.
- Beckett, C.H. (1988). Separation of powers and federalism: Their impact on individual liberty and the functioning of our government. *William & Mary Law Review*, 29(3), 635-651.
- Bell v. Wolfish*, 441 U.S. 520 (1979).
- Bentz v. Butler*, WL 2081000 (S.D. Ill. 2017).



Berko, J., Ingram, D.D., Saha, S., & Parker, J.D. (2014). *Deaths attributed to heat, cold, and other weather events in the United States, 2006–2010*. National Health Statistics Report; No. 76. National Center for Health Statistics.

Beyond the ken of the courts: A critique of judicial refusal to review the complaints of convicts. (1963). *The Yale Law Journal*, 72(3), 506-558.  
<https://www.jstor.org/stable/794567>

Binswanger, I.A., Krueger, P.M., & Steiner, J.F. (2009). Prevalence of chronic medical conditions among jail and prison inmates in the USA compared with the general population. *Journal of Epidemiology & Community Health*, 63(11), 912-919.

*Blackmon v. Garza*, 484 Fed.Appx. 866 (2012).

Blinder, A. (2016, August 15). *In U.S. jails, a constitutional clash over air-conditioning*. New York Times. <https://www.nytimes.com/2016/08/16/us/in-us-jails-a-constitutional-clash-over-air-conditioning.html>

Bott, C. (2018, September 13). *Efforts grow to close ‘unspeakably hellish’ St. Louis workhouse*. St. Louis Post-Dispatch. [https://www.stltoday.com/news/local/crime-and-courts/efforts-grow-to-close-unspeakably-hellish-st-louis-workhouse/article\\_23d869b2-62b5-59e9-9f99-9dcc8cc74fca.html](https://www.stltoday.com/news/local/crime-and-courts/efforts-grow-to-close-unspeakably-hellish-st-louis-workhouse/article_23d869b2-62b5-59e9-9f99-9dcc8cc74fca.html)

Brower, J. (2013). *Correctional officer wellness and safety literature review*. Office of Justice Programs Diagnostic Center. U.S. Department of Justice.

*Brown v. Plata*, 563 U.S. 493 (2011).

Browne, A., Cambier, A., & Agha, S. (2011). Prisons within prisons: The use of segregation in the United States. *Federal Sentencing Reporter*, 24(1), 46-49.

- Browne, A., Hastings, A., Kall, K., & diZerega, M. (2015). *Keeping vulnerable populations safe under PREA: Alternative strategies to the use of segregation in prisons and jails*. Vera Institute of Justice.  
<https://www.prearesourcecenter.org/sites/default/files/library/housingvulnerablepopulationsfinalmarch.pdf>
- Budd v. Motley*, 711 F.3d 840 (7<sup>th</sup> Cir. 2013).
- Buden, J.C., Dugan, A.G., Namazi, S., Huedo-Medina, T.B., Cherniack, M.G., & Faghri, P.D. (2016). Work characteristics as predictors of correctional supervisors' health outcomes. *Journal of Occupational & Environmental Medicine*, 58(9), 325-334.
- Buis, A. (2019, June 19). *A degree of concern: Why global temperatures matter*. NASA.  
<https://climate.nasa.gov/news/2878/a-degree-of-concern-why-global-temperatures-matter/>
- Burgess v. Whorton*, WL 3257904 (D. Nev. 2010).
- Burns, A.I., & Markman, S.J. (1987). Understanding separation of powers. *Pace Law Review*, 7(3), 575-607.
- Cantwell, M., & Greenfeld, L.A. (1984). Prisoners in 1983. *Bureau of Justice Statistics*. (Report No. NCJ-92949). U.S. Department of Justice.  
<https://bjs.ojp.gov/content/pub/pdf/p83.pdf>
- Carson, E.A., & Sabol, W.J. (2016). Aging of the state prison population, 1993-2013. *Bureau of Justice Statistics*. (Report No. NCJ 248766). U.S. Department of Justice.
- Casey, R. (1958). *The modern jail: Design-equipment-operation*. Continental Press.

- Cedeno Laurent, J.G., Williams, A., Oulhote, Y., Zanobetti, A., Allen, J.G., & Spengler, J.D. (2018). Reduced cognitive function during a heat wave among residents of non-air conditioned buildings: An observational study of young adults in the summer of 2016. *PLoS Medicine*, *15*(7), 1-20.
- Chammah, M. (2017, October 11). *Cooking them to death: The lethal toll of hot prisons*. The Marshall Project. [https://www.themarshallproject.org/2017/10/11/cooking-them-to-death-the-lethal-toll-of-hot-prisons?utm\\_medium=email&utm\\_campaign=share-tools&utm\\_source=email&utm\\_content=post-top](https://www.themarshallproject.org/2017/10/11/cooking-them-to-death-the-lethal-toll-of-hot-prisons?utm_medium=email&utm_campaign=share-tools&utm_source=email&utm_content=post-top)
- Chandler v. Crosby*, 379 F.3d 1278 (11<sup>th</sup> Cir. 2004).
- Chappell v. Mandeville*, 706 F.3d 1052 (9<sup>th</sup> Cir. 2013).
- Charmaz, K. (1996). The search for meanings – Grounded theory. In J. A. Smith, R. Harre, & L. Van Langenhove (Eds.), *Rethinking methods in psychology* (pp. 27-49). Sage Publications.
- Cheek, F.E., & Miller, M.D.S. (1983). The experience of stress for correction officers: A double-bind theory of correctional stress. *Journal of Criminal Justice*, *11*(2), 105-120.
- Chemmerinsky, E. (2006). The assumptions of federalism. *Stanford Law Review*, *58*, 1763-1792.
- Cheng, L., Hoerling, M., Liu, Z., & Eischeid, J. (2019). Physical understanding of human-induced changes in U.S. hot droughts using equilibrium climate simulations. *Journal of Climate*, *32*(14), 4431-4443.
- Christensen v. Lewis*, 26 F.3d 129 (9<sup>th</sup> Cir. 1994).

- Christenson, M.L., Geiger, S.D., & Anderson, H.A. (2013). Heat-related fatalities in Wisconsin during the summer of 2012. *WMJ*, 112(5), 219-223.
- Chynoweth, P. (2008). Legal research. In. A. Knight & L. Ruddock (Eds.), *Advanced research methods in the built environment* (pp. 28-37). Wiley-Blackwell.
- Cil, G., & Cameron, T.A. (2017). Potential climate change health risks from increases in heat waves: Abnormal birth outcomes and adverse maternal health conditions. *Risk Analysis*, 37(11), 2066-2079.
- Cimons, M. (2020). *Risks for some medications rise as temperatures climb*. The Washington Post. [https://www.washingtonpost.com/health/risks-for-some-medications-rise-as-temperatures-climb/2020/06/25/0ba887e4-ae90-11ea-856d-5054296735e5\\_story.html](https://www.washingtonpost.com/health/risks-for-some-medications-rise-as-temperatures-climb/2020/06/25/0ba887e4-ae90-11ea-856d-5054296735e5_story.html)
- Clark, B.R. (2001). Separation of powers as a safeguard of federalism. *Texas Law Review*, 79(6), 1321-1458.
- Clarke, M. (2014, August 8). *Heat-related deaths in Texas prisons lead to lawsuits, reluctant changes*. Prison Legal News. <https://www.prisonlegalnews.org/news/2014/aug/8/heat-related-deaths-texas-prisons-lead-lawsuits-reluctant-changes/>
- Clear, T. (1994). *Harm in American penology: Offenders, victims, and their communities*. SUNY Press.
- Climate Central. (2019, April 17). *American warming: The fastest-warming cities and states in the U.S.* <https://www.climatecentral.org/news/report-american-warming-us-heats-up-earth-day>

- Climate Central. (2017, August 3). *More hot days are coming with climate change. Our choices will decide how many*. <https://www.climatecentral.org/news/climate-change-hot-days-21667>
- Climate Central. (2016, July 13). *U.S. faces dramatic rise in extreme heat, humidity*. <https://www.climatecentral.org/news/sizzling-summers-20515>
- Cole v. Collier*, WL 6733002 (S.D. Tex. 2019), WL 2766028 (S.D. Tex. 2018), 4:14-cv-1698 (S.D. Tex. 2017).
- Collins, W.C. (1990). *Correctional law for the correctional officer*. St. Mary's Press.
- Collins, W.C. (2010). *Correctional law for the correctional officer* (5<sup>th</sup> ed.). American Correctional Association.
- Cooper, G. (2002). *Air-conditioning America: Engineers and the controlled environment, 1900-1960*. Johns Hopkins University Press.
- Corbin, J., & Strauss, A. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative Sociology*, 13(1), 3-21.
- Cramer, M.N., & Jay, O. (2016). Biophysical aspects of human thermoregulation during heat stress. *Autonomic Neuroscience: Basic and Clinical*, 196, 3-13.
- Cripe, C.A., Pearlman, M., & Kosiak, D. (2013). *Legal Aspects of Correctional Management* (3rd ed.). Jones & Bartlett Learning.
- Crouch, B.M., & Marquart, J.W. (1989). *An appeal to justice: Litigated reform of Texas prisons*. University of Texas Press.
- Cullen, F.T. (1995). Assessing the penal harm movement. *Journal of Research in Crime & Delinquency*, 32(3), 338-358.
- Delaney v. DeTella*, 256 F.3d 679 (7th Cir. 2001).

- Dennis, B., Freedman, A., & Muyskens, J. (2020, January 15). *2019 capped world's hottest decade in recorded history*. The Washington Post.  
<https://www.washingtonpost.com/climate-environment/2020/01/15/2010s-hottest-decade-world/?arc404=true>
- DeShaney v. Winnebago County Department of Social Services*, 489 U.S. 189 (1989).
- Developments in the law: Section 1983 and federalism. (1977). *Harvard Law Review*, 90(6), 1133-1361.
- Dixon v. Godinez*, WL 42229 (N.D. Ill. 1995), *aff'd in part, rev'd in part*, 114 F.3d 640 (7<sup>th</sup> Cir. 1997).
- Dolovich, S. (2009). Cruelty, prison conditions, and the eighth amendment. *New York University Law Review*, 84(4), 881-979.
- Dred Scott v. Sandford*, 60 U.S. (19 How.) 393 (1856).
- Ebi, K.L., Balbus, J.M., Luber, G., Bole, A., Crimmins, A., Glass, G., Saha, S., Shimamoto, M.M., Trtanj, J., & White-Newsome, J.L. (2018). Human health. In D.R. Reidmiller, C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, & B.C. Stewart (Eds.), *Impacts, risks, and adaptation in the United States: Fourth national climate assessment, volume II* (pp. 572-603). U.S. Global Change Research Program.
- Eisenberg, H.B. (1993). Rethinking prisoner civil rights cases and the provision of counsel. *Southern Illinois University Law Journal*, 17, 417-490.
- Elazar, D.J. (1964). Federal-state collaboration in the nineteenth-century United States. *Political Science Quarterly*, 79(2), 248-281.

- Entin, J.L. (1990). Separation of powers, the political branches, and the limits of judicial review. *Ohio State Law Journal*, 51, 175-227.
- Estelle v. Gamble*, 429 U.S. 97 (1976).
- Etim, B. (2016, August 18). Readers react: Should air-conditioning be a right for prisoners? *New York Times*. <https://www.nytimes.com/2016/08/19/us/readers-react-should-air-conditioning-be-a-right-for-prisoners.html>
- Fair, D.R. (1979). The lower federal courts as constitution-makers: The case of prison conditions. *American Journal of Criminal Law*, 7(2), 119-140.
- Fairweather, L., & McConville, S. (Eds.). (2000). *Prison architecture: Policy, design, and experience*. Routledge.
- Farmer v. Brennan*, 511 U.S. 825 (1994).
- Ferdik, F.V., & Smith, H.P. (2017). Correctional officer safety and wellness literature synthesis. *National Institute of Justice*. (Report No. NCJ 250484). U.S. Department of Justice.
- Flavelle, C., & Popovich, N. (2019, August 26). *Heat deaths jump in southwest united states, puzzling officials*. The New York Times.  
<https://www.nytimes.com/2019/08/26/climate/heat-deaths-southwest.html>
- Flores v. TDCJ Transitorial Planning Depart. Southern Region Inst. Division*, WL 5554630 (S.D. Tex. 2015), WL 3727833 (S.D. Tex. 2015).
- Friend, C.E. (1967). Judicial intervention in prison administration. *William and Mary Law Review*, 9(1), 178-192.
- Fritch, M. (1961). *Civil rights of federal prison inmates*. Federal Bureau of Prisons.

- Frost, N.A., & Monteiro, C.E. (2016). Administrative segregation in U.S. prisons. *National Institute of Justice*. (Report No. NCJ 249749). U.S. Department of Justice.
- Gagnon, D., & Crandall, C.G. (2017). Electric fan use during heat waves: Turn off for the elderly? *Temperature*, 4(2), 104-106.
- Gagnon, D., Romero, S.A., Cramer, M.N., Kouda, K., Poh, P., Ngo, H., Jay, O., & Crandall, C.G. (2017). Age modulates physiological responses during fan use under extreme heat and humidity. *Medicine & Science in Sports & Exercise*, 49(11), 2333-2342.
- Gates v. Collier*, 349 F.Supp. 881 (1972).
- Gates v. Cook*, 376 F.3d 323 (5<sup>th</sup> Cir. 2004).
- Gaudio, F.G., & Grissom, C.K. (2016). Cooling methods in heat stroke. *The Journal of Emergency Medicine*, 50(4), 607-616.
- Gauer, R., & Meyers, B.K. (2019). Heat-related illnesses. *American Family Physician*, 99(8), 482-489.
- Gawas, V. M. (2017). Doctrinal legal research method a guiding principle in reforming the law and legal system towards the research development. *International Journal of Law*, 3(5), 128-130.
- Glaser, B.G., & Holton, J. (2004). Remodeling grounded theory. *Forum: Qualitative Social Research*, 5(2). <https://doi.org/10.17169/fqs-5.2.607>
- Glaser, B.G., & Strauss, A.L. (1999). *The discovery of grounded theory: Strategies for qualitative research*. Routledge.



- Glazer, J.L. (2005). Management of heatstroke and heat exhaustion. *American Family Physician, 71*(11), 2133-2140.
- Grassian, S. (2006). Psychiatric effects of solitary confinement. *Washington University Journal of Law & Policy, 22*, 325-383.
- Grassian, S. (1983). Psychopathological effects of solitary confinement. *American Journal of Psychiatry, 140*(11), 1450-1454.
- Grassian, S., & Friedman, N. (1986). Effects of sensory deprivation in psychiatric seclusion and solitary confinement. *International Journal of Law and Psychiatry, 8*(1), 49-65.
- Graves v. Arpaio*, 623 F.3d 1043 (9th Cir. 2010).
- Green v. Secretary of Dept. of Corrections*, 212 Fed.Appx. 869 (11<sup>th</sup> Cir. 2006).
- Gregg v. Georgia*, 428 U.S. 153 (1976).
- Griffin v. Vaughn*, 112 F.3d 703 (3<sup>rd</sup> Cir. 1997).
- Grissom, B. (2016, July 1). *More than 70 percent of Texas prisons don't have AC*. Corrections1 by Lexipol. [https://www.correctionsone.com/facility-design-and-operation/articles/more-than-70-percent-of-texas-prisons-dont-have-ac-4sKz8P2mkXTMGjRq/?utm\\_source=email-to-friend&utm\\_medium=email](https://www.correctionsone.com/facility-design-and-operation/articles/more-than-70-percent-of-texas-prisons-dont-have-ac-4sKz8P2mkXTMGjRq/?utm_source=email-to-friend&utm_medium=email)
- Guo, Y., Gasparini, A., Li, S., Sera, F., Vicedo-Cabrera, A.M., de Sousa Zanotti Stagliorio Coelho, M., et al. (2018). Quantifying excess deaths related to heatwaves under climate change scenarios: A multicountry time series modeling study. *PLOS Medicine, 15*(7), 1-17.
- Gutterman, M. (1995). The contours of eighth amendment prison jurisprudence: Conditions of confinement. *SMU Law Review, 48*(2), 373-410.

- Hancock, P., & Jewkes, Y. (2011). Architectures of incarceration: The spatial pains of imprisonment. *Punishment & Society*, 13(5), 611-629.
- Haney, C., & Lynch, M. (1997). Regulating prisons of the future: A psychological analysis of supermax and solitary confinement. *New York University Review of Law & Social Change*, 23(4), 477-570.
- Harlow v. Fitzgerald*, 457 U.S. 800 (1982).
- Harzke, A.J., Baillargeon, J.G., Pruitt, S.L., Pulvino, J.S., Paar, D.P., & Kelley, M.F. (2010). Prevalence of chronic medical conditions among inmates in the Texas prison system. *Journal of Urban Health*, 87(3), 486-503.
- Helling v. McKinney*, 509 U.S. 25 (1993).
- Helppie-Schmieder, B. (2016). Toxic confinement: Can the eighth amendment protect prisoners from human-made environmental health hazards. *Northwestern University Law Review*, 110(3), 647-678.
- Hernandez v. Battaglia*, 673 F. Supp. 2d 673 (N.D. Ill. 2009).
- Hess, J.J., Saha, S., & Luber, G. (2014). Summertime acute heat illness in U.S. emergency departments from 2006 through 2010: Analysis of a nationally representative sample. *Environmental Health Perspectives*, 122(11), 1209-1215.
- Hinojosa v. Livingston*, 807 F.3d 657 (5<sup>th</sup> Cir. 2015).
- Hoge, C.W., Reichler, M.R., Dominguez, E.A., Bremer, J.C., Mastro, T.D., Hendricks, K.A., Musher, D.M., Elliott, J.A., Facklam, R.R., & Breiman, R.F. (1994). An epidemic of pneumococcal disease in an overcrowded, inadequately ventilated jail. *The New England Journal of Medicine*, 331(10), 643-648.

- Holt, D.W.E. (2015). *Heat in U.S. prisons and jails: Corrections and the challenge of climate change*. Sabin Center for Climate Change Law, Columbia Law School.
- Holt v. Sarver*, 309 F.Supp. 362 (1970).
- Hope v. Pelzer et al.*, 536 U.S. 730 (2002).
- Hopp, S., Dominici, F., & Bobb, J.F. (2018). Medical diagnoses of heat wave-related hospital admissions in older adults. *Preventative Medicine*, 110, 81-85.
- Hoptowit v. Spellman*, 753 F.2d 779 (9<sup>th</sup> Cir. 1985).
- Hudson v. McMillian et al.*, 503 U.S. 1 (1992).
- Human Rights Clinic. (2014). *Deadly heat in Texas prisons*. University of Texas at Austin School of Law.
- Hutto v. Finney*, 437 U.S. 678 (1978).
- Ismail, N., & de Viggiani, N. (2018). Challenges for prison governors and staff in implementing the healthy prisons agenda in English prisons. *Public Health*, 162, 91-97.
- Itani, M., Ghaddar, N., Ghali, K., & Laouadi, A. (2020). Bioheat modeling of elderly and young for prediction of physiological and thermal responses in heat-stressful conditions. *Journal of Thermal Biology*, 88, 1-12.
- Jacobs, J.B. (1980). The prisoners' rights movement and its impacts, 1960-80. *Crime and Justice*, 2, 429-470.
- Jardine, D.S. (2007). Heat illness and heat stroke. *Pediatrics in Review*, 28(7), 249-258.
- Jay, O., Cramer, M.N., Ravanelli, N.M., & Hodder, S.G. (2015). Should electric fans be used during a heat wave? *Applied Ergonomics*, 46(Pt A), 137-143.

- Jewkes, Y. (2018). Just design: Healthy prisons and the architecture of hope. *Australian & New Zealand Journal of Criminology*, 51(3), 319-338.
- John Howard Association of Illinois [JHA]. (2018). *Shawnee Correctional Center: Inmate survey results from JHA's monitoring visit conducted October 11<sup>th</sup> 2018*.  
<https://static1.squarespace.com/static/5beab48285ede1f7e8102102/t/5d156197453129000176635a/1561682327778/JHA+Shawnee+CC+Inmate+Survey+2018.pdf>
- Johnson v. Texas Bd. of Criminal Justice*, 281 F. App'x 319 (5<sup>th</sup> Cir. 2008).
- Johnston, N. (2000). *Forms of constraint: A history of prison architecture*. University of Illinois Press.
- Jones, A. (2019, June 18). *Cruel and unusual punishment: When states don't provide air conditioning in prison*. Prison Policy Initiative.  
<https://www.prisonpolicy.org/blog/2019/06/18/air-conditioning/>
- Jones-El v. Berge*, 164 F.Supp.2d 1096 (W.D. Wis. 2001), *settlement agreement enforced*, WL 23109724 (W.D. Wis. 2003), *stay denied*, WL 420157 (W.D. Wis. 2004), *aff'd.*, 374 F.3d 541 (7<sup>th</sup> Cir. 2004).
- Kaeble, D., & Cowhig, M. (2018). *Correctional populations in the United States, 2016*. Bureau of Justice Statistics. (Report No. NCJ 251211). U.S. Department of Justice.
- Kates v. Bledsoe*, WL 4417656 (M.D. PA. 2013).
- Kates v. USP Lewisburg Warden*, 547 Fed. Appx. 93 (3<sup>rd</sup> Cir. 2013).
- Kelly, K. (2019, September 18). *The climate disaster inside America's prisons*. The New Republic. <https://newrepublic.com/article/155092/climate-disaster-inside-americas-prisons>

- Kentucky v. Dennison*, 65 U.S. (24 How.) 66 (1861).
- Kimball v. Benjamin*, 632 Fed.Appx. 231 (5<sup>th</sup> Cir. 2016).
- Kinkade, S., & Warhol, M. (2018). Beat the heat: Identification and TX of heat-related illness. *Journal of Family Practice*, 67(8), 468-472.
- Kloesel, K., Bartush, B., Banner, J, Brown, D., Lemory, J., Lin, X., McManus, G., Mullens, E., Nielsen-Gammon, J., Shafer, M., Sorenson, C., Sperry, S., Wildcat, D., & Ziolkowska, J. (2018). Southern great plains. In. D.R. Reidmiller, C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, & B.C. Stewart (Eds.), *Impacts, risks, and adaptation in the United States: Fourth national climate assessment, volume II* (pp. 987-1035). U.S. Global Change Research Program.
- Koo, D.T., Baron, R.C., & Rutherford, G.W. (1997). Transmission of mycobacterium tuberculosis in a California state prison, 1991. *American Journal of Public Health*, 87(2), 279-282.
- Kowalski, W.J. (2007). Airborne superbugs: Can hospital-acquired infections cause community epidemics? *Consulting-Specifying Engineer*, 42(3), 28-45.
- Krasnow, P.C. (1998). *Correctional facility design and detailing*. McGraw-Hill Companies.
- Kurland, P.B. (1986). The rise and fall of the “doctrine” of separation of powers. *Michigan Law Review*, 85(3), 592-613.
- Lapinsky, R.M. (1989). Prison conditions: The eighth amendment standard and the remedial authority of judges. *George Washington Law Review*, 57(5), 1387-1407.

- LaRossa, R. (2005). Grounded theory methods and qualitative family research. *Journal of Marriage and Family*, 67, 837-857.
- Leber, R. (2014, December 21). *This is what our hellish world will look like after we hit the global warming tipping point*. The New Republic.  
<https://newrepublic.com/article/120578/global-warming-threshold-what-2-degrees-celsius-36-f-looks>
- Levi, E.H. (1976). Some aspects of separation of powers. *Columbia Law Review*, 76(3), 371-391.
- Levine, M., LoVecchio, F., Ruha, A., Chu, G., & Roque, P. (2012). Influence of drug use on morbidity and mortality in heatstroke. *Journal of Medical Toxicology*, 8(3), 252-257.
- Lindsey, R. (2021, October 7). *Climate change: Atmospheric carbon dioxide*. Climate.  
<https://www.climate.gov/news-features/understanding-climate/climate-change-atmospheric-carbon-dioxide>
- Lindsey, R., & Dahlman, L. (2021, August 12). *Climate change: Global temperature*. Climate. <https://www.climate.gov/news-features/understanding-climate/climate-change-global-temperature>
- Loe v. Wilkinson*, 604 F. Supp. 130 (M.D. Pa. 1984).
- Lopez v. Robinson*, 914 F.2d 486 (4th Cir. 1990).
- Lowry, L. (2013, November 21). *In Texas, inmates and officers swelter*. The New York Times. <https://www.nytimes.com/2013/11/22/opinion/in-texas-inmates-and-officers-swelter.html>

- Lundgren, K., Kuklane, K., Gao, C., & Holmer, I. (2013). Effects of heat stress on working populations when facing climate change. *Industrial Health*, 51(1), 3-15.
- Lynch, M. (2004). Punishing images: Jail cam and the changing penal enterprise. *Punishment & Society*, 6(3), 255-270.
- Lyon, E. (2019, February 5). Texas prison air conditioning costs much lower than expected. *Prison Legal News*, 30(2), 45.  
<https://www.prisonlegalnews.org/news/2019/feb/5/texas-prison-air-conditioning-costs-much-lower-expected/>
- Madrid v. Gomez*, 889 F. Supp. 1146 (N.D. Cal. 1995).
- Martin, B. (2013, September 17). *Guards may join inmates in complaints over heat in Texas prisons*. Dallas Morning News.  
<https://www.dallasnews.com/news/texas/2013/09/18/guards-may-join-inmates-in-complaints-over-heat-in-texas-prisons/>
- Martone v. Livingston*, WL 3534696 (S.D. Tex. 2014).
- Maruschak, L.M., Berzofsky, M., & Unangst, J. (2015). Medical problems of state and federal prisoners and jail inmates, 2011-12. *Bureau of Justice Statistics*. (Report No. NCJ 248491). U.S. Department of Justice.
- Mastering intervention in prisons. (1979). *The Yale Law Journal*, 88(5), 1062-1091.
- Matusiak, M.C., Vaughn, M.S., & del Carmen, R.V. (2014). The progression of “evolving standards of decency” in U.S. Supreme Court decisions. *Criminal Justice Review*, 39(3), 253-271.
- McCullough, J. (2019, September 10). *We failed as an agency: Texas prison officials admit violating court order on air conditioned units for inmates*. The Texas

Tribune. <https://www.texastribune.org/2019/09/10/texas-prison-bryan-collier-air-conditioning-violation/#coral-talk>

Melton, A. (2014, June 2). *The heated battle for cooled Texas prisons*. Texas Monthly.

<https://www.texasmonthly.com/politics/the-heated-battle-for-cooled-texas-prisons/>

*Michenfelder v. Sumner*, 860 F.2d 328 (9<sup>th</sup> Cir. 1988).

Mitchell, D. (2003). Prisoners' constitutional rights. *Criminal Justice Studies*, 16(3), 245-264.

Mitka, M. (2004). Aging prisoners stressing health care system. *Journal of American Medical Association*, 292(4), 423-424.

Montick, D.A. (1983). Challenging cruel and unusual conditions of prison confinement: Refining the totality of conditions approach. *Howard Law Journal*, 26(1), 227-266.

Mooney, C., & Muyskens, J. (2019, September 11). 2°C: *Beyond the limit dangerous new hot zones are spreading around the world*. The Washington Post.

<https://www.washingtonpost.com/graphics/2019/national/climate-environment/climate-change-world/?noredirect=on>

*Moore v. Monahan*, WL 111299 (N.D. Ill. 2008), *amended complaint*, WL 310963 (N.D. Ill. 2009), *aff'd in part*, 428 Fed.Appx. 626 (7<sup>th</sup> Cir. 2011).

Moran, D., Jewkes, Y., & Turner, J. (2016). Prison design and carceral space. In Y.

Jewkes, B. Crewe, & J. Bennett (Eds.), *Handbook on prisons* (pp. 114-130).

Routledge.



- Morris, N.B., English, T., Hospers, L., Capon, A., & Jay, O. (2019). The effects of electric fan use under differing resting heat index conditions: A clinical trial. *Annals of Internal Medicine*, *171*(9), 675-677.
- Murphy, G.F. (1973). The courts look at prisoners' rights a review. *Criminology*, *10*(4), 441-460.
- Murray, E.R. (2009). Improving communication between public health and corrections: The tuberculosis case. *Corrections Today*, *71*(2), 26-28.
- Nadel, M.R., & Mears, D.P. (2020). Building with no end in sight: The theory and effects of prison architecture. *Corrections: Policy, Practice and Research*, *5*(3), 188-205.
- Nalbone, J.T. (2004). *Evaluation of building and occupant response to temperature and humidity: Non-traditional heat stress considerations: A comparison of different construction types used by the Texas Department of Criminal Justice*. [Unpublished doctoral dissertation]. Texas A&M University.
- National Aeronautics and Space Administration. (2021, November 9). *Climate change: How do we know?*. <https://climate.nasa.gov/evidence/>
- National Collaborating Centre for Environmental Health. (2010). *Drugs*. <https://www.ncceh.ca/content/drugs>
- National Oceanic and Atmospheric Administration. (2020, January 15). *2019 was 2<sup>nd</sup> hottest year on record for Earth say NOAA, NASA*. <https://www.noaa.gov/news/2019-was-2nd-hottest-year-on-record-for-earth-say-noaa-nasa>
- National Weather Service [NWS] & National Oceanic and Atmospheric Administration [NOAA]. (n.d.). *What is the heat index?* <https://www.weather.gov/ama/heatindex>

- Nembrini, P.G. (2005). *Water, sanitation, hygiene and habitat in prisons*. International Committee of the Red Cross.
- Newman, A. (1992). Eighth Amendment: Cruel and unusual punishment and conditions cases. *Journal of Criminal Law and Criminology*, 82(4), 979-999.
- Nolasco, C.A., Vaughn, M.S., & del Carmen, R.V. (2010). Toward a new methodology for legal research in criminal justice. *Journal of Criminal Justice Education*, 21(1), 1-23.
- Obataiye v. Lanigan*, WL 4727943 (D. N.J. 2019), WL 3019887 (D. N.J. 2018), WL 5387626 (D. N.J. 2016).
- Occupational Safety and Health Administration [OSHA]. (n.d.). *Using the heat index: A guide for employers*. U.S. Department of Labor. <https://www.nalc.org/workplace-issues/body/OSHA-All-in-One-Heat-Guide.pdf>
- Ohio Department of Mental Health and Addiction Services [OhioMHAS]. (2016). *Heat-related illness in individuals using psychiatric medication*. <https://mha.ohio.gov/wps/portal/gov/mha/>
- O'Keefe, M.L. (2008). Administrative segregation from within: A corrections perspective. *The Prison Journal*, 88(1), 123-143.
- Page, L.A., Hajat, S., Kovats, R.S., & Howard, L.M. (2012). Temperature-related deaths in people with psychosis, dementia and substance misuse. *The British Journal of Psychiatry*, 200(6), 485-490.
- Petkova, E.P., Bader, D.A., Anderson, G.B., Horton, R.M., Knowlton, K., & Kinney, P.L. (2014). Heat-related mortality in a warming climate: Projections for 12 U.S.

- cities. *International Journal of Environmental Research and Public Health*, 11(11), 11371-11383.
- Phillips, L. (2004). Expanding jails while enhancing existing facilities. *Sheriff*, 56(1), 30-32.
- Phillips, T.S., & Griebel, M.A. (2003). *Building type basics for justice facilities*. John Wiley & Sons.
- Phillips v. Governor, State of Georgia*, WL 9513011 (11<sup>th</sup> Cir. 2017).
- Powitz, R.W. (2005). The strange world of jail ventilation standards. *American Jails*, 19(3), 82-83.
- Prison Litigation Reform Act, 18 U.S.C. Section 3626(a)(1)(1996).
- Prudent, N., Houghton, A., & Luber, G. (2016). Assessing climate change and health vulnerability at the local level: Travis County, Texas. *Disasters*, 40(4), 740-752.
- Pugh v. Locke*, 406 F. Supp. 318 (1976).
- Ramos v. Lamm*, 639 F.2d 559 (10<sup>th</sup> Cir. 1980).
- Reimer, G. (2008). The graying of the U.S. prisoner population. *Journal of Correctional Health Care*, 14(3), 202-208.
- Reinert, A.A. (2009). Eighth Amendment gaps: Can conditions of confinement litigation benefit from proportionality theory? *Fordham Urban Law Journal*, 36(1), 53-87.
- Reynolds, S.E. (1985). Hanging in the balance: Ninth circuit analysis of cruel and unusual punishment claims. *Willamette Law Review*, 21(2), 305-326.
- Rhodes v. Chapman*, 452 U.S. 337 (1981).

- Richman, M. (2018). *Veterans and the criminal justice system*. U.S. Department of Veterans Affairs. <https://www.research.va.gov/currents/0918-VA-researcher-examines-Vets-who-collide-with-criminal-justice-system.cfm>
- Rim, D., Wallace, L.A., & Persily, A.K. (2013). Indoor ultrafine particles of outdoor origin: Importance of window opening area and fan operation condition. *Environmental Science & Technology*, 47(4), 1922-1929.
- Robbins, I.P. (1978). Federalism, state prison reform, and evolving standards of human decency: On guessing, stressing, and redressing constitutional rights. *Kansas Law Review*, 26, 551-569.
- Robertson, J.E. (2006). The rehnquist court and the ‘turnerization’ of prisoners’ rights. *New York City Law Review*, 10(1), 97-125.
- Rogers v. Scott*, 695 Fed.Appx. 155 (7<sup>th</sup> Cir. 2017).
- Roman v. Hileman*, WL 7027487 (S.D. Ill. 2020), WL 3045622 (S.D. Ill. 2018).
- Rubin, A. (1992). Prison law – Before and after *Wilson v. Seiter*: Cases challenging the conditions of confinement in the Ninth Circuit. *Golden Gate University Law Review*, 22(1), 207-234.
- Ruffin v. Commonwealth*, 62 Va. (21 Gratt.) 790 (1871).
- Sanders v. Sheahan*, 198 F.3d 626 (7<sup>th</sup> Cir. 1999).
- Sandin v. Conner*, 515 U.S. 472 (1995).
- Sawyer, W., & Wagner, P. (2020). *Mass incarceration: The whole pie 2020*. Prison Policy Initiative. <https://www.prisonpolicy.org/reports/pie2020.html>
- Shelby County Jail Inmates v. Westlake*, 798 F.2d 1085 (7<sup>th</sup> Cir. 1986).

- Sheldon, P., & Atherton, E. (2017). *Why indoor air quality is the sleeping monster in correctional facilities*. <https://www.corrections1.com/jail-management/articles/why-indoor-air-quality-is-the-sleeping-monster-in-correctional-facilities-empscuuINbXC1azF/>
- Sherman, E.F. (1987). Class actions and duplicative litigation. *Indiana Law Journal*, 62(3), 507-560.
- Smith, P.S. (2006). The effects of solitary confinement on prison inmates: A brief history and review of the literature. *Crime and Justice*, 34(1), 441-528.
- Smith v. Dart*, 803 F.3d 304 (7<sup>th</sup> Cir. 2015).
- Smith v. Sullivan*, 553 F.2d 373 (5<sup>th</sup> Cir. 1977).
- Spinaris, C.G. (2020). Mission critical: Correctional employee health and wellness. *American Jails*, 34(2), 8-14.
- Stanton-Ife, J. (2016, Winter). The limits of law. In E.N. Zalta (Ed.), *The Stanford encyclopedia of philosophy*. Department of Philosophy, Sandford University. <https://plato.stanford.edu/archives/win2016/entries/law-limits/>
- Steele v. Knight*, WL 7117155 (S.D. Ind. 2016), WL 3510094 (S.D. Ind. 2014).
- Strickler v. Waters*, 989 F.2d 1375 (4<sup>th</sup> Cir. 1993).
- Strope v. Sebelius*, 189 Fed.Appx. 763 (10<sup>th</sup> Cir. 2006).
- Taggart, W.A. (1989). Redefining the power of the federal judiciary: The impact of court-ordered prison reform on state expenditures for corrections. *Law & Society Review*, 23(2), 241-271.
- Tanglis, M., & Devine, S. (2018). *Extreme heat and unprotected workers: Public Citizen petitions OSHA to protect the millions of workers who labor in dangerous*

*temperatures*. Public Citizen. [https://www.citizen.org/wp-content/uploads/extreme\\_heat\\_and\\_unprotected\\_workers.pdf](https://www.citizen.org/wp-content/uploads/extreme_heat_and_unprotected_workers.pdf)

Terrill, G.R., & Unruh, T.L. (1979). Eighth amendment challenges to conditions of confinement: State prison reform by federal judicial decree. *Washburn Law Journal*, 18(2), 288-309.

Title 42 U.S. Code Section 1983, Civil Rights Act of 1871.

*Toussaint v. McCarthy*, 597 F.Supp. 1388 (N.D. Cal. 1984).

*Trainauskas v. Fralicker*, WL 1183867 (S.D. Ill. 2018), WL 5914825 (S.D. Ill. 2018), WL 4214507 (S.D. Ill. 2018).

Tribune News Service, (2021, May 31). *Bill to cool Texas' prisons dead*. Arkansas Democrat. <https://www.arkansasonline.com/news/2021/may/31/bill-to-cool-texas-prisons-dead/>

*Trop v. Dulles*, 356 U.S. 86 (1958).

Troyer, G. (2012). *Monitoring visit to Shawnee Correctional Center*.

<https://static1.squarespace.com/static/5beab48285ede1f7e8102102/t/5d15614c8993040001afa52b/1561682253732/Shawnee-Report-2012.pdf>

Trumbull, W.N., & Witte, A.D. (1981). Determinants of the costs of operating large-scale prisons with implications for the cost of correctional standards. *Law & Society Review*, 16(1), 115-138.

*Tucker v. Rose*, 955 F. Supp. 810 (N.D. Ohio 1997).

*Turner v. Safley*, 482 U.S. 78 (1987).

Uejio, C.K., Tamerius, J.D., Vredenburg, J., Asaeda, G., Isaacs, D.A., Braun, J., Quinn, A., & Freese, J.P. (2016). Summer indoor heat exposure and respiratory and

cardiovascular distress calls in New York City, NY, U.S. *Indoor Air*, 26(4), 594-604.

USAGov. (2021, July 28). *Branches of the U.S. Government*.

<https://www.usa.gov/branches-of-government>

U.S. Bureau of Labor Statistics. (2020a). *Table 2. Fatal occupational injuries for selected events or exposures, 2015-19*. U.S. Department of Labor.

<https://www.bls.gov/news.release/cfoi.t02.htm>

U.S. Bureau of Labor Statistics. (2020b). *Correctional officers and jailers*. (Report No. 33-3012). <https://www.bls.gov/oes/current/oes333012.htm>

U.S. Centers for Disease Control and Prevention. (2021). *Extreme heat*.

<https://www.cdc.gov/disasters/extremeheat/index.html>

U.S. Centers for Disease Control and Prevention. (2020). *Basic facts about mold and dampness*. <https://www.cdc.gov/mold/faqs.htm#>

U.S. Centers for Disease Control and Prevention. (2018). *Heat stress – Heat related illness*. <https://www.cdc.gov/niosh/topics/heatstress/heatrelillness.html>

U.S. Centers for Disease Control and Prevention. (2017a). *About extreme heat*.

[https://www.cdc.gov/disasters/extremeheat/heat\\_guide.html](https://www.cdc.gov/disasters/extremeheat/heat_guide.html)

U.S. Centers for Disease Control and Prevention. (2017b). *Heat and people with chronic medical conditions*. <https://www.cdc.gov/disasters/extremeheat/medical.html>

U.S. Centers for Disease Control and Prevention. (2017c). *Heat and older adults*.

<https://www.cdc.gov/disasters/extremeheat/older-adults-heat.html>

U.S. Centers for Disease Control and Prevention. (2017d). *Tips for preventing heat-related illness*. <https://www.cdc.gov/disasters/extremeheat/heattips.html>

- U.S. Centers for Disease Control and Prevention. (2013a). *Building ventilation*.  
<https://www.cdc.gov/niosh/topics/indoorenv/buildingventilation.html>
- U.S. Centers for Disease Control and Prevention. (2013b). Heat-related deaths after an extreme heat event – Four states, 2012, and United States, 1999-2009. *Morbidity and Mortality Weekly Report*, 62(22), 433-436.
- U.S. Centers for Disease Control and Prevention. (2012). *Frequently asked questions (FAQ) about extreme heat*. <https://www.cdc.gov/disasters/extremeheat/faq.html>
- U.S. Department of Energy. (n.d.). *Air conditioning*.  
<https://www.energy.gov/energysaver/air-conditioning>
- U.S. Department of Justice. (2016). *Report and recommendations concerning the use of restrictive housing*. <https://www.justice.gov/archives/dag/file/815551/download>
- U.S. Department of Justice. Office of Justice Programs. Bureau of Justice Statistics. (2006). *Census of Jail Facilities* (ICPSR 26602; Version V1) [Data set]. Inter-university Consortium for Political and Social Research [ICPSR].  
<https://doi.org/10.3886/ICPSR26602.v1>
- U.S. Department of Justice. Office of Justice Programs. Bureau of Justice Statistics. (2005). *Census of state and federal adult correctional facilities* (ICPSR 24642; Version V3) [Data set]. Inter-university Consortium for Political and Social Research [ICPSR]. <https://doi.org/10.3886/ICPSR24642.v3>
- U.S. Energy Information Administration. (2011). *Air conditioning in nearly 100 million U.S. homes*. <https://www.eia.gov/consumption/residential/reports/2009/air-conditioning.php>



U.S. Environmental Protection Agency [EPA] & U.S. Centers for Disease Control and Prevention [CDC]. (2016). *Climate change and extreme heat: What you can do to prepare*. (Report No. 430-R-16-061).

<https://archive.epa.gov/epa/sites/production/files/2016-10/documents/extreme-heat-guidebook.pdf>

U.S. Pharmacist. (2019). *These medications take the fun out of sun*.

<https://www.uspharmacist.com/article/these-medications-take-the-fun-out-of-sun>

Varland, B.W. (2005). Marking the progress of maturing society: Reconsidering the constitutionality of death penalty application in light of evolving standards of decency. *Hamline Law Review*, 28(2), 311-340.

*Vasquez v. Frank*, WL 2740894 (W.D. Wis. 2005), *aff'd. in part, vacated in part*, 209 Fed.Appx. 538 (7<sup>th</sup> Cir. 2006), *on remand*, WL 3254702 (W.D. Wis. 2007), *aff'd.*, 290 Fed.Appx. 927 (7<sup>th</sup> Cir. 2008).

Vaughn, M.S. (1997). Civil liability against prison officials for prescribing and dispensing medication and drugs to prison inmates. *Journal of Legal Medicine*, 18(3), 315-344.

Vaughn, M.S., & Carroll, L. (1998). Separate and unequal: Prison versus free-world medical care. *Justice Quarterly*, 15(1), 3-40.

Vaughn, M.S., & del Carmen, R.V. (1995). Civil liability against prison officials for inmate-on-inmate assault: Where are we and where have we been. *Prison Journal*, 75(1), 69-89.

Vaughn, M.S., & Smith, L.G. (1999). Practicing penal harm medicine in the United States: Prisoners' voices from jail. *Justice Quarterly*, 16(1), 175-231.

- Vinning-El v. Long*, 482 F.3d 923 (7<sup>th</sup> Cir. 2007).
- Vollstedt, M., & Rezat, S. (2019). An introduction to grounded theory with a special focus on axial coding and the coding paradigm. In G. Kaiser & N. Presmeg (Eds.), *Compendium for early career researchers in mathematics education* (pp. 81-100). Springer International Publishing.
- Vose, R.S., Easterling, D.R., Kunkel, K.E., LeGrande, A.N., & Wehner, M.F. (2017). Temperature changes in the United States. In D.J. Wuebbles, D.W. Fahey, K.A. Hibbard, D.J. Dokken, B.C. Stewart, & T.K. Maycock (Eds.), *Climate science special report: Fourth national climate assessment, volume I* (pp. 185-206). U.S. Global Change Research Program.
- Walker v. Schult*, 717 F.3d 119 (2<sup>nd</sup> Cir. 2013).
- Waters, T.A. (2001). Heat illness: Tips for recognition and treatment. *Cleveland Clinic Journal of Medicine*, 68(8), 685-687.
- Webb v. Livingston*, 618 Fed.Appx. 201 (5<sup>th</sup> Cir. 2015).
- Weems v. United States*, 217 U.S. 349 (1910).
- Wells, E.M., Dearborn, D.G., Jackson, L.W. (2012). Activity change in response to bad air quality, National health and nutrition examination survey, 2007-2010. *PLoS One*, 7(11), 50526.
- Westling, W.T., & Rasmussen, P. (1985). Prisoners' access to the courts: Legal requirements and practical realities. *Loyola University Law Journal*, 16, 273-317.
- Wexler, R.K. (2002). Evaluation and treatment of heat-related illnesses. *American Family Physician*, 65(11), 2307-2314.

- WFAA-TV Channel 8. (2015, December 15). *Exclusive: Guard says Texas prisons a 'living hell'*. <https://www.wfaa.com/article/news/local/investigates/exclusive-guard-says-texas-prisons-a-living-hell/22333967>
- White v. Monohan*, 326 Fed. Appx. 385 (7<sup>th</sup> Cir. 2009).
- Wicks v. Miss. State Emp't Servs.*, 41 F.3d 991 (5<sup>th</sup> Cir. 1995).
- Williams, A.A., Spengler, J.D., Catalano, P., Allen, J.G., & Cedeno-Laurent, J.G. (2019). Building vulnerability in a changing climate: Indoor temperature exposures and health outcomes in older adults living in public housing during an extreme heat event in Cambridge, MA. *International Journal of Environmental Research & Public Health*, 16(13), 2373-2387.
- Willis v. Barksdale*, 625 F. Supp. 411 (1985).
- Willis v. Hulick*, WL 358836 (S.D. Ill. 2010).
- Wilper, A.P., Woolhandler, S., Boyd, J.W., Lasser, K.E., McCormick, D., Bor, D.H., & Himmelstein, D.U. (2009). The health and health care of US prisoners: Results of a nationwide survey. *American Journal of Public Health*, 99(4), 666-672.
- Wilson v. Seiter*, 501 U.S. 294 (1991).
- Woods v. Edwards*, 51 F.3d 577 (5<sup>th</sup> Cir. 1995).
- Wright, L.N., & Northrup, M.K. (2001). Examining the health risks for corrections professionals. *Corrections Today*, 63(6), 106-109.
- Yates v. Collier*, 868 F.3d 354 (5<sup>th</sup> Cir. 2017).
- Younger v. Harris*, 401 U.S. 37 (1971).
- Zhang, X., Noda, S., Himeno, R., Liu, H. (2016). Cardiovascular disease-induced thermal responses during passive heat stress: An integrated computational study.

*International Journal for Numerical Methods in Biomedical Engineering*, 32(11), 2768.

Zhang, Y., Yu, C., & Wang, L. (2017). Temperature exposure during pregnancy and birth outcomes: An updated systematic review of epidemiological evidence.

*Environmental Pollution*, 225, 700-712.

Zick, T. (1991). Prisoners' rights. *The Georgetown Law Journal*, 79, 1253-1295.

## VITA

### JAZMIN E. PALACIOS

Department of Criminal Justice & Criminology  
 Sam Houston State University  
 P.O. Box 2296  
 Huntsville, TX 77341-2296

---

#### EDUCATION

- 2021 – Present      Ph.D., Criminal Justice, Sam Houston State University
- 2018 – 2021      M.A., Criminal Justice and Criminology, Sam Houston State University  
*Thesis:* Inmate Constitutional Rights and Exposure to Extreme Heat in Correctional Facilities.  
 Committee: Drs. Michael S. Vaughn (chair); Jurg Gerber; Dennis Longmire.
- 2016 – 2018      B.A., Criminal Justice, Sam Houston State University, *with Honors, Summa Cum Laude*

#### RESEARCH INTERESTS

Institutional corrections, correctional health care, and prisoner's rights.

#### RESEARCH EXPERIENCE

- 2021 – Present      Doctoral Research Assistant, Department of Criminal Justice and Criminology, Sam Houston State University.
- 2018 – 2020      Graduate Research Assistant, Department of Criminal Justice and Criminology, Sam Houston State University.
- 2018      Interviewer. Measured the effects of correctional officer stress on officer well-being and the prison workplace. Developed a practical index of officer stress for use by correctional agencies. PI: John Hepburn; Co-PI/Texas Site Coordinator: Melinda Tasca; Co-PI/Texas Site Co-Coordinator: H. Daniel Butler. Funded by the National Institute of Justice (Award No. 2014-IJ-CX-0026). \$666,268.

## PUBLICATIONS

Palacios, J. E., Butler, H. D., & Griffin III, O. H. (2020). A systematic review of Section 1983 lawsuits filed by Texas inmates. *Corrections: Policy, Practice and Research*.

### *Manuscripts in Progress*

Palacios, J. E., & Vaughn, M. S. (2021). Inmate constitutional rights and exposure to extreme heat in correctional facilities.

## CONFERENCE PRESENTATIONS

Palacios, J. E., & Vaughn, M. S. (2021, November). *Exposing inmates to extreme heat in correctional facilities as a constitutional violation*. Abstract accepted for the American Society of Criminology Annual Meeting, Chicago, IL.

Palacios, J. E., & Vaughn, M. S. (2020, March). *Inmate constitutional rights and exposure to extreme heat in correctional facilities*. Abstract accepted for the Academy of Criminal Justice Sciences Annual Meeting, San Antonio, TX. [Cancelled].

Palacios, J. E., & Butler, H. D. (2018, November). *An examination of the relationship between inmate litigation and institutional characteristics*. Poster presented at the American Society of Criminology Annual Meeting, Atlanta, GA.

Palacios, J. E., Butler, H. D., & Neibuhr, N. (2017, November). *A systematic review of federal court rulings on Texas prison conditions*. Poster presented at the American Society of Criminology Annual Meeting, Philadelphia, PA.

Palacios, J. E., & Butler, H. D. (2017, April). *A systematic review of federal and state court rulings on Texas prison conditions*. Poster presented at the Elliot T. Bower's Honors College Undergraduate Research Symposium, Huntsville, TX.

## COMMUNITY SERVICE

2017	SAAFE House, volunteer
2016	The Good Shepherd Mission, volunteer
2016	Boys and Girls Club, volunteer
2016	Hospitality House, volunteer

## SAM HOUSTON STATE UNIVERSITY SERVICE

2021 – Present	Criminal Justice Graduate Student Organization, Teaching and Development Committee Member
2019 – Present	Criminal Justice Graduate Student Organization, Peer Mentor

2018 – 2020	Criminal Justice Graduate Student Organization, Service Committee Member
2018 – 2020	Latinx Graduate Student Organization, Secretary
2016 – 2018	Food Pantry@SHSU, Secretary/Volunteer Coordinator
2016 – 2017	Kats for CASA (Court Appointed Special Advocate), Member
2016 – 2017	Freshman Leadership Program, Freshman Leader
2016 – 2017	National Organization of Hispanics in Criminal Justice, Member
2016 – 2017	Student Alumni Association, Member

### **HONORS AND AWARDS**

2020 – Present	R.O.A.D. to PhD Program, Scholar
2018 – 2020	Graduate Studies Bridge to A.S.P.I.R.E. Program, Scholar
2016 – 2020	Smith-Hutson Scholarship, Recipient
2019 – 2020	Graduate Research Summer Fellowship
2019 – 2020	John Lee McMaster Criminal Justice Scholarship
2018, 2019, 2020	Sam Houston State University Graduate Studies Scholarship, Recipient
2017 – 2018	McNair Scholars Program, Scholar
2017 – 2018	Raven Scholar, Recipient
2017 – 2018	Elliot T. Bower's Honors College, Honors Student
2017	Student Travel Award for Professional Presentation, Recipient
2016 – 2018	Sam Houston State University, College of Criminal Justice Dean's List
2016 – 2018	Sam Houston State University, President's List

### **PROFESSIONAL AFFILIATIONS**

American Society of Criminology

Academy of Criminal Justice Sciences