COVID-19 AND COLLECTIVE TRAUMA: A QUALITATIVE DESCRIPTIVE STUDY EXPLORING THE EXPERIENCE OF A PANDEMIC FROM A NURSING PERSPECTIVE

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ABSTRACT

The COVID-19 pandemic can be described as a collective trauma – a shared traumatic experience that will continue to impact physical, mental and psychosocial health for years to come. For nurses, the impact was compounded by existing workplace concerns including burnout, traumatic stress, and unhealthy work environments that also contribute to poor patient outcomes. While there is broad recognition of the importance of nurse well-being to public health, prior research emphasized individual-level causes and interventions that have had limited impact. Therefore, the purpose of this study was to explore the experience of nurses in the aftermath of the COVID-19 pandemic to develop knowledge of the structural and social factors that influence nurse well-being.

This qualitative descriptive study employed collective trauma as a sensitizing framework and was conducted in two phases. Phase I results indicated that two years into the pandemic, disrupted connections between nurses and their peers, patients, and the community challenged participants' sense of meaning and purpose. Phase II data, collected two years later, extended these findings by illustrating how the pandemic's long-term impact on collective identity and social capital intersects with systemic deficiencies in the work environment to influence nurse well-being.

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DEDICATION

This dissertation is dedicated to my family, whose patience and support made the last four years possible – my incredible husband, Doug, who encouraged and believed in me, and our children Johanna, Lukas, Paolo and Marco. This dissertation is also dedicated to every frontline worker who continued to show up for the people who needed you throughout the COVID-19 pandemic. May we learn from their experiences and pass along that knowledge, so that future generations will be better prepared to meet the next collective crisis. Finally, to every nurse who took the time to complete an interview as part of this dissertation project – I am forever grateful to and inspired by you.

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TABLE OF CONTENTS

LIST OF TABLES viii
LIST OF FIGURES ix
CHAPTER 1: INTRODUCTION 1
Significance 2
Purpose 2
Conceptual Model 3
Major Components 5
Basic Assumptions 6
Conceptual Definitions 6
Operational Definitions 10
Philosophical Underpinnings 11
Psychological Trauma & Social Structures 11
Social and Medical History of Epidemics 12
Social Constructivism 14
Descriptions of Manuscripts 15
Summary 16
CHAPTER 2: REVIEW OF LITERATURE 18
Pre-pandemic occupational well-being of nurses 18
Burnout 19
Traumatic Stress 20
Resilience 21
Impact of Work Environment 23
Impact of the pandemic on nurse well-being 26
Collective Trauma 28
Origin of Collective Trauma 29
Distinguishing Individual and Collective Trauma 30
Key Concepts 31
Long-Term Impacts 32
Gaps in the Literature 33

Summary 37
CHAPTER 3: METHODOLOGY 38
Design 38
Sample & Setting 40
Human Subjects Protection 42
Instruments 43
Procedures 44
Data Management 45
Strengths 46
Limitations 47
Conclusion 48
CHAPTER 4: NURSE EXPERIENCES TWO YEARS INTO THE COVID-19 PANDEMIC MANUSCRIPT 49
CHAPTER 5: NURSE EXPERIENCES OF COLLECTIVE TRAUMA MANUSCRIPT 50
Abstract 51
Introduction 52
Review of Literature 53
Conceptual Model 54
Methods 56
Sample and Setting 57
Ethical Considerations 58
Data Collection 58
Data Analysis 59
Trustworthiness 59
Results 60
Sample 60
Themes 62
Discussion 73
Limitations 81
Conclusion 81
REFERENCES 82

APPENDIX A: NOTIFICATION OF UMCIRB APPROVAL 105
APPENDIX B: NOTIFICATION OF ADVOCATE HEALTH IRB APPROVAL 106
APPENDIX C: CARING SCIENCE, MINDFUL PRACTICE COURSE DEMOGRAPHIC QUESTIONS 107
APPENDIX D: RECRUITMENT PROTOCOL AND DEMOGRAPHIC SURVEY 108
APPENDIX E: INTERVIEW PROTOCOL AND QUESTIONS 110

LIST OF TABLES

1. Components of Collective Trauma Framework…….5

2. Structural Frameworks……...25

3. Summary of Collective Trauma Nursing Research……... 34

4. Participant Characteristics……. 59

5. Themes, subthemes and exemplars……61

LIST OF FIGURES

1. Collective Trauma Conceptual Model…….6, 55
2. Conflict between global and situational meaning example……. 9
3. Public Valorization…….. 14
4. Super Nurse……..14
5. Are Front-line Workers Still Heroes? ……. 14

CHAPTER I: INTRODUCTION

Background

Millions of people around the globe remember a moment in 2020 when their lives unexpectedly changed, as the COVID-19 pandemic radically altered patterns of life in every corner of the world. Because of its immense impact on the physical, mental, psychosocial, and economic health of communities, the experience of COVID-19 can be described as a collective trauma – a "cataclysmic" blow to collective well-being (Cypress, 2021; Hirschberger, 2018). For healthcare workers (HCW), the pandemic destabilized an already precarious situation. High rates of traumatic stress, moral injury, and increased risks for suicide and substance use have been recognized for decades as factors in burnout and chronically high nurse turnover rates (Kelly et al., 2021; Schlak et al., 2021). The pandemic created additional risks to well-being – nurses have experienced the highest rates of acute stress, depression, and anxiety (Shechter et al., 2021) and of COVID-related hospitalization and death compared to other HCW (Kambhampati, 2020; Spencer & Jewett, 2022).

While the masking, media coverage, and restrictions on gatherings that marked the most obvious changes in daily life have faded, COVID-19's impact will ripple for decades, following the trajectory of previous disasters, both natural and human-made (Aassve et al., 2021; Karenian et al., 2011; Possick et al., 2017; Saul, 2014). Since January 2021, vaccines, therapeutics, and increased population immunity have gradually made the coronavirus less disruptive, but collective well-being will continue to be impacted in ways that have less to do with the virus, and more to do with the transmission of shared traumatic experiences (Silver et al., 2021).

Significance

A healthy nursing workforce is critical to the health of the nation, but an existing epidemic of burnout (Bakhamis et al., 2019) coupled with the broader impact of the COVID-19 pandemic threatens the health of all who rely on nurses, physicians and other clinicians for health promotion and treatment (National Academy of Medicine [NAM], 2022). Existing research demonstrates the link between nurse well-being and patient outcomes – high levels of burnout among nurses are associated with higher odds of patient mortality, failure to rescue and prolonged length of stay (Schlak et al., 2021), and higher rates of healthcare-associated infection (Cimiotti et al., 2012). Nurses were experiencing burnout and trauma long before the pandemic, and the cumulative effects, compounded by the impact of COVID-19, will be felt in the health care sector for years to come (Chan et al., 2021; French et al., 2022; Martin et al., 2023; National Academies of Sciences, Engineering, and Medicine [NASEM], 2021; Shutters, 2021).

While there is broad recognition of the importance of clinician and nurse well-being and the urgency to act to prevent burnout, most studies have focused on individual-level interventions that have had limited to no demonstrable impact (Jung et al., 2021; Kunzler et al., 2020; Ruotsalainen et al., 2015). Further, there is a lack of knowledge of effective ways to address the social and structural causes at the root of the issue. To bridge this gap, it is essential to understand nurses' perspectives of factors that impact their occupational well-being.

Purpose

The purpose of this study is to explore the experience of nurses in the aftermath of the COVID-19 pandemic to develop knowledge of the structural factors that support nurse well-being. Addressing nurse well-being requires research into the specific experiences of nurses, who have unique knowledge of the healthcare system due to their proximity to patients and to interprofessional peers. Structural factors shape these experiences, including the intersection of

gender and power – 90% of nurses are female, and directly work under a male-dominated hierarchy of hospital executives and physicians (Lingel et al., 2022). Gender dynamics, societal expectations of nurses, real or perceived lack of influence, and the reality of a deeply flawed healthcare system intersect to create an unhealthy practice environment (Artz et al., 2022; USDHHS, 2022). As the crisis phase of the pandemic recedes, a major threat to public health persists with staffing shortages, mental health concerns, trauma and burnout continuing to impact the nursing profession. Understanding the nursing perspective is essential to addressing these continued challenges at the structural level.

Research Questions:

This research project explored the long-term impact of collective trauma on the nursing profession.

1. How do nurses describe their experiences in the aftermath of the COVID-19 pandemic?
2. How has social capital among nurses been impacted by the COVID-19 pandemic?
3. How do nurses make meaning of their experiences after collective trauma?
4. What are the structural barriers and facilitators that nurses perceive as prohibitive or necessary to occupational well-being?

Conceptual Framework

Collective trauma is a phenomenon experienced by and transmitted among members of a group, many of whom may not have directly experienced a traumatic event but are deeply affected (Cypress, 2021; Erikson, 1994; Holman & Silver, 2011). Sociologist Kai Erikson is credited with the first use of the term and defined collective trauma as,

> (A) blow to the basic tissues of social life that damages the bonds attaching people

> together and impairs the prevailing sense of communality. The collective trauma works its way slowly and even insidiously into the awareness of those who suffer from it, so it does not have the quality of suddenness normally associated with 'trauma'" (1991, p. 460).

Collective trauma provides a beneficial framework to explore the impact of the pandemic on nurses, because it expands the notion of individual trauma, acknowledges the long-term after-effects, and incorporates the social and structural factors that shape collective well-being. Pre-existing factors may increase a collective group's vulnerability to collective trauma. These factors often intersect and may include prior experience of trauma, physical vulnerability, and social vulnerability (Possick et al., 2017). In the case of nursing, pre-existing burnout and traumatic stress may have sensitized nurses to the additional impact of COVID-19, increasing their vulnerability to collective trauma (Garfin et al., 2015).

The term "collective trauma" is frequently used in reference to traumatic events that impact communities, but most often without a specific definition or explanation of the relationships between the traumatic experience and the collective outcomes. In addition, there is not yet a formalized collective trauma theory – construction of the conceptual model developed for this study is based on a review of literature from disciplines that included nursing, psychology, sociology, oral history, and political and economic history. In the absence of an existing theory, synthesis is a recommended strategy when an existing integrated "whole" has not been formulated to explain a phenomenon (Walker & Avant, 2018).

There are three steps in the theory synthesis process: identifying focal concepts, reviewing the literature to identify additional variables and relationships, and organizing the focal concepts, factors, and relationships into a representation of the phenomena. The model

outlined in Table 1 and in Figure 1 follows Walker and Avant's antecedent, throughput, outcomes, and consequences format for concept analysis (2018).

Table 1

Components of Collective Trauma Conceptual Model

Antecedents	Throughput/ Process	Outcomes	Consequences	Empirical Referents
Disaster Collective Group	Collective trauma fragments social bonds → Crisis of Meaning → Attempt to adapt	+Restored Meaning +Collective Coping -Loss of Meaning -Withdrawal -Suspicion	+Well-being +Restored social capital/trust +Resilience -Psychological harm (ex. PTSD) -Physical Harm -Social Harm (loss of social capital)	Maslach Burnout Inventory; Acute Stress Scale, Meaning in Life Scale; PTSD Scale and others have been used to measure

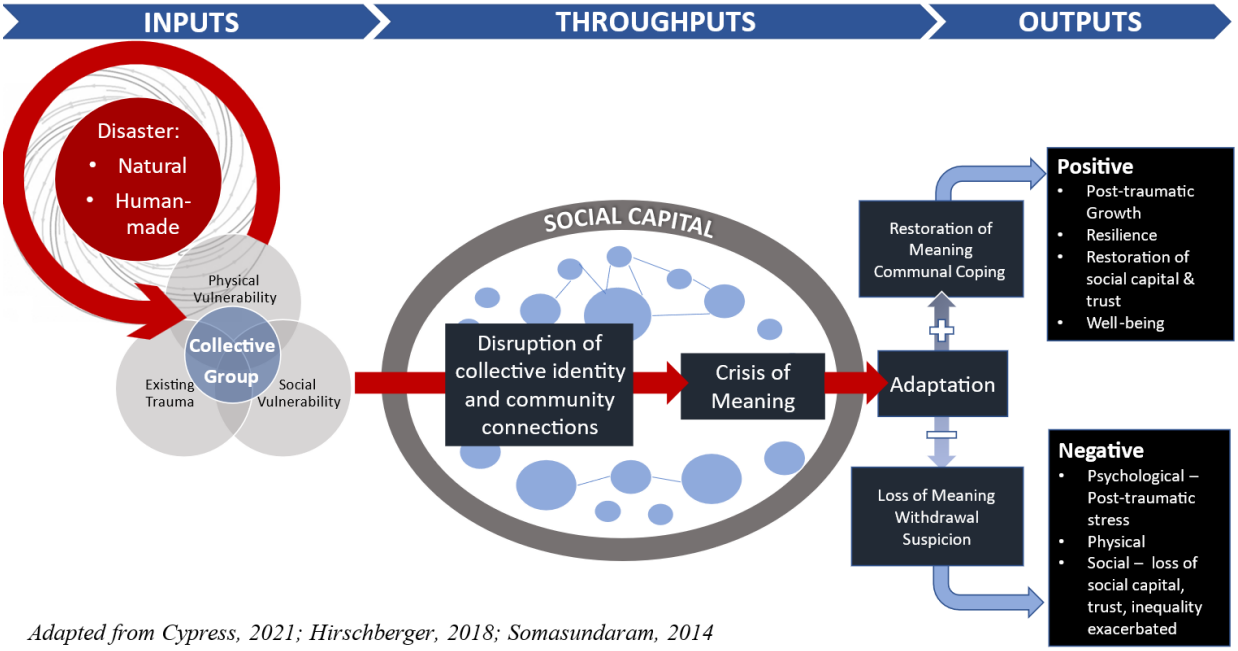
Major Components

As illustrated in Figure 1, the antecedents to collective trauma are disaster and a collective group (Cypress, 2021). The collective group's vulnerability to the impact of the disaster is influenced by physical (e.g., proximity to physical danger, existing health status) and social factors as well as prior experiences of trauma (Possick et al., 2017). Structural factors, such as existing social capital and resources, influence how much damage the disaster and ensuing collective trauma causes to the community. The impact of collective trauma's centrifugal force disrupts the collective group's social bonds, pushing the community apart (Erikson, 1991). This loss of connection triggers a crisis of meaning (Hirschberger, 2018). The community attempts to adapt – if successful, the collective group constructs meaning from the experience and draws strength in communal coping, leading to improved well-being, post-traumatic growth, resilience, and restoration of social capital and trust. If unsuccessful, the group

remains fragmented and is unable to construct meaning, creating negative long-term effects to physical, psychological, and social health and amplifying existing inequalities (Cypress, 2021; Hirschberger, 2018; Somasundaram, 2014).

Figure 1

Collective Trauma Conceptual Model



Adapted from Cypress, 2021; Hirschberger, 2018; Somasundaram, 2014

Basic Assumptions

There are three primary assumptions in this model. The first is that there is a social force with a structure connecting the people within it into something more than the sum of their individual parts (Pope, 1975; Thompson, 2002). Second, that humans derive meaning and well-being from these social connections. Finally, that meaning and knowledge are socially constructed phenomena (Hirschberger, 2018).

Conceptual Definitions

Disasters

Collective trauma is studied in the context of disasters, identified in the framework as an antecedent. As with collective trauma, the word disaster is often used without a clear definition. In fact, there is debate about whether a disease outbreak should be counted as a disaster. An early definition placed temporal and geographic boundaries around the concept, describing disaster as "an event concentrated in time and space, in which a society, or a relatively self-sufficient subdivision of a society, undergoes severe danger and incurs such losses . . . that the social structure is disrupted . . ." (Fritz, 1961). Social scientists view disasters as a social phenomenon, so the boundaries have shifted to include "slow-moving" disasters without a clear endpoint or geographic boundaries, such as a pandemic. Disasters are typically categorized as natural (pandemics, earthquakes, hurricanes) or human-made (war, terrorism), although this categorization may oversimplify in the case of a disaster related to climate change (Yamori & Goltz, 2021). The other antecedent is the collective group, which may be a family, identity group, or society in a local, national, or global context (Cypress, 2021).

Social Capital

Social capital is an indicator of the strength of civic engagement, personal and professional relationships, and trust that enable cooperative action (Pesut, 2002; Somasundaram, 2014). Bonding, bridging, and linking are types of social capital that impact identity formation and peer ties, development of relationships across groups, and vertical relationships that enable access to those in positions of power (Fraser et al., 2021). Applied to disaster research, social capital is associated with resilience at the individual and community level (Aldrich & Meyer, 2014). Applied to nursing, social capital has been conceptualized as an output of organizational

and individual factors that can positively impact outcomes for nurses, patients, and organizations (Xu & Stark, 2021). In the model above, it is included as a structural throughput.

Because social connections are foundational to the concept of collective trauma, social capital has been proposed by one theorist as a proxy measure for collective trauma (since no direct measure currently exists) (Somasundaram, 2014). Levels of social capital are both predictive and evaluative - high levels of pre-disaster social capital are associated with recovery, and collective trauma can also lead to decreased social capital (Dekel & Tuval-Mashiach, 2012; Richie, 2012).

Meaning

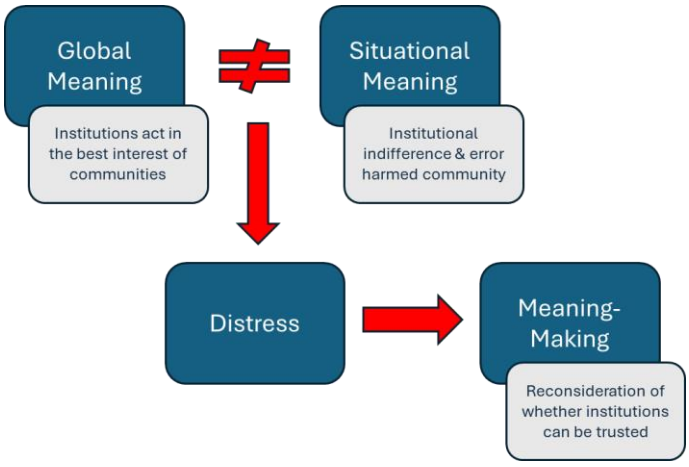
When a disaster creates a "cataclysmic blow" to a collective group's social bonds, loss leads to a crisis of meaning. Both Erikson (1991) and Hirschberger (2018) describe the sense of loss that occurs when members of a community realize that "we" no longer exist as a connected unit. This threat to community can spur positive adaptation – groups may come together to combat a common threat, and together construct identity-affirming meaning from their experience (Hirschberger, 2018). Successfully finding a sense of meaning or purpose has positive consequences for collective identity and well-being (Park, 2016; Updegraff et al., 2008). An unresolved crisis of meaning, however, is thought to lead to withdrawal, loss of communality and trust, and negative impacts on physical, psychological, and social health. Erikson described one aspect of this loss of communality as a sense of betrayal in the aftermath of the Buffalo Creek disaster, when members of that community attributed their experiences not to the flood itself, but to the indifference and ineffectiveness of institutions that they believed should have done more to protect them (Erikson, 1976).

The concept of meaning is not clearly defined in collective trauma or disaster research, but the meaning-making process described by Park helps explain the relationship between experiencing collective trauma and the construction of meaning. It has also been applied in the contexts of disaster (Park, 2016), trauma (Matos, 2021; Park, 2022), and the COVID-19 pandemic (Park et al., 2021). The meaning-making framework distinguishes between global meaning, which encompasses foundational beliefs about the self, the world, and sense of meaning or purpose, and situational meaning, which is specific to the adverse event. Conflict between these two levels of meaning creates distress, which initiates the process of meaning-making. Meaning-making is thought to include both automatic and deliberate processes. These may include experiencing intrusive thoughts, reappraisal of the traumatic event, and reconsideration of global beliefs (e.g. goals, self-identity, and sense of meaning or purpose) (Park, 2010).

In Erikson's example of betrayal from the Buffalo Creek flood, the meaning-making model could conceptualize the conflict between global and situational meaning as outlined in Figure 2.

Figure 2

Conflict between global and situational meaning example



Global meaning and the meaning-making processes survivors engage in are important influences on post-traumatic recovery and resilience (Park, 2016; 2022). Additional research is needed to better understand the theoretical relationships between individual meaning-making and broader social processes, as well as how the meaning-making process unfolds over time (Park, 2016; 2022).

Well-being

Well-being as an outcome is another primary concept, although a consistent definition and measurement tool has not been utilized in collective trauma research. Broadly defined, well-being is a state of optimal emotional, physical, psychological, and social functioning (National Center for Chronic Disease Prevention and Health Promotion, 2018). Indicators of professional well-being include job satisfaction, meaning and fulfillment in work, and engagement (NASEM, 2019). Most often researchers indirectly measure well-being by relying on instruments that measure factors including burnout, post-traumatic stress disorder, post-traumatic growth, and resilience.

Operational Definitions

For the purposes of this study, the following terms are defined:

Collective Trauma: An irreversible and lasting adverse condition caused by natural and human-made disasters and events that results in neurophysiological, psychobiological, psychosocial, sociocultural, and economic imbalance to society, cultures, communities, and the world (Cypress, 2021).

Meaning: A socially constructed process that creates connections between the self, others, and the environment (Hirschberger, 2018). There are two levels of meaning (Park, 2010):

- Global meaning: People's fundamental beliefs about themselves, the world, their place in the world, their sense of meaning and purpose, goals and values.

- Situational meaning: Meaning in the context of a specific event

Meaning-Making: A process to re-establish a sense of predictability or understanding when a traumatic event disrupts a global belief system (Park, 2016).

Social Capital: An indicator of social cohesion and includes relationships, networks, civic engagement, and trust (Somasundaram, 2014).

Well-being: "The experience of positive perceptions and the presence of constructive conditions at work and beyond that enables [nurses] to thrive and achieve their full potential" (Chari et al., 2018, p. 590).

Burnout: Emotional exhaustion, depersonalization, and diminished sense of personal accomplishment (Maslach & Leitner, 2016).

Post-traumatic stress disorder: Characterized by re-experiencing or avoiding traumatic memory and the feeling of continuous need to be vigilant or hypervigilant (Jiang et al., 2022).

Stress: Demands of environmental stimuli exceed resources (Lazarus & Folkman, 1984).

Trauma: Lasting adverse effects from an event, series of events, or set of circumstances that is experienced by an individual as physically or emotionally harmful or threatening (SAMHSA, 2022).

Philosophical Underpinnings

Psychological Trauma and Social Structures

The concept of collective trauma is an application of individual psychological trauma, which has its roots in the 19th century, when a French physician theorized that symptoms of hysteria among women arose from the psyche, rather than from the uterus (Ringel, 2019). Trauma theory continued to develop with Sigmund Freud and Josef Breuer, who refined the concept of dissociation (splitting of consciousness) and specifically linked it to a prior traumatic event (Ringel, 2019). More recently, complex trauma and developmental trauma theories have

recognized the long-term influence of multiple, early traumatic experiences that impact all aspects of psychosocial functioning, such as employment, housing, and psychological disorders (Ringel, 2019).

Sociologist Kai Erikson adapted the idea of trauma as a psychic wound, but his conceptualization is rooted in Emile Durkheim's concept of a collective consciousness – a social force that connects the people within it into a social organism with structures that influence individual and group actions, enabling shared collective experiences (Pope, 1975; Thompson, 2002). Recognized as the founder of sociology as a scientific discipline, Durkheim viewed individual and collective consciousness as a system in constant interaction, leading to multi-layered social structures and "hidden forces that move individuals and collectivities" (Durkheim, in Wolff, 1960, p. 373). One of Durkheim's seminal works, *Suicide: A Study in Sociology*, illustrates this idea, describing what is often considered an individual act in the context of social factors that influence its occurrence, including gender, marital status, religion, and level of education (Thompson, 2002). Durkheim's perspective on the impact of society's function and structures foreshadows current thinking on the social and structural determinants of individual health and well-being, defined by the World Health Organization as the "conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life" (n.d.).

Social and Medical History of Epidemics

This research project also draws upon social science and the history of medicine in conceiving of the COVID-19 pandemic as a social and cultural event that will have profound consequences for long-term societal well-being (Forbes, 2021; Vargha & Greene, 2020). While the impact of the most recent pandemic has often been described as unprecedented, there are

parallels and patterns that have been seen before. Writing during the AIDS epidemic, medical historian Charles E. Rosenberg described epidemics as social phenomena that "start at a moment in time, proceed on a stage limited in space and duration, follow a plot line of increasing and revelatory tension, move to a crisis of individual and collective character, then drift toward closure" (1989, p. 2). Rosenberg's plot line includes three Acts which are strikingly prescient in the context of the COVID-19 experience:

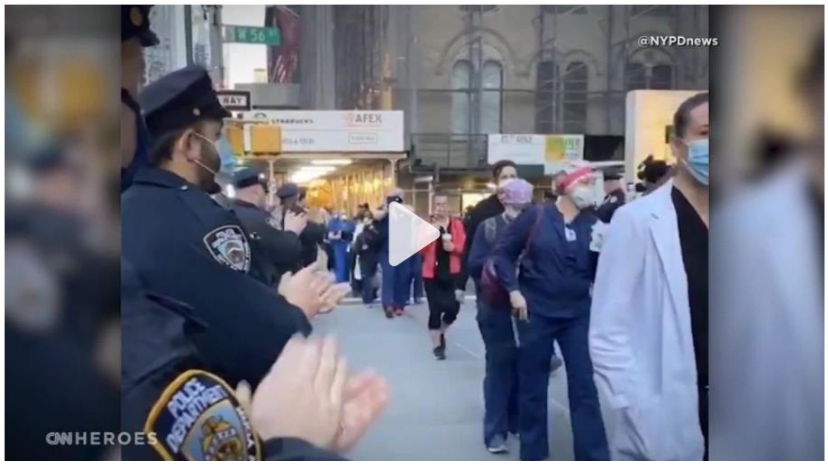
- Act I Progressive Revelation: A pattern of being slow to acknowledge the existence of an epidemic, in part due to its threat to economic, institutional and social interests, as well as public complacency. Only when mortality rates are too high to ignore do public officials act.
- Act II Managing Randomness: Efforts to explain and rationalize epidemics to assert a sense of control. This may include blaming vulnerable populations and varying theories of contagion and treatment.
- Act III Negotiating Public Response: Visible community responses that include public health measures, such as masking and quarantining, that lead to tension between individual rights and collective well-being (Forbes, 2021). Public response also includes collective rituals, which demonstrate community solidarity.

Nurse scientist and historian Julie Fairman applied Rosenberg's framework to the experience of being a nurse during an epidemic, exploring the construction of meaning from a "ground up" approach that focuses on the perspectives of patients and professional nurses. Fairman added the concept of valorization to Rosenberg's Act III, discussing how collective hero naming rituals, such as the media coverage, street art, and evening applause sessions that occurred in 2020, emerge and then ebb as epidemics subside (Figures 3-5). Valorization

highlights the tension between self-sacrifice and self-interest and helps shape the meaning of epidemics for nurses (Fairman, 2020).

Figure 3

Public valorization of nurses



(CNN, 2020)

Figure 4
Super Nurse

(FAKE, 2020)

Figure 5
Are Front-Line Workers Still Heroes?

(Shapiro, 2021)

Social Constructivism

Finally, the social constructivist paradigm is an important influence on the concepts and relationships explored in this research project. Social constructivism posits that reality is continuously constructed through lived experiences and social interactions, and that knowledge is co-created (Creswell & Poth, 2018). Because this research is intended to explore the shared meaning of individual experiences of collective trauma due to the COVID-19 pandemic, social constructivism provides a theoretical foundation for the research questions and methodology.

Descriptions of Manuscripts

This dissertation consists of chapters 1, 2 and 3 which provide the introduction, review of literature, and methods utilized. Chapters four and five are separate manuscripts developed for publication in peer-reviewed research journals that describe qualitative research conducted in two phases. A qualitative descriptive design was utilized in both phases to remain close to the voices of participants, with the goal of forming a practical foundation to inform policy, educational, and behavioral interventions related to nurse well-being (Willis et al., 2016; Sandelowski, 2000).

Chapter four primarily addresses question 1 and is a secondary analysis of online discussion boards conducted as part of a massive online open course (MOOC) offered over four weeks January through February 2022. The Caring Science, Mindful Practice MOOC has been offered since 2015, with a target audience consisting of nurses practicing in the United States. There are eight asynchronous online discussions during the course, which is focused on applying Caring Science and mindfulness to participants' personal and professional lives (Sitzman et al., 2016). While the MOOC was not focused on pandemic experiences, participants spontaneously threaded their impressions of COVID-19 into their online discussion posts. The results are first-

person accounts of the impact of the pandemic on patients and families, on interprofessional peers, on the health care system, and on nurses' personal and professional lives. Collective meaning-making in the context of online discourse after disasters is an emerging field of research (Duan, 2021 & Eriksson, 2016), and the growth of internet-based education and communication platforms provides opportunities to explore the experience of nurses in new ways.

Chapter five describes a trauma-informed (Isobel, 2016) qualitative descriptive study to evaluate research questions two, three and four to better understand nurse perceptions of well-being, the structural barriers and facilitators of well-being, and the role of meaning-making following collective trauma. This study utilized semi-structured interviews to center the experiences of nurses who cared for patients in a variety of acute care and skilled nursing settings between March 2020 and May 2023. The interview guide was developed to foster a psychologically safe environment for participants to share their perceptions of the long-term impact of the pandemic on their well-being. The use of open-ended questions fostered reflection and encouraged participants to share the experiences that most impacted their personal and professional lives.

Summary

This research project contributes to collective trauma and to nurse well-being research by exploring nurses' experiences in the aftermath of the COVID-19 pandemic to inform strategies that promote well-being in the wake of collective trauma. System-level interventions are increasingly recognized as key to addressing nurse and clinician burnout (NAM, 2022; USDHHS, 2022; Schlak et al., 2021). In addition, broader structural and social factors impact nurse well-being and shape the healthcare practice environment. The COVID-19 pandemic illuminated the interconnection between well-being at work, at home, and in the wider

community as well as the unequal impacts in the aftermath of collective trauma (Kira et al., 2020; USDHHS, 2022). Research that engages nurses in sharing their understanding of the meaning of their experiences during the pandemic, the structural barriers and facilitators of well-being, and their perception of the pandemic's long-term impacts on the healthcare system is essential.

CHAPTER 2: REVIEW OF THE LITERATURE

The purpose of this study is to explore the experience of nurses in the aftermath of the COVID-19 pandemic to develop knowledge of the structural factors that support nurse well-being. Collective trauma provides a sensitizing framework to explore nurse experiences, encompassing the physical, mental, and psychosocial impact of disasters on group well-being. Consistent with the aims of the study, the review of literature is organized into the following areas: (a) pre-pandemic research into the occupational well-being of nurses, (b) the impact of the pandemic on nurse well-being, and (c) an exploration of the concept of collective trauma and its implications for collective well-being and the long-term impact of COVID-19.

Nurse Well-Being Prior to the COVID-19 Pandemic

The COVID-19 pandemic stressed a healthcare system already deeply impacted by long-standing structural issues that caused harm to HCW, as well as to those in their care (Lasater et al., 2021; Schlak et al., 2021). Research prior to 2020 raised the alarm about widespread burnout, job dissatisfaction, traumatic stress and chronic nursing shortages that ultimately impact patient care (Aiken et al., 2008; Cimiotti et al., 2012; McHugh et al., 2011; Vahey et al., 2004). A self-perpetuating cycle of unhealthy work environments, burnout, post-traumatic stress, and inadequate staffing have been documented in the research literature for decades, with limited progress made in addressing the structural causes at the root of nurse and patient harm (French et al., 2022; Lasater et al., 2021; Schlak et al., 2021). Because nurse well-being is an evolving concept without a consistent definition or standard measure, research regarding HCW and nurse well-being has utilized other constructs as proxy measures of well-being, including burnout, traumatic stress, and resilience.

Burnout

The concept of burnout appeared in nursing research by the late 1970s, after being first described by psychologists Herbert Freudenberger and Christina Maslach as an occupational phenomenon among helping professions (Dall'ora et al., 2020; Lavandero, 1981). Lavandero (1981) posed the question, "Is nursing burnout a new phenomenon… (o)r a currently fashionable buzzword for a traditional nursing problem?" (p. 17). Four decades and more than 7,000 research articles after its initial appearance in nursing research, burnout is entrenched as a well-documented occupational hazard directly related to nurse workload and to the work environment (Aiken et al., 2002; Jun et al., 2021; Schlak et al., 2021). Pre-pandemic, an estimated 40-48% of nurses reported high burnout rates, with even higher percentages for nurses working in medical-surgical (54%), intensive care (50.3%) and emergency department (55.9%) settings (Aiken et al., 2022; French et al., 2022).

While there are multiple theories related to burnout, it is broadly defined as a work-related phenomenon in which excessive, chronic stress leads to feelings of emotional exhaustion, loss of connection to and identification with other people (depersonalization), and loss of confidence in work performance (personal accomplishment) (Dall'ora, 2020; Jun et al., 2021). Patterns of burnout are associated with work conditions including poor staffing, 12-hour schedules with low flexibility, time pressure, high job and psychological demands, role conflict, low autonomy, negative interprofessional and team relationships, inadequate leadership support, job insecurity and job dissatisfaction (Aiken et al., 2022; Dall'ora, 2020; McHugh et al., 2011; Schlak et al., 2021). Individual demographic characteristics may also play a role – being female, having less professional experience and not having a bachelor's degree appear to increase the likelihood of experiencing burnout (Artz et al., 2022; Dall'ora, 2020; Kartsonaki et al., 2022).

Burnout is significant because it results in alarming outcomes for both patient and nurse well-being. Seminal research in 2002 identified relationships between the work environment, patient mortality and nurse burnout (Aiken et al.), followed by research linking nurse burnout and patient satisfaction (McHugh et al., 2011; Vahey et al., 2004). Adverse patient events including infections, medication errors, failure to rescue, length of stay and falls have also been correlated with high nurse burnout (Cimiotti et al., 2012; Dall'ora et al., 2020; Schlak et al., 2021). For nurses, burnout is associated with higher rates of cardiovascular disease, mental health problems, depression, insomnia, job dissatisfaction and intent to leave (Dall'ora et al., 2020; McHugh et al., 2011; Salvagioni et al., 2017).

Traumatic Stress

Distinct from burnout but often co-occurring, traumatic stress is also recognized as an occupational hazard impacting nurse well-being (Cavanaugh et al. 2014; Liyanage et al., 2021). Traumatic stress can result from both direct and indirect experience of a traumatic event, making healthcare workers especially vulnerable, not only by their direct experiences of trauma, but by their proximity to and desire to help others impacted by traumatic events (Beck, 2011). Nurses may experience psychological trauma from multiple occupational sources, including secondary trauma (also known as compassion fatigue), insufficient resource trauma, workplace violence, second-victim trauma, and mass trauma from disasters (Cavanaugh et al., 2014; Foli et al., 2021).

Post-traumatic stress disorder (PTSD) can develop in the aftermath of a traumatic event and is characterized by chronic re-experiencing, emotional numbing, and hypervigilance (Jiang et al., 2022). The impact of traumatic stress can be cumulative – previous experience of trauma increases the impact of the traumatic event, which increases the risk of developing PTSD. A longitudinal study of female nurses found that 28% experienced 3 or more traumatic events in

their lifetime, and those with cumulative trauma were six times more likely to develop depression and PTSD (Cavanaugh et al., 2014).

Research prior to the COVID pandemic indicated that nurses experienced higher rates of PTSD compared to the general population, as well as compared to other HCW (Maunder et al., 2004; Cavanaugh et al., 2014). As with burnout, nurses' increased risk may be due in part to gender – 90% of the profession is female, and women are more likely to experience symptoms of post-traumatic stress disorder (Koenen et al., 2017). Additional profession-specific factors that increase nurse vulnerability include experiencing workplace violence, witnessing resuscitation events, and the impact of vicarious trauma (Liyanage et al., 2021). Evidence from the Nurses Health Study indicates that this is a long-standing concern – 30% of nurses aged 53-74 had experienced trauma during their lifetime related to the profession, and 82% had experienced at least one type of trauma. Further, 10.5% of these had experienced PTSD, and about two-thirds had received treatment for their symptoms (Sampson et al., 2021). Additional pre-COVID research estimated the prevalence of PTSD among nurses from 8.5-20.8% (Schuster & Dwyer, 2020).

Evidence from a previous epidemic also indicates that nurses are at risk of experiencing post-traumatic stress. In March 2003, a SARS outbreak in Toronto caused widespread psychological distress among healthcare workers. Two months later, researchers distributed a survey to HCW to assess the impact of the experience. Of all members of the healthcare team, nurses experienced the highest levels of traumatic stress (Maunder et al., 2006).

Resilience and Well-being

The concept of resilience has been explored as an antidote to the complex issues of burnout and traumatic stress that arise from the work environment. Often described as the ability

to “bounce back” from adverse or stressful situations (Hart et al., 2014), the idea of resilience emerged from psychological studies of children who experienced poverty and neglect – while most grew into adults who also struggled, some were able to thrive despite their circumstances (Garmezy, 1971). Researchers theorized that protective underlying factors made these individuals able to successfully adapt to adversity – in a word, resilient. The application to healthcare came in the following decades, as positive psychology further refined the idea of resilience as a malleable characteristic that could be “trained” (Joyce et al., 2018; Robertson et al., 2015).

There is no single operational definition of resilience, and it has been variously conceptualized as a trait, a process, and an outcome (Joyce et al, 2018). In addition, there is no “gold standard” with which to measure this trait/process/outcome, which complicates efforts to understand factors associated with it (Joyce et al., 2018; Yu et al., 2019). According to a 2019 systematic review of factors associated with nurse resilience, however, it was found to have mediating effects on negative outcomes including burnout, stress, anxiety, depression, and posttraumatic stress disorder and was positively associated with job satisfaction, retention, and well-being (Yu et al.).

Although linked, well-being is distinct from resilience (and similarly lacking a standard definition). Broadly defined, well-being is a state of optimal emotional, physical, psychological, and social functioning (National Center for Chronic Disease Prevention and Health Promotion, 2018). In the context of work, well-being is “the experience of positive perceptions and the presence of constructive conditions at work and beyond that enables workers to thrive and achieve their full potential” (Chari et al., 2018, p. 590). Indicators of professional well-being include job satisfaction, meaning and fulfillment in work, and engagement (NASEM, 2019). The

concept of well-being in the context of nursing has most often been indirectly explored in relation to burnout, traumatic stress, and resilience, although the term is often included in research studies (Patrician et al., 2022).

The Impact of Work Environments

While there was early recognition that burnout and traumatic stress are rooted in the structure of the work environment (Aiken et al., 2002; Lavandero, 1981), research centered on individual resilience and well-being strategies proliferated in the years prior to the COVID pandemic, with limited impact – two Cochrane reviews on the prevention of stress and promotion of resilience in HCW concluded that the most common interventions (resilience education and mindfulness based interventions) used to address HCW burnout and stress were equivalent to no intervention in their long-term impact (Jung et al., 2021; Kunzler et al., 2020; Ruotsalainen et al., 2015). Another systematic review specific to supporting HCW resilience in the wake of epidemics found no high-quality evidence of effective interventions (Pollock et al., 2020). More recently, a scoping review of strategies to prevent or reduce PTSD among hospital nurses also found scant evidence of efficacy – of the few randomized controlled trials testing resiliency and educational interventions, one found no difference in the intervention and control groups, and one found worsened outcomes among the intervention group (Liyanage et al., 2021). In addition, there is little research into how to prevent the harm from occurring or interventions that address the structural causes of burnout, stress and trauma that arise from the social and work environments, rather than from the individual nurse.

Recognizing the impact of the healthcare work environment, the American Nurses Credentialing Center (ANCC) and the American Association of Critical Care Nurses (AACN) have separately developed standards regarding nurse work environments in response to

workforce issues impacting nurse and patient well-being (Lundmark, 2008; Ulrich et al., 2022). The ANCC's Magnet credentialing program was based on research conducted in the context of a severe nursing shortage in the early 1980s that identified fourteen "forces of magnetism" (since consolidated into five domains) that appeared to attract and retain nurses to hospitals (Lundmark, 2008). The AACN's Healthy Work Environment (HWE) model was developed in 2005 and includes six similar domains addressing interprofessional collaboration, leadership, resources, and nurse engagement in decision-making (Ulrich et al., 2022).

Subsequent research has correlated characteristics of the nurse work environment with patient and nurse outcomes including the quality of patient care, the emotional and psychological health of nurses and their job engagement and retention, and the frequency of work-related accidents (Wei et al., 2018). A 2019 meta-analysis found that better scores on the Nurse Practice Environment Scale, the most frequently used tool to assess nurse work environments, were associated with lower nurse burnout, job dissatisfaction and intent to leave as well as improved patient satisfaction and lower mortality (Lake et al., 2019). Magnet designation and use of HWE standards are also correlated with improved patient outcomes as well as decreased nurse turnover, burnout, and job-related dissatisfaction, although most of the research has been cross-sectional and has not demonstrated that achieving either designation altered outcomes (Friese et al., 2015; Kelly et al., 2011; Ulrich et al., 2022). More recent research analyzing pre-COVID data also found that healthy work environments (measured by domains including autonomy, sufficient staffing and resources, leadership, and positive interprofessional relationships) attenuate the relationship between nurse burnout and patient mortality, failure to rescue, and length of stay. Magnet-designated hospitals in the sample had comparable results to non-Magnet hospitals with "good" work environments. (Schlak et al., 2021).

System-level or organizational interventions are increasingly recognized as key to addressing nurse and clinician well-being (Jun et al., 2021; Kelly et al., 2021; Sinsky et al., 2020). Acknowledging the lack of research into system and organizational-level interventions to reduce burnout and to increase well-being, the National Academy of Medicine's (NAM) Action Collaborative on Clinician Well-being and Resilience developed a framework that focuses on addressing systemic issues, rather than "fixing" the individuals who work within it (Sinsky et al., 2020). This systems approach includes frontline care delivery, the healthcare organization, and the external environment. These three layers interact with work system factors (e.g., job demands and job resources), leading to system outputs of burnout or professional well-being (NASEM, 2019). The NAM has also recommended six organization-level domains to support clinician well-being (Sinsky et al., 2020). As shown in Table 2, elements of the ANCC Magnet Model, the Practice Environment Scale, the AACN Healthy Work Environment framework, and the NAM's domains are listed side by side. Elements common to each are the importance of supportive leadership, autonomy and participation in policy decisions, collaborative relationships that enable teamwork, and sufficient resources, which have all been correlated with improved nurse and patient outcomes (Schlak, 2021).

Table 2

Structural frameworks

	Organization			
Domains	ANCC Magnet Standards*	Practice Environment Scale	AACN Healthy Work Environment	NAM Action Collaborative on Clinician Well-being
Leadership	Transformational Leadership	Nurse Manager Ability, Leadership & Support of Nurses	Authentic Leadership	Strengthen Leadership Behaviors
Autonomy	Exemplary Professional	Nurse Participation in	Effective Decision-Making	Examine Policies & Practices

	Practice (Autonomy)	Organization Affairs		
Collaborative Relationships	Exemplary Professional Practice (Interdisciplinary Relationships)	Collegial Nurse Physician Relations	True Collaboration	Cultivate Culture of Connection & Support
Resources	Exemplary Professional Practice (Consultation and Resources)	Staffing & Resource Adequacy	Appropriate Staffing	Enhance Workplace Efficiency
Additional Domains	Structural Empowerment New Knowledge, Innovation & Improvements Empirical Quality Results	Nursing Foundations for Quality of Care	Meaningful recognition	Advance Organizational Commitment Conduct Workforce Assessment

*The Magnet Model includes five domains that contain 14 "forces of magnetism"

The Impact of COVID-19 on Nurse Well-being

Research on the early impact of COVID-19 on healthcare workers and nurses emerged in the wake of the initial pandemic surges in 2020, consistently identifying high rates of burnout, PTSD, and intention to leave (de Kock et al., 2021; Fatalah et al., 2021; Galanis et al., 2021; Sriharan et al., 2021). Consistent with pre-pandemic research, nurses were the most severely affected, with one large quantitative study finding that nurses reported the highest rates of acute traumatic stress, depression, and anxiety compared to physicians and residents in the first months of 2020 (Shechter et al., 2021). Over time, the outlook worsened – between 2020 and 2021, a longitudinal study found the rate of PTSD among HCW doubled from 10.73% to 20.84% (0uyang et al., 2022). Two years into the pandemic, the American Nurse Foundation's COVID-19 Impact Assessment further illustrated the cumulative impact of the pandemic, with 39-47% of nurses reporting that they were "not or not at all emotionally healthy" (ANA, 2022). One year

later, the ANA reported that nurse well-being remained a serious concern, with 66% of respondents reporting they were experiencing stress, 44% experiencing burnout, and only 31% perceiving that their organizations care about their well-being (ANA, 2023).

A repeated cross-sectional study of nurses that compared pre- and post-pandemic measures of burnout, dissatisfaction, and intent to leave provides interesting insight. While burnout, dissatisfaction, and intent to leave did increase, pre- and post-pandemic comparisons reflected changes of only around 3% (Aiken et al., 2022). In contrast, nurse ratings of insufficient staffing levels (10.5%) and lack of confidence in leadership (9%) demonstrated larger increases after the pandemic (Aiken et al., 2022). Qualitative results from a mixed methods study of nurses' pandemic experiences also identified understaffing as a major barrier to nursing care, in addition to insufficient resources and lack of evidence-based guidance (Stimpfel et al., 2022). This indicates that the impact of the pandemic goes beyond exacerbating the existing issues of burnout, psychological distress, and turnover. Nurses' concerns about structural issues – including staffing levels, resources, and leadership – appear to have increased more dramatically in the aftermath of the pandemic.

Risks and Protective Factors

Research into the risks and protective factors related to nurse well-being during the pandemic is also emerging. Consistent with prior burnout and PTSD research, female gender was identified as a risk factor for adverse mental health outcomes in multiple studies (de Kock et al., 2021; Sriharan et al., 2021; Wang et al., 2020). Heavy workload, lack of personal protective equipment, fear of infection, younger age, lack of experience, and insufficient training were also identified (de Kock, et al., 2021; Galanis et al., 2021; Lorente, 2021; Sriharan, 2021). Interestingly, the evidence that caring for COVID patients increases risk for distress is mixed,

with one study finding no difference, and two finding better outcomes among frontline staff (De Kock et al., 2021). More impactful appears to be the perception of risk, rather than actual risk of infection (De Kock et al., 2021; Galanis et al., 2021; Ouyang et al., 2022).

Investigators using both qualitative and quantitative designs have identified the importance of social support in minimizing the negative impact on well-being. Both professional camaraderie and personal relationships outside of work appear to be protective. Stimpfel et al. (2022) and Jun and Rosemberg (2022) used qualitative descriptive designs to explore nurse experiences, and both identified camaraderie as a strength that allowed nurses to cope and to find meaning in their experiences during the pandemic. Quantitative studies also reinforce the protective influence of relationships from peers, significant others, family, and friends, identifying social support as negatively correlated with psychological distress (De Kock et al., 2021; Kobunga & Okala, 2021; Nowicki et al., 2022).

In addition to social support, resilience has been identified as a protective factor (De Kock et al., 2021; Jo et al., 2021). A sense of meaning was also identified as a positive outcome of COVID-19 in two quantitative and two qualitative studies (Watson, 2024; Nowicki et al., 2022; Shechter, 2021; Stimpfel et al., 2022). However, the quantitative studies used differing measures, and the qualitative studies did not fully explore or define meaning.

Collective Trauma

Collective trauma is a phenomenon experienced by and transmitted among members of a group, many of whom may not have directly experienced a traumatic event but are deeply affected (Cypress, 2021; Erikson, 1991; Holman & Silver, 2011). The concept of collective trauma is an application of psychological trauma, which has its roots in the 19th century, when a French physician theorized that symptoms of hysteria among women arose from the psyche,

rather than from the uterus (Ringel, 2019). Trauma theory continued to develop with Sigmund Freud and Josef Breuer, who refined the concept of dissociation (splitting of consciousness) and specifically linked it to a prior traumatic event. More recently, complex trauma and developmental trauma theories have recognized the long-term influence of multiple, early traumatic experiences that impact all aspects of psychosocial functioning, such as employment, housing, and psychological disorders (Ringel, 2019).

Origin of collective trauma

Sociologist Kai Erikson is credited with the first use of the term "collective trauma" in his exploration of the aftermath of a 1972 flood on a West Virginia community. Adapting the idea of trauma as a psychic wound, Erikson defined collective trauma as

> …(A) blow to the basic tissues of social life that damages the bonds attaching people together and impairs the prevailing sense of communality. The collective trauma works its way slowly and even insidiously into the awareness of those who suffer from it, so it does not have the quality of suddenness normally associated with 'trauma'. (1991, p. 460).

Erikson's observations of the impact of the disaster began one year after the flood and continued for three years. In that time, he observed a phenomenon distinct from previous observations of disaster syndrome, which described the shock, withdrawal and fear that individuals may experience in the immediate aftermath of disaster (Erikson, 1991). Erikson described this shared trauma as more than "the sum of the private wounds that make it up" (1991, p. 231). Beyond individual trauma, Erikson noted that the shattering of community disrupted personal and collective identity, and that this disconnection created long-term harm to mental, physical, and emotional well-being (Erikson, 1991; Abrutyn, 2023).

This conceptualization is rooted in Emile Durkheim's concept of a collective consciousness – a social force that connects the people within it into a social organism with structures that influence individual and group actions (Pope, 1975). This collective consciousness enables shared collective experience. Durkheim's perspective on society's function and structures foreshadows current thinking on the social and structural determinants of individual health and well-being.

While no standard operational definition of collective trauma exists, a recent concept analysis explored the meaning of the term as well as the attributes, antecedents, and consequences, concluding that it is "an irreversible and lasting mental condition caused by natural and human-made disasters and events that results in neurophysiological, psychobiological, psychosocial, sociocultural, and economic imbalance to society, cultures, communities, and the world" (Cypress, 2021, p. 401). Collective trauma provides a beneficial framework to explore the impact of the pandemic on nurses, because it expands the notion of individual trauma, acknowledges the long-term after-effects, and incorporates the social and structural factors that shape collective well-being.

Distinguishing individual and shared trauma

Distinct from trauma at the individual level, collective trauma creates lasting physical, psychological, and social harm to an entire identity group, even to those not directly exposed (Erikson, 1991; Holman & Silver, 2008; Saul, 2014). The "centrifugal force" of collective trauma ripples through a community, fragmenting social bonds, marginalizing vulnerable groups, and exacerbating existing inequalities (Erikson, 1991; Kira et al., 2020; Possick, 2017; Saul, 2014). The destruction is thought to trigger a crisis of meaning as community members attempt

to make sense of their experience. Construction of meaning is thought to be an adaptive process that promotes collective healing (Hirschberger, 2018; Possick, 2017; Somasundaram, 2014).

Key concepts in a collective trauma framework

Pre-existing factors may increase a collective group's vulnerability to collective trauma. These factors often intersect and may include prior experience of trauma, physical vulnerability, and social vulnerability (Possick, 2017). In the case of nursing, pre-existing burnout and traumatic stress may have sensitized nurses to the additional impact of COVID-19, increasing their vulnerability to collective trauma (Garfin et al., 2015).

Meaning-making, defined as a process to re-establish a sense of predictability or understanding when a traumatic event disrupts a global belief system, is a common theme in collective trauma and disaster research (Park, 2016). The ability to find meaning in negative life events is thought to restore a sense of control, supporting adaptation and recovery. Long-term, meaning-making has a strong influence on adaptive processing as well as resilience and well-being (Abe, 2016). In the context of collective trauma, meaning has been described as a socially constructed process that restores connections between the self, others, and the environment (Hirschberger, 2018). A small body of research indicates that higher levels of distress may predict a desire to find meaning, and the ability to find meaning influences post-disaster resilience and post-traumatic growth (Maffly-Kipp, 2021; Park, 2016; Updegraff et al., 2008). Successfully finding meaning has positive consequences for collective identity and well-being (Park, 2016; Updegraff et al., 2008).

Social capital and social trust have been identified as protective factors and long-term indicators of the impact of collective trauma. Social capital is an indicator of cohesion and a necessary precursor to social trust (Somasundaram, 2014). A century after the 1918 flu

pandemic, social trust remained lower in communities with higher mortality, even among descendants who had migrated (Assve et al, 2021). More recently, social capital has been identified as an essential element to sustaining or rebuilding community resilience and in finding meaning in studies of both natural and human-made disasters (Dekel & Tuval-Mashiach, 2012; Possick, 2017; Ritchie, 2012; Somasunduram, 2014; Updegraff et al., 2008). Consistent with these findings, a mixed methods study of collective trauma among inpatient nurses impacted by Superstorm Sandy identified social support as an essential resource (Raveis et al., 2017). More recent research on HCW and COVID-19 also indicates that social support is a protective factor (De Kock et al., 2021; Galanis et al., 2021; Jun et al., 2021; Stimpfel et al., 2022).

Because social connections are foundational to the concept of collective trauma, social capital has been proposed by one theorist as a proxy measure for collective trauma (since no direct measure currently exists). Social capital is an indicator of social cohesion and includes relationships, networks, civic engagement, and trust (Somasundaram, 2014). It has been proposed as both a predictor and as an outcome measure – social capital is thought to mitigate the impact of collective trauma, but it is also impacted by collective trauma (Dekel & Tuval-Mashiach, 2012; Richie, 2012).

Long-term impacts of collective trauma

The long-term impact of collective trauma has implications for physical, mental, and psychosocial health. Research on disease outbreaks and other disasters termed "collective trauma" provides support for this framing:

- Physical: Research following the September 11 terror attack illustrates how collective stress may impact people indirectly – in a longitudinal national study, increased rates of cardiovascular, endocrine, gastrointestinal and hematology-oncology ailments were

attributed to collective stress related to 9/11, though most participants were not directly exposed (Holman & Silver, 2011).

- Psychological: Quantitative and qualitative studies on the impact of COVID-19 consistently identify increased rates of acute stress and symptoms of anxiety, depression, and post-traumatic stress among the general population, in addition to nurses and HCW (ANA, 2022; Holman, et al, 2020; Jiang et al., 2022; Lorente, 2021; Shechter et al., 2020). Prior to COVID-19, a study on the long-term impact of the SARS epidemic in Canada identified increases in burnout, post-traumatic stress, and psychological distress among HCW, regardless of whether they cared for SARS patients, leading researchers to conclude that indirect exposure via the work environment was a powerful structural influence (Maunder et al., 2006).

Gaps in the Literature

There are significant gaps in both collective trauma and in nurse well-being research. Despite the common use of the terms "collective trauma" and "well-being" in discussions of the impact of the COVID-19 pandemic, neither has a standardized operational definition, and both are often evaluated using measures developed for other phenomena. In fact, recent nursing concept analyses of collective trauma (Cypress, 2021) and well-being (Patrician et al., 2022) concluded that there is a need for additional nursing-specific research into each topic to further clarify their meanings and relevance to nursing science.

Gaps in collective trauma research

Research into the long-term collective impact of large-scale disasters is limited. Inconsistent terminology is one challenge – in addition to collective trauma, terms including mass trauma, cultural trauma, and historical trauma are sometimes used interchangeably, and

there is not a consistent operational definition of the term (Cypress, 2021). Varied strategies to measure the impact of collective trauma are also a weakness in existing research, with tools designed to measure individual impacts, such as post-traumatic stress disorder, often used to gauge a group-level phenomenon (Fraser et al., 2021). Because collective trauma can result from a wide variety of crises, from natural disasters to terrorist events, it is difficult to compare outcomes across multiple contexts (Somasundaram, 2014). Transient collective memory also creates a challenge, as we most often focus on the short-term impacts of disaster (Forbes, 2021).

In addition, collective trauma has rarely been explored in nursing research – searches of online research databases using the search term "collective trauma" returned only three peer-reviewed full-text articles published in nursing journals in the past ten years, which included a discussion paper (Barton, 2024), a concept analysis (Cypress, 2021), and a mixed-methods study (Raveis et al., 2017). The purpose, design, and findings of those articles are summarized in Table 3. Additional research is needed to clarify and confirm the concepts and relationships between collective trauma and collective outcomes.

Table 3

Summary of collective trauma nursing research

First Author, Year	Purpose	Design	Definition of Collective Trauma	Findings
Barton, 2024	To describe the implementation of a trauma-informed model of care in the Post COVID Respiratory Clinic of a large tertiary referral centre in NSW, Australia.	Discussion paper	• "(T)he emotional and physical repercussions of a large-scale traumatic event that is experienced at a societal level" (Hirschberger, 2018) • "' 'a blow to the basic tissues of social life that damages the bonds attaching people together and impairs	N/A

			the prevailing sense of communality' (p. 154)" (Erikson, 1976)	
Cypress, 2021	To explore the meaning, and derive an operational definition, of the concept of collective trauma.	Concept Analysis	"Collective trauma is an irreversible and lasting mental condition caused by natural and human-made disasters, and events that results in neurophysiological, psychobiological, psychosocial, sociocultural, and economic imbalance to society, cultures, communities, and the world."	N/A
Raveis, 2017	To explore how nurses were impacted by Superstorm Sandy and how they can best be supported in their nursing responsibilities.	Sequential mixed methods	Undefined	• Challenges in balancing professional obligations and personal concerns. • Lingering aftermath for some that required coping with long-lasting impact on their personal lives and communal loss.

Gaps in nurse well-being research

Research on nurses' well-being in health care has historically focused on boosting individual levels of resilience through short-term interventions. Multiple structural factors intersect to negatively impact nurse well-being, however, and a systems approach to occupational well-being has emerged more recently as a focus area. Both the National Academy of Medicine (NAM) and the U.S. Surgeon General have issued reports on the need to more effectively address occupational burnout and well-being by attending to the structure of the healthcare system, with its chronic staff shortages, systemic racism, lack of attention to social

determinants of health, and gaps in mental health support (NAM, 2022; U.S. Department of Health and Human Services [USDHHS], 2022). However, there is a lack of evidence regarding the most effective way to address these structural barriers. While there are a variety of recommendations described as "evidence-based" in the NAM's Clinician Well-being Resource Center and the US Surgeon General's advisory report on burnout, large scale trials of these interventions have not yet occurred. This leaves organizational leaders and researchers to select from a menu of options without a clear understanding of effectiveness, scalability, or cost.

Well-being research in health care has historically focused on boosting individual levels of resilience through short-term interventions, with limited impact. In fact, in one of the few pandemic studies that asked HCW for their preferences for psychological support, 49% selected "none" rather than any of the provided options (which included wellness videos, meditation resources, and online support sessions) (Shechter et al., 2020). Aiken et al. also found that nurses and physicians rated improved staffing and work environments as more important to their mental health than wellness and resilience programming (2023).

Multiple structural factors intersect to negatively impact nurse well-being, and a systems approach to occupational well-being has emerged more recently as a focus area. Both the National Academy of Medicine and the U.S. Surgeon General have issued reports in 2022 on the need to effectively address occupational burnout and well-being by attending to the structure of the healthcare system, with its chronic staff shortages, systemic racism, lack of attention to social determinants of health, and gaps in mental health support (NAM, 2022; U.S. Department of Health and Human Services [USDHHS], 2022). However, there is a lack of evidence regarding the most effective way to address these structural barriers.

Summary

This research project contributes to both collective trauma and well-being research by exploring nurses' experiences during the COVID-19 pandemic to inform strategies that promote well-being in the wake of collective trauma. System-level interventions are increasingly recognized as key to addressing nurse and HCW burnout (NAM, 2022; USDHHS, 2022; Schlak et al., 2021). In addition, broader structural and social factors impact nurse well-being and shape the healthcare practice environment. The COVID-19 pandemic illuminated the interconnection between well-being at work, at home and in the wider community as well as the unequal impacts in the aftermath of collective trauma (USDHHS, 2022; Kira et al., 2020). Research that engages nurses in sharing their understanding of the meaning of their experiences during the pandemic, the structural barriers and facilitators of well-being, and their perception of the pandemic's long-term impacts on the healthcare system is essential.

CHAPTER 3: METHODOLOGY

Introduction

The purpose of this study was to explore the experience of nurses in the aftermath of the COVID-19 pandemic to develop knowledge of the structural factors that support nurse well-being. A qualitative descriptive design conducted in two phases was used to explore how nurses' perceptions of collective well-being were impacted by their experience of the pandemic. Structural barriers and facilitators that impact occupational well-being were identified. Chapter three describes the methodology, data collection, and analysis procedures, concluding with a discussion of the strengths and limitations of the study.

The research questions are:

1. How do nurses describe their experiences in the aftermath of the COVID-19 pandemic?
2. How has social capital among nurses been impacted by the COVID-19 pandemic?
3. How do nurses make meaning of their experiences after collective trauma?
4. What are the structural barriers and facilitators that nurses perceive as prohibitive or necessary to occupational well-being?

Design

We used a qualitative descriptive design informed by the concept of collective trauma. Qualitative description addresses a topic of clinical concern while staying close to the voices of participants (Sandelowski, 2010). This design was selected to address the research questions because of its focus on capturing the "facts of the case" to authentically represent the collective experiences of nurses who practiced during the pandemic (Sandelowski, 2000; 2010). Descriptively valid findings from qualitative descriptive studies may provide a practical foundation to inform policy, educational, and behavioral interventions (Willis et al., 2016).

This study occurred in two phases and utilized two sources of qualitative data. Both phases are described in detail below. The first phase utilized existing narrative text from nurses participating in a Massive Online Open Course (MOOC) conducted January through March 2022, and the second study generated data through semi-structured individual interviews conducted from December 2023 through February 2024. Findings from the first study were used to inform the design of the interview guide and coding structure for the subsequent study.

Phase I:

The first phase of this research project was a secondary analysis of data generated from online discussion posts written by nurses participating in the Caring Science, Mindful Practice MOOC. This MOOC is a four-week learning experience offered twice per year that incorporates twice weekly written discussion posts, in which participants engage in an online learning community via asynchronous reflective group discussions (Sitzman, 2016). The use of online discourse to explore how communities respond to collective trauma is an emerging technique, due to the increased use of internet-based platforms for learning and social connection (Duan, 2021 and Eriksson, 2016).

Phase II:

The second phase of the study utilized a trauma-informed (TI) (Isobel, 2021) design that incorporated semi-structured individual interviews to explore nurse experiences in the aftermath of the pandemic. The interview guide was developed to provide a psychologically safe environment for participants to share their perceptions of the long-term impact of the pandemic on their well-being. The use of open-ended questions fostered reflection and encouraged participants to share the experiences that most impacted their personal and professional lives.

Sample and Setting

Phase I:

A total of 176 individuals enrolled in the January-February 2022 cohort of the MOOC, which is facilitated in the Canvas online learning platform. Nurses were the target audience for the course, but participation was open to anyone with access to the internet at no cost. Participants learned about the MOOC through an email newsletter, the institution's website, social media, and word of mouth. Twice per week during the course, participants were invited to write a 250 to 500-word reflective narrative in response to a prompt. While none of the discussion prompts were specific to COVID-19, some participants described their experiences related to the pandemic in their narratives. Discussion posts that referenced the pandemic were extracted for inclusion in this study in July of 2022, after the MOOC course had concluded. All data downloaded from the course were de-identified and stored in a university encrypted password-protected research drive.

The January-February 2022 cohort was selected for the following reasons: a) two years into the pandemic, the initial shock to participants' lives had likely passed and b) in early 2022 an additional pandemic surge occurred, which may have provoked more recent experiences. For this study, sample inclusion criteria were the use of the terms "COVID" or "pandemic" in participants' discussion board posts. Narratives that did not include descriptions of the participant's direct experiences or observations of the pandemic were excluded. Discussion board responses were formatted into a de-identified transcript. A sub-sample of 136 individuals (77% of total enrolled) described their experience of the COVID-19 pandemic in at least one of the online discussions.

Phase II:

The target audience for the second phase of this research study was licensed nurses who performed a direct care role in the acute care or skilled nursing setting any time between March 2020 and May 11, 2023, when the public health emergency declaration for COVID-19 ended (Centers for Disease Control and Prevention, 2023). The study was open to licensed nurses over the age of 18, including Licensed Practical Nurses, Advanced Practice Registered Nurses, and Registered Nurses. Nurses who worked outside of the acute care or skilled nursing areas or who did not have any responsibilities for patient care during the pandemic were excluded.

Participants were recruited using convenience and snowball sampling between October 2023 and January 2024. The recruitment flyer included a hyperlink and a QR code to a secure enrollment form in the Research Electronic Data Capture (REDCap) platform. The flyer was shared electronically via email through the Primary Investigator's (PI) academic and professional network with an invitation to share with nursing colleagues, as well as using an email database of licensed nurses provided by the North Carolina Board of Nursing. In addition, the electronic flyer was shared in an online forum through the North Carolina Nurses Association and on the PI's LinkedIn page. Fifty-two nurses completed the enrollment form. Thirty-three completed interviews, and three were excluded from data analysis due to their role not involving direct patient care in the acute care or skilled nursing settings during the pandemic, for a final sample of 30 interviews (N=30).

Human Subjects Protection

Phase I of this study was approved as exempt by the Institutional Review Board (IRB) at East Carolina University (ECU) (UMCIRB 15-000812) because it was conducted in a commonly accepted educational setting and involved the use of survey procedures and observation of public

behavior. Phase II also received approval as an exempt study by the IRBs at ECU (UMCIRB-22-000664) (Appendix A) and at Advocate Health (IRB000106444) (Appendix B) because the research involved survey and interview procedures. Phase I data generated from the MOOC demographic survey and the discussion boards were de-identified and stored in a password protected drive provided by ECU. Access was limited to the PI and co-investigators listed on the IRB application.

For Phase II the Research Electronic Data Capture (REDCap) platform was used for participant enrollment and demographic data collection. REDCap is a secure, web-based software platform designed to support data collection for research studies (Harris et al., 2009). In addition, the interview protocol was developed using a trauma-informed (TI) approach, which is focused on providing safety, empowerment, and choice to participants to reduce the risks of re-traumatization (Isobel, 2021). After the interviews were conducted and transcribed, all identifiers were removed including names and references to details such as specific healthcare facilities, streets, cities, and states. Participants were only identifiable by their REDCap Record ID. Additional procedures were used to protect participant privacy in Phase II:

- Participants were asked for consent prior to recording the interview.
- Personal and demographic information were aggregated (for example, rather than describing a participant as an "RN from the Surgical Trauma ICU in Charlotte, NC," the information was reported as "a nurse from a critical care unit").
- Interview recordings, transcripts and written observations were stored securely on a password protected cloud-based research drive provided by ECU, with access limited to the PI and co-investigators listed on the IRB application.

- A master log was kept was kept of participant Record IDs, their demographic survey responses, and the dates of their interviews, which was maintained separately from the identifiable data stored in REDCap.

Instruments

Phase I

Demographic information for the MOOC participants was extracted from their responses to a registration survey stored in the Canvas Learning Management System, which was downloaded into an Excel file. The survey questions are listed in Appendix C.

Phase II

Demographic information for Phase II of this study was gathered electronically in REDCap as part of the initial recruitment and consent process. The questionnaire included twelve demographic questions (see Appendix D) regarding nursing licensure, highest level of nursing education, length of nursing experience, age, gender, race and ethnicity, specialty setting during the pandemic, and whether participants had ever been diagnosed with COVID-19.

Individual interviews were facilitated using a researcher-developed structured interview guide (see Appendix E). The interview protocol included an introductory verbal statement about opting out of any questions that the participant was not comfortable discussing, and participants were encouraged to pause and to take breaks at any time (Isobel, 2021). The questions were intentionally broad, with follow-up probes that could be used as needed, to allow participants to share the experiences that were most meaningful to them. At the end of the interview, the PI summarized highlights of the interview and asked for additions or clarifications.

Procedures

Phase I

The data used in the initial phase of this study were generated from eight online discussions that participants completed while participating in the Caring Science, Mindful Practice MOOC. Twice per week during the course, participants were invited to write a 250 to 500-word reflective narrative in response to a prompt. While none of the prompts were specific to COVID-19, some participants described their experiences related to the pandemic in their narratives. Narrative data that included references to the pandemic were downloaded from the discussion boards into a Word document, de-identified, and stored in a university encrypted password-protected research drive. Because the use of online discourse in qualitative research is an emerging technique, there are not yet guidelines to determine data or thematic saturation.

Phase II

Nurses who accessed the electronic enrollment form in REDCap were connected to an introductory disclosure statement informing them of their rights, purpose, and voluntary nature of the study. Participants then had the option to proceed by selecting "I agree" to access the demographic survey questions. Participants who completed the enrollment form were contacted via email by the PI with an invitation to schedule an interview conducted via Microsoft Teams. Prior to the scheduled interview, the PI sent a message via email reminding participants of the date and time, instructions on how to join the interview, and a contact number in case of questions or concerns.

The interviews were conducted between December 2023 and February 2024 via Microsoft Teams or by phone, if participants were unable to utilize the videoconferencing platform. Prior to beginning each interview, a standard disclosure statement was shared that

reinforced the voluntary nature of the study, and participants were asked for permission to record the interview. Participants were also given the opportunity to ask questions and to share concerns prior to beginning. It was estimated that at least nine interviews would be needed to achieve code saturation, and that a minimum of 24 would be required to reach meaning saturation (Hennink et al., 2017). Recruitment concluded after 33 interviews were completed, and 30 interviews met the inclusion criteria. Interviews lasted from twenty-two to seventy-three minutes.

Data Management and Analysis

Phase I

The transcript incorporating all participant responses was 100 double-spaced pages (excluding discussion board prompts). Two reviewers, the PI and a nurse scientist with expertise in qualitative research, read the transcript multiple times. An online word count platform was used to identify high-frequency words, and word clouds were generated as an additional method of identifying common words. A codebook was developed and revised based on first and second cycle codes, as well as concepts from the collective trauma framework. Content and thematic analysis were applied (Braun & Clarke, 2006). Analytic techniques included reflective memos and visual displays of code words over the 4-week timeframe (Miles et al., 2020).

Phase II

The PI took handwritten notes on a standard template during each interview to capture initial impressions and key ideas. Interview recordings were also transcribed using Microsoft Teams software and saved as Word documents. Transcripts were proofread and verified by the PI within one week of conducting each interview. Identifying details were removed, including names, place of work and specific geographic references such as city or street names. Participants were identified using the record identifier assigned by the REDCap platform.

Transcripts were read multiple times by the PI, who highlighted key passages and took reflective notes to develop familiarity with the data.

Once interviews concluded, the transcripts were uploaded to the NVivo platform, which was used to analyze word counts for identified key words. An initial coding structure was developed based on concepts identified from literature on collective trauma and meaning making, as well as recurrent keywords identified in the transcripts. The initial codebook was reviewed with the co-investigator, a nurse scientist with expertise in qualitative research. Initial codes were then pilot tested on ten transcripts, and the code book was revised to combine similar codes and to remove codes that were a poor fit to the data. The PI and co-investigator met to review the results of pilot testing and agreed on the finalized code book. Each transcript was coded using the revised code book. Content and thematic analysis were applied (Braun & Clarke, 2006). Analytic techniques included reflective memos and the development of matrices that provided a visual display of related code words and exemplar quotes. In the second cycle of coding, codes were clustered into patterns to develop themes and sub-themes (Miles et al., 2020).

Strengths

This study incorporated two sources of qualitative data collected over two years to develop a holistic picture of nurse experiences during the COVID-19 pandemic. A major strength of this study is the use of nurses' firsthand descriptions of their experiences – in the first phase, the data utilized were generated in an open forum in the context of reflective discussion, which provided participants the opportunity to share the feelings and experiences that were most impacting their lives. The use of online discourse is also an innovative strategy in qualitative research that was minimally invasive to participants, providing a window into their experiences at a key time during the pandemic.

The addition of semi-structured interview data, collected almost two years later, provided an opportunity for a deeper understanding of nurse experiences over time and allowed for data triangulation to support coherence and validity (Polit & Beck, 2021). The first phase of this study informed the development of the second phase, providing important insights into the kinds of questions that needed to be asked regarding connections, sources of meaning, and well-being in the aftermath of the pandemic. Phase II of this study also allowed for a more targeted but still diverse sample of nurses in terms of practice setting and experience levels. In our sample, participants represented a variety of acute care settings, including Critical Care (17%), Emergency Department (23%), and Medical-Surgical (33%) areas, which enhances transferability of the findings beyond a single specialty.

Limitations

The use of nursing voices to describe the impact COVID-19 is an important addition to current discussions of nurse well-being, but there are some limitations to consider. The first was the use of an existing dataset in Phase I that was not initially collected to answer this study's purpose. Second, demographic information was available on only half of the sample, and we were limited to the questions used on the MOOC registration survey, which did not query participants' race, cultural background, or practice setting. Third, the use of online discourse for data generation, while innovative, is an emerging technique. Consequently, there are not yet established guidelines to determine data or thematic saturation. Finally, while participants in Phase II were diverse in terms of practice setting and experience levels, they were markedly less so in terms of gender, race, and culture. Only two participants reported being Black (3%) or Asian (3%), three (10%) reported being Hispanic/Latinx, and two (7%) were male. Our sample is

less diverse than the nursing profession, which is also less diverse than the general population (U.S. Bureau of Labor Statistics, 2024).

Conclusion

This research project aimed to explore nurses' perspectives and experiences during the COVID-19 pandemic to inform strategies that promote well-being in the wake of collective trauma. The impact of the pandemic illuminated the interconnection between well-being at work, at home and in the wider community as well as the unequal impacts on vulnerable populations in the aftermath of collective trauma (U.S. Department of Health & Human Services, 2022). However, there remains a gap in knowledge of the mechanisms underlying collective trauma and meaning-making that predict long-term positive or negative outcomes.

The findings of these studies indicate that the pandemic's impact on connections and relationships – between nurses and their peers, leaders, patients, and community – challenged nurses' sense of role identity, meaning and purpose. Role expectations, time limitations and staffing challenges were the primary barriers that nurses identified to their well-being, and the primary facilitators were time away from work, leader support, and accessible mental health resources. Results lend some support to the collective trauma theoretical framework and provide additional context to understand nurse perceptions of the pandemic's impact on their well-being. The insights gleaned from this study, including the importance of social connections, the structural influence of the work environment, and the importance of nurses balancing a sense of purpose with the ability to meet their own emotional, physical, and psychological needs, may provide guidance for leaders and policymakers seeking to understand the experience of providing care in the context of a public health disaster and to improve nurse well-being.

CHAPTER 4: NURSE EXPERIENCES TWO YEARS INTO THE COVID-19 PANDEMIC MANUSCRIPT

Chapter 4 consists of a manuscript accepted for publication in the *International Journal for Human Caring* titled "You can't pour from an empty cup": Nurse experiences two years into the COVID-19 pandemic. The article is tentatively scheduled for publication in January 2025.

Evans, K., Larson, K. & Sitzman, K. (in press). "You can't pour from an empty cup:" Nurse experiences two years into the COVID-19 pandemic. *International Journal for Human Caring, 29*(1).

CHAPTER 5: NURSE EXPERIENCES OF COLLECTIVE TRAUMA MANUSCRIPT SIGNIFICANCE, STUDY DESIGN, FINDINGS, AND RECOMMENDATIONS

This chapter contains manuscript #2 to be submitted for publication. The significance of this issue is discussed in the introduction, followed by a description of the study methods and findings. The article ends with implications for practice, policy and research.

Abstract

Background: The COVID-19 pandemic can be described as a collective trauma – a shared traumatic experience that will continue to impact physical, mental and psychosocial health for years to come. For nurses, the impact was compounded by existing workplace concerns including burnout, traumatic stress, and unhealthy work environments that also contribute to poor patient outcomes. In the aftermath of the pandemic, with increasing rates of nurse turnover, burnout and stress, the health of the public relies upon effectively addressing nurse well-being. While there is broad recognition of the importance of clinician well-being to public health, prior research emphasized individual-level causes and interventions that have had limited impact.

Objective: The purpose of this study was to explore the experience of nurses in the aftermath of the COVID-19 pandemic to develop knowledge of the structural factors that influence nurse well-being.

Design: Qualitative descriptive design informed by the concept of collective trauma.

Participants: Thirty nurses who provided patient care in the acute care and skilled nursing settings during the COVID-19 pandemic participated in semi-structured interviews.

Results: The three themes identified in this study – Systemic Deficiencies, Erosion of Professional Identity, and Societal Fractures – illustrate how the pandemic's long-term impact on collective identity and social capital intersects with systemic deficiencies in the work environment to influence nurse well-being.

Conclusion: Participants identified that the primary barriers to occupational well-being were rooted in structural work conditions, not in their individual capacity for resilience. These barriers include unrealistic role expectations, lack of time, and inadequate staffing.

Keywords: collective trauma, nurse well-being, pandemic, role identity

Introduction

The COVID-19 pandemic disrupted the physical, mental and psychosocial health of entire communities as it swept the globe in 2020, creating long-term harm to individual and collective well-being (Silver et al., 2020). The acute stress of the pandemic exposed chronic weaknesses in the underlying social and healthcare infrastructure in the United States – jobs were lost, healthcare systems were overwhelmed, and existing concerns about loneliness and isolation grew as people quarantined apart from family, friends and co-workers (Chan et al., 2021; French et al., 2022; Silver et al., 2020). For nurses, the impact was compounded by existing workplace concerns including burnout, traumatic stress, and elevated risks for suicide and substance use (Kelly et al., 2021; Schlak et al., 2021). Because of its effect on long-term collective well-being, the COVID-19 pandemic can be described as a collective trauma – a shared traumatic experience that will continue to impact physical, mental and psychosocial health for years to come (Cypress, 2021). Understanding the nursing perspective of the impact of the pandemic is essential to addressing continued challenges to nurses' occupational well-being.

Review of Literature

The U.S. healthcare system's existing structural issues, including chronic staffing shortages, high rates of job dissatisfaction and burnout, and the harm they cause to healthcare worker (HCW) and patient well-being were compounded by the COVID-19 pandemic (Lasater et al., 2021; McHugh et al., 2011; Schlak et al., 2021). Structural and social factors intersect to shape health and well-being – these include social hierarchies and networks, institutional influences, and other conditions in which individuals live and work (Crear-Perry, et al. 2021; Mays, 2021; NASEM, 2017; World Health Organization, n.d.). As a result, structural and

system-level interventions are increasingly recognized as key to addressing nurse well-being (Jun et al., 2021; Kelly et al., 2021; Sinsky et al., 2020).

Research prior to the pandemic demonstrated the prevalence of burnout, job dissatisfaction, and traumatic stress in nursing (Aiken et al., 2008; Cimiotti et al., 2012; McHugh et al., 2011; Vahey et al., 2004), but there has been little research into how to prevent harm from occurring or into interventions that address the structural causes at the root. Research has instead centered on individual resilience and well-being strategies that have limited impact –three Cochrane reviews on the prevention of stress and promotion of resilience in HCW concluded that the most common interventions (resilience and mindfulness-based interventions) used to address HCW burnout and stress were equivalent to no intervention in their long-term impact (Jung et al., 2021; Kunzler et al., 2020; Ruotsalainen et al., 2015). Authors of another systematic review specific to supporting HCW resilience in the wake of epidemics were also unable to conclude with high confidence that any of the identified interventions in the literature, which included training and psychological support, were effective (Pollock et al., 2020).

A self-perpetuating cycle of inadequate staffing, burnout, post-traumatic stress and high turnover have been documented in the research literature for decades, with limited progress made in addressing the structural causes at the root of nurse and patient harm (French et al., 2022; Lasater et al., 2021; Schlak et al., 2021). However, nursing research has illustrated the impact of nurse practice environments on nurse and patient well-being, correlating characteristics of the work environment with outcomes including quality of nursing care, emotional and psychological health, job engagement and retention, and the frequency of work-related accidents (Wei et al., 2018). Investigators have also reported a relationship between nurse burnout, job dissatisfaction, intent to leave, patient satisfaction, and mortality and scores on the Nurse Practice Environment

Scale, a valid and reliable tool developed to assess nurse work environments (Lake et al., 2019). More recent research analyzing pre-COVID data also found that healthy work environments attenuate the relationship between nurse burnout and patient mortality, failure to rescue, and length of stay (Aiken et al., 2022). Elements common to healthy nurse practice environments are supportive leadership, autonomy, participation in policy decisions, collaborative relationships, and sufficient resources and staffing (Lake et al., 2019; Schlak, 2021; Wei et al., 2018).

The pandemic's negative impact on nurses has been well-documented in quantitative and qualitative research. In a cross-sectional study that surveyed physicians, residents, nurses and advanced practice providers, investigators found that nurses reported the highest rates of acute traumatic stress, depression, and anxiety during an early peak in COVID-19 admissions in 2020 (Shechter et al., 2021). Three years later, the American Nurse Foundation's Annual Impact Assessment Survey reported that 66% of respondents were experiencing stress, 44% were experiencing burnout, and only 31% perceived that their organizations care about their well-being (ANA, 2023). Qualitative research provides additional perspective – themes of "unbearable suffering" (Littzen-Brown et al., 2023), "fear," sense of "disposability" (Jun & Rosemberg, 2022), and "disrupted nurse-patient connections" (Stimpfel et al., 2022) were identified as impacting nurses' mental and emotional health during the pandemic.

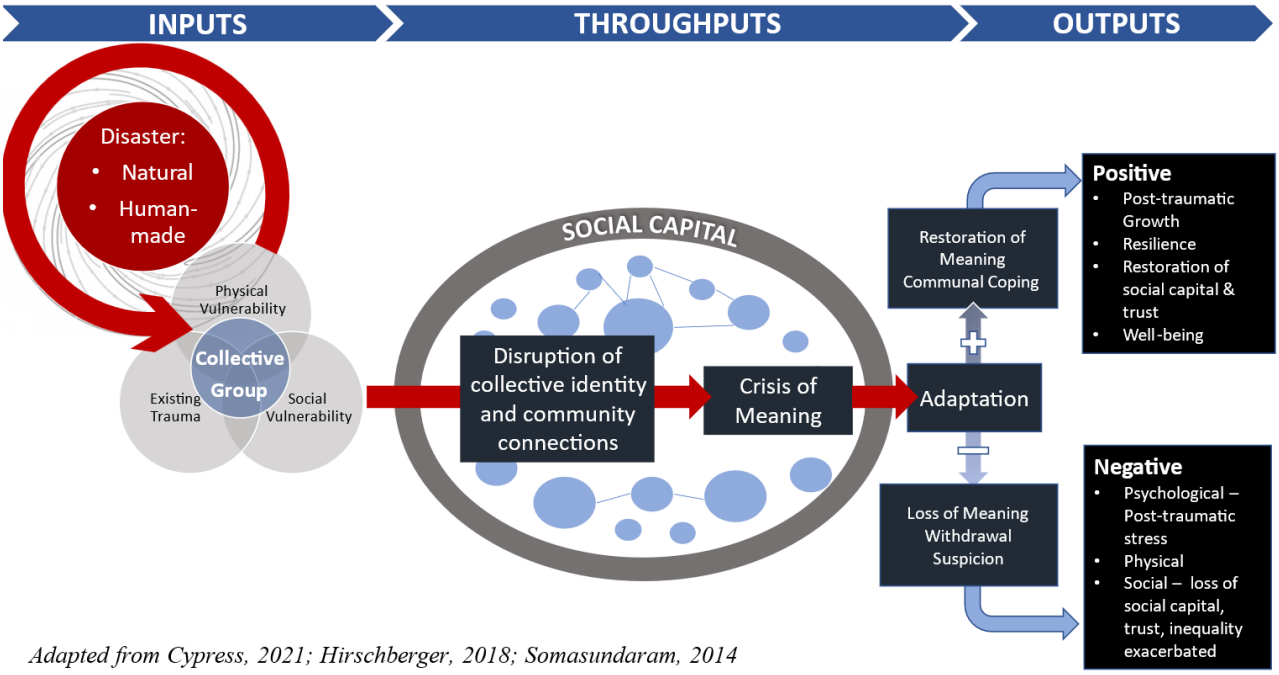
Conceptual Framework

Epidemics are a sociological phenomenon with long-term consequences for societal well-being (Greene & Vargha, 2020; Fairman, 2020; Forbes, 2021). Collective trauma (Figure 1) was used to explore the impact of the pandemic because it conceptualizes trauma as a communal wound experienced by and transmitted among members of a group, many of whom may not have directly experienced the traumatic event (Cypress, 2021). Sociologist Kai Erickson is credited

with the first use of the term, describing collective trauma as "a blow to the basic tissues of social life that damages the bonds attaching people together and impairing the prevailing sense of communality" (Erikson, 1976, p. 194). Social capital is central to the collective trauma framework as an indicator of community cohesion, engagement and trust (Somasundaram, 2014). The loss of community triggers a search for meaning to re-establish a sense of collective identity, connection and purpose (Hirschberger, 2018).

Figure 1.

Collective Trauma Model



Adapted from Cypress, 2021; Hirschberger, 2018; Somasundaram, 2014

The acute phase of the COVID-19 pandemic has passed, but the chronic structural and social issues it amplified remain, including staffing shortages, mental health concerns, and burnout among nurses (Martin et al., 2023). The challenges are well-documented, but less understood are the ways in which nurses construct meaning from the experience of providing care during an epidemic (Fairman, 2020). Viewing the pandemic as an ongoing collective trauma

adds to the body of knowledge by incorporating the experiences of nurses in multiple settings for a comprehensive view of the social and structural factors impacting nurse well-being. Therefore, the purpose of this study was to describe the experience of nurses practicing in the acute care or skilled nursing settings during the COVID-19 pandemic to advance the knowledge of the structural factors that impact nurse well-being.

Methods

Study Design

We used a qualitative descriptive design informed by the concept of collective trauma. Qualitative description addresses a topic of clinical concern while staying close to the voices of participants (Sandelowski, 2010). Descriptively valid findings from qualitative descriptive studies form a strong foundation to inform policy, educational, and behavioral interventions (Willis et al., 2016). The Primary Investigator (PI) was a Registered Nurse with eight years of experience in the neonatal setting who is currently practicing in a nursing professional development role, with responsibility for the transition to virtual educational and orientation platforms during the pandemic. This study builds on previous research utilizing online discourse to explore nurses' pandemic experiences (Evans et al., in press) and was conducted from December 2023 through April 2024. Contextual reflexivity (Walsh, 2024) was addressed by acknowledging that this research occurred four years after the pandemic, at a time when disruptions such as masks, media coverage and social distancing have faded from view but concerns for nursing burnout, stress and high vacancy rates remain. This research project received approval as an exempt study from the Institutional Review Boards (IRB) at East Carolina University (UMCIRB-22-000664) and at Advocate Health (IRB00106444).

Sample and Setting

Participants were recruited using convenience and snowball sampling between December 2023 and January 2024. The study was open to licensed nurses over the age of 18, including Licensed Practical Nurses, Advanced Practice Registered Nurses, and Registered Nurses, who practiced in the acute care or skilled nursing settings between March 2020 and May 2023. Nurses who worked outside of these areas or who did not have any responsibilities for patient care during the pandemic were excluded. The recruitment flyer included a hyperlink and a QR code to a secure enrollment form in the REDCap platform. The flyer was shared electronically via email through the PI's academic and professional network with an invitation to share with nursing colleagues, as well as using an email database of licensed nurses working in the acute care and skilled nursing settings provided by the North Carolina Board of Nursing. In addition, the electronic flyer was shared in an online forum through the North Carolina Nurses Association and on the PI's LinkedIn page.

Nurses who accessed the electronic enrollment form were connected to an introductory disclosure statement informing them of their rights, purpose, and voluntary nature of the study, as well as the inclusion and exclusion criteria. Participants then had the option to proceed by selecting "I agree" to access the demographic survey. Potential participants who did not wish to proceed were directed to exit the survey. Participants who completed the enrollment form and demographic questions and indicated that they worked in the acute care or skilled nursing settings were contacted via email by the PI with an invitation to schedule an interview. Prior to the scheduled interview, the PI sent a message via email reminding participants of the date and time, instructions on how to join the interview, and a contact number in case of questions or concerns.

Ethical Considerations

Participant anonymity was protected by use of the secure REDCap platform for enrollment and demographic data collection and by removing identifiers from the interview transcripts including names and references to specific healthcare facilities, streets, cities, and states. Data was stored in a password protected drive provided by East Carolina University. Access was limited to the PI and co-investigators listed on the IRB application. In addition, the interview protocol was developed using a trauma-informed (TI) approach, which is focused on providing safety, empowerment, and choice to participants to reduce the risks of re-traumatization (Isobel, 2021).

Data Collection

This study utilized an electronic survey to collect demographic data as well as semi-structured interviews conducted via Microsoft Teams. The survey included twelve demographic questions (see Appendix D) regarding nursing licensure, highest level of nursing education, specialty setting during the pandemic, and whether participants had ever been diagnosed with COVID-19. The interview guide was developed to foster a psychologically safe environment for participants to share their perceptions of the long-term impact of the pandemic on their well-being. The use of open-ended questions fostered reflection and encouraged participants to share the experiences that most impacted their personal and professional lives.

The interviews were conducted between December 2023 and February 2024 via Microsoft Teams or by phone, when participants were unable to utilize the videoconferencing platform. The TI-informed interview protocol (see Appendix E) included an introductory statement about opting out of any questions that the participant was not comfortable discussing, and participants were encouraged to pause and to take breaks at any time (Isobel, 2021). The

questions were intentionally broad, with follow-up probes that could be used as needed, to allow participants to share the experiences that were most meaningful to them. Interviews lasted from 22 to 73 minutes. Interpersonal and methodological reflexivity (Walsh, 2024) were addressed in the following ways: prior to beginning each interview, the PI made sure nurses knew that participation was voluntary and that they could leave at any time, and they were given the opportunity to ask questions and to share concerns.

Data Analysis

Interview recordings were transcribed using Microsoft Teams software. Transcripts were then proofread and verified by the PI (KE). Transcripts were read multiple times by the PI, who highlighted key passages and took reflective notes to develop familiarity with the data. An initial coding structure was developed based on concepts identified from literature on collective trauma and meaning making, as well as recurrent keywords identified in the transcripts. The initial codebook was reviewed with a nurse scientist with expertise in qualitative research. Initial codes were pilot tested on ten transcripts, and the code book was revised to combine similar codes and to remove codes that were a poor fit to the data. The PI and qualitative research expert (KL) met to review the results of pilot testing and agreed on the finalized code book. Each transcript was coded using the revised code book. Content and thematic analysis were applied (Braun & Clarke, 2006). Analytic techniques included reflective memos and the development of matrices that provided a visual display of related code words and exemplar quotes. In the second cycle of coding, codes were clustered into patterns to develop themes and sub-themes (Miles et al., 2020).

Trustworthiness

The PI and qualitative research expert met multiple times over the course of six weeks to develop the coding structure, to discuss analytic strategies and come to consensus on thematic

findings. An audit trail was kept that included analytic memos, revisions to the coding structure, and matrices of the emerging categories and themes. Interpretations of the data were discussed to achieve consensus on final themes and subthemes.

Results

Sample

Fifty-two nurses completed the enrollment form. Seven did not respond to email requests to schedule an interview, and nine scheduled interviews but did not attend. Recruitment concluded after 33 interviews were completed, as code and meaning saturation had been reached (Hennink et al., 2017). Three interviews were excluded from data analysis due to the subjects' roles not involving direct patient care during the pandemic, for a final sample of 30 interviews (N=30). Interviews lasted from twenty-two to seventy-three minutes.

Demographic characteristics are summarized in Table 4. During the pandemic, 10 participants (33%) worked in the Medical-Surgical setting, 7 (23%) in the Emergency Department, 5 (16.7%) in Critical Care, with the remaining participants in the Skilled Nursing (3), Labor and Delivery (2), Operating Room (1), Post-Anesthesia Care (1) and Progressive (1) areas. Seven (23.3%) participants were new graduate nurses during the pandemic, and 8 (27%) reported being redeployed to other areas. At the time of the interviews, 16 (53%) of participants reported working in a direct care role, five (17%) were in a blended role that included direct care as well as administrative or educator responsibilities, four (13%) were in educator roles, and three (10%) were nurse managers. Two (7%) participants were not working in a formal nursing role at the time of the interview. Twenty-seven participants (90%) reported that they had been infected with the COVID-19 virus (90%), while 29 (97%) had a close friend or relative who had been infected.

Table 4

Participant Characteristics (N=30)

Characteristic	Description
Average Age	41.43 Years
Gender	
Female	93% (n=28)
Male	7% (n=2)
Race	
Asian	3% (n=1)
Black/African-American	3% (n=1)
White	87% (n=26)
Prefer not to Answer	7% (n=2)
Ethnicity	
Hispanic or Latinx	10% (n=3)
Not Hispanic or Latinx	83% (n=25)
Prefer not to answer	7% (n=2)
Nursing licensure	
APRN	3% (n=1)
LPN	3% (n=1)
RN	93% (n=28)
Highest RN degree*	
Associate	7% (n=2)
BSN	50% (n=15)
MSN	30% (n=9)
DNP/PhD	10% (n=3)
NA (LPN)	3% (n=1)
Years of experience	
1-5	23% (n=7)
6-10	17% (n=5)
11-20	23% (n=7)
21-30	23% (n=7)
31-40	10% (n=3)
41-50	3% (n=1)
Practice setting (pandemic)	
Critical Care	17% (n=5)
Emergency Department	23% (n=7)
Labor and Delivery	7% (n=2)
Medical-Surgical	33% (n=10)
Operating Room	3% (n=1)
Post-Anesthesia Care	3% (n=1)
Progressive Care	3% (n=1)
Skilled Nursing	10% (n=3)
Redeployed (pandemic)	
Yes	27% (n=8)

No	73% (n=22)
Geographic Location	United States – Florida, Iowa, Georgia, North Carolina, Ohio, New Mexico, Tennessee
Current Role	
Direct care	53% (n=16)
Direct care (blended)**	17% (n=5)
Education	13% (n=4)
Nurse Manager	10% (n=3)
Not currently working as a nurse	7% (n=2)

**Includes RNs and APRN participants only*
***Direct care with leadership or education responsibilities*

Themes

The three themes identified in this study were Systemic Deficiencies, Erosion of Professional Identity, and Societal Fractures. The themes, subthemes and exemplar quotes are depicted in Table 5.

Table 5

Themes, subthemes and exemplars

Theme and subtheme	Exemplar quote
I. Systemic Deficiencies	
Ia. Increased demands	"I honestly even feel like that post-COVID has been much harder... Yes, we don't have to worry about wearing PPE as often yes, we don't have to worry about getting each other sick as often, but just, like, the expectations of trying to get back to normal... we have all these expectations now, and we're all just trying to recover from it." (Participant #20)
Ib. Unmet needs	"So one of the things I saw a lot when, as COVID was progressing, was a lot of talk about resilience... I almost felt like it was like, OK, you got a buck up and just be resilient... And I'm thinking, yeah, no... we need more than pizza and, you know, parties... they actually need counseling... I don't have the answer, but I think it's gotta be more than just talking about resilience, which was a lot of what was happening during COVID. Like I didn't need one more

	person when I did that class to tell me to just be resilient... I'm already fighting, like, I didn't need that." (Participant #26)
II. Erosion of Professional Identity	
IIa. From hero to victim	"[W]e are humans as well. We're not superheroes. We're not like these magical beings that can do everything, like we still require the basics, basics, safety, basic lunch breaks like we are still human beings and I feel like we get put on this weird pedestal a lot as nurses like 'ohh, you're angels and you're heroes and you do all these things I couldn't do'… A lot of people couldn't do what we do, but why should we be treated any differently?" (Participant #43 #14)
IIb. From camaraderie to disengagement	"I think probably the biggest challenge for me is that I feel like we have lost our nursing identity when we had a lot of staff turnover and we took in travel nurses, and even though we had some fantastic ones that whole team thing was, was gone. I mean you're working with new people, we're all nurses. We all have the same goal of taking care of the patients, but it's not the same community that you had worked with for 10, 12, 15 years." (Participant #4)
III. Societal Fractures	
IIIa. Polarized relationships	"At first, we were heroes. And then we were the main people who wouldn't let family come in… So we lost trust of the general public, in a way." (Participant #27)
IIIb. Politicized care	"For me personally, just a distrust and a feeling like I don't belong in this organization… I love my team. I love my patients. I love the work that I do, but... I'm not as proud to be part of the medical community as I was before." (Participant #11)

Theme I: Systemic Deficiencies

Participants described the challenge of workplaces attempting to return to normal after years of pandemic-related practice challenges in two subthemes – increased demands and unmet needs.

Subtheme Ia: Increased demands

Nurses described how the demands of returning to pre-pandemic practice standards were complicated by ongoing staffing challenges, increased patient acuity, and a workforce depleted by more than three years of fear, uncertainty, and stress. Several participants described the dissonance between the public perception that the pandemic was over with the reality of conditions in their hospitals – staffing remained participants' major workplace concern, impacting the ability to provide safe care. Patients were also described as more acute than they had been before the pandemic, requiring more nursing care in the context of fewer resources. An inpatient oncology nurse who began their career in the first year of the pandemic stated,

> I honestly even feel like that post-COVID has been much harder... Yes, we don't have to worry about wearing PPE as often yes, we don't have to worry about getting each other sick as often, but just, like, the expectations of trying to get back to normal... we have all these expectations now, and we're all just trying to recover from it." (Participant #20)

Nurses in other specialty areas described similar experiences, perceiving increased pressure from leaders that led to frustration and worsened morale. Several Emergency Department nurses discussed overflowing waiting rooms and unmanageable patient volumes, which they attributed to the continued impact of delayed care during the pandemic. Despite strained resources, leadership expectations remained high. An experienced ED nurse stated, "[I]n morning huddles, you'd see everybody's sort of down and depressed. And it was just more of 'Here's how you guys are sucking this week. Here's how you guys are falling short of this metric'..." (Participant #12)

This pressure to perform, coupled with insufficient resources, led to concern from participants that nurses would continue to leave for less demanding settings. One nurse described her reason for transferring to a less acute unit,

> I could not live with myself anymore. Coming home and feeling like these people are having the worst days of their life... And I feel like I'm failing them, and I know that I have it in me to do this well, but the system is not set up for me to do that. (Participant #13)

Subtheme Ib: Unmet needs

In the context of increased expectations and feeling chronically overstretched, many participants were frustrated by not being heard, seen, or supported by their leaders. During and after the pandemic, participants shared examples of their concerns regarding staffing, safety, visitation policies, and input on process decisions not being valued. An experienced nurse in the Medical-Surgical setting shared,

> It's rough out there... [We] asked a couple times if we could change our ratios… I've asked the chief nursing officer to review it, and we get the same response, 'The ratios are appropriate'… but if you look at the charting, the patients aren't getting what they need. And nothing changes." (Participant #27)

Participants also described the importance of leader visibility and presence. While there were examples shared of leaders who regularly appeared on the unit to assist in patient care, nurses also described frustration with leaders who communicated from a distance. A Medical-Surgical nurse shared, "[T]hey would always send emails… saying 'we support you, you're heroes,' this, that and whatever, but I think more people would appreciate being visible and getting hands on and in it with them" (Participant #28). Several participants used the phrase "walk in my shoes" to describe what they wanted from leaders – a willingness to help with patient care, to understand their work, and to provide encouragement, rather than criticism for minor tasks not being completed.

Several participants also described the disconnect between what nurses needed to support their well-being and what their workplaces offered. In one instance, an experienced ED nurse described the resilience interventions offered in their hospital as a "blame the victim" approach – implying that the problem with nurses' well-being is their lack of mindfulness and self-care. Similarly, a participant in the Labor and Delivery setting stated,

> [There] was a lot of talk about resilience... I almost felt like it was like, 'OK, you gotta buck up and just be resilient'... And I'm thinking, yeah, no... we need more than pizza and parties... they actually need counseling. (Participant #26)

Rather than resilience lessons and pizza, participants identified leadership support, time away from work and mental health support as their major needs, citing protected time for counseling, emotional processing, and peer support as gaps in their workplaces. Several participants compared nursing to military deployment, and questioned why mental health resources were not automatically provided after a traumatic experience.

Participants also described disappointment in leaders' lack of recognition for their work through the pandemic. Nurses at all levels of experience felt their contributions were overlooked, both in terms of compensation compared to travel nurses, as well as personal acknowledgement from leaders. Several described feeling like "just a number", rather than valued individuals. One participant stated,

> I think it was hard for me to see… that the 30 years that I have spent at the hospital really are irrelevant... [T]here's been no reward. There's been no recognition for any length of stay for staying through it [the pandemic]. (Participant #6)

Theme II: Erosion of Professional Identity

Structural deficiencies in the workplace led many participants to feel disillusioned with the nursing profession. Nurses described the weight of expectations placed upon them to be heroes or martyrs, as well as the realization that the nursing community had changed in the wake of the pandemic.

Subtheme IIa: From hero to victim

In contrast to media depictions of nurses as superheroes during the pandemic, participants frequently used the words "burned out" and "exhausted" to describe the state of nursing in the aftermath. Several participants noted the cumulative impact of workplace-related trauma, described by one nurse in these words,

> [I]t just happens time and time again where you have a really traumatic situation or a patient death and you have to walk in with a smile to the next room… But those experiences live with you, sometimes forever." (Participant #13)

Nurses discussed how unrealistic role expectations from the public and from within the nursing profession exacerbated their burnout and trauma. Participants verbalized frustration with being referred to as heroes, recognizing the harm that came from internalizing these expectations. Nurse heroes are expected to be able to, as described in the previous quote, repeatedly transition from losing one patient to caring for the next. As impossible expectations collided with reality, participants recognized that their roles as nurses did not make them invulnerable to burnout and trauma. An Emergency Department nurse described realizing "I should be a healthcare hero, but I'm just a victim" (Participant #12).

Participants also described an entrenched culture of nurse martyrdom. From missing lunch breaks to picking up extra shifts, nurses observed that colleagues would regularly deny their own needs. Nursing leaders and peers rely on nurses' sense of obligation for the daily

running of their units. Multiple participants observed that nurses routinely work extra shifts to "save the day" for their teams, leaving no time for them to rest, recover or heal from traumatic experiences. Participants also recognized the structural role of gender – as a predominantly female profession, nursing is impacted by social expectations of women as self-sacrificing caregivers who are, in one participant's words, "constantly pouring into everyone else" (#24) in their personal and professional lives. Exacerbating the issue is the way in which some nurses believe martyrdom is a badge of honor, perpetuating the expectation of self-sacrifice.

Most participants recognized the need to reject the hero and martyr narratives in favor of one in which nurses are recognized as humans with physical, emotional, and psychological needs. An ED nurse observed:

> [W]e are humans as well. We're not superheroes. We're not like these magical beings that can do everything… we still require the basics, basic safety, basic lunch breaks… I feel like we get put on this weird pedestal a lot as nurses like, 'Oh, you're angels and you're heroes and you do all these things I couldn't do'… (Participant #14)

In addition to the basics of meal breaks and safety, several nurses discussed the need to prioritize mental health needs over professional obligations to heal from the effects of burnout, exhaustion, and trauma. Nurses recognized that there were limits to what they could or should be expected to offer their profession. One participant captured this sentiment, stating, "Nursing will never love you as much as you love it, so don't miss out on your life because of it" (Participant #5).

Subtheme IIb: From camaraderie to disengagement

Participants also described changes to their professional communities that they attributed to the pandemic. Several participants described the importance of their peers in helping them manage the early impact – colleagues covered each other's shifts and helped one another cope

with constant change. Most participants described an initial sense of camaraderie, but over time this feeling of teamwork and connection frayed as long-time colleagues were replaced with temporary help, such as float or travel nurses, as well as with new graduate nurses who lacked knowledge or experience.

While high turnover rates were common before the pandemic, participants perceived a major shift in the continuity and cohesiveness of their teams due to the loss of their colleagues. The impact of travel nursing was cited by most participants – the pandemic created both a staffing crisis and an opportunity for nurses, as many healthcare systems turned to travelers as a short-term solution. Reliance on travel nurses impacted the social fabric of nursing teams. A critical care nurse said,

> I think probably the biggest challenge for me is that I feel like we have lost our nursing identity when we had a lot of staff turnover and we took in travel nurses, and even though we had some fantastic ones, that whole team thing was gone… We all have the same goal of taking care of the patients, but it's not the same community that you had worked with for 10, 12, 15 years." (Participant #4)

Related to high turnover, another factor in the loss of community was sustained stress due to insufficient staffing – participants noted that teamwork suffered because colleagues were too busy caring for their own patients to care for one another, and some described an increase in lateral violence resulting from nurses' fatigue.

Participants in all settings shared concerns about the impact of hiring large numbers of new graduate nurses to fill positions vacated by experienced nurses post-pandemic. Educational preparation and socialization were important factors cited by participants. Social distancing requirements during the pandemic accelerated a shift to virtual learning for educational programs

at every level, as well as fewer opportunities to develop communication skills. Some participants stated that new nurses, accustomed to social media and virtual learning with limited in-person interaction, were less skilled at connecting with patients and exhibited less professionalism and teamwork. There was also concern that new nurses did not have a supportive community available to teach and to support them, due to the loss of experienced nurse colleagues. A progressive care nurse pointed out the long-term ramifications of lost nursing knowledge,

> [N]ew nurses are training the new nurses, and they've only been on the floor for, like, a year... [T]he turnover is, like, boom, boom, boom. So you gotta be ready to teach the next person, and to me that's scary because it's like somebody's writing something down… But they're being told something so fast that they're not writing everything down, and then they tell the next person what they've written down. And that's only half of what they got… So the next person's only getting half of that. (Participant #25)

In contrast, several nurses who entered the profession during the pandemic commented positively on the opportunities this provided, observing that without the shortage of experienced nurses, they would not have so quickly been offered opportunities to take on leadership or educational roles.

One outcome of erosion of professional identity was a loss of engagement that some participants noted both in themselves and in their colleagues. One participant described it as "pulling away" (#4) from a profession that they perceive as less focused on connecting with patients, while another stated they were unwilling to give any more of their life to nursing. In contrast, a small number of participants described an increased sense of commitment resulting from their experience. An ED nurse shared, "I did come into being a nurse with a purpose, and I

don't feel like it changed. I just feel like it got more important… I was able to see how much we really can make a difference." (Participant #19)

Theme III: Societal Fractures

Disruption in trust led to societal fractures, which was represented by two subthemes – polarized relationships between nurses, patients and the public, and politicized care, which impacted nurses' faith in political and healthcare institutions.

Subtheme IIIa: Polarized relationships

Early in the pandemic, participants described an initial sense of solidarity that included expressions of public support, such as food donations and sidewalk art praising healthcare workers. Several participants described the transition that occurred over time, as valorization from the public turned to hostility and mistrust due to differing beliefs about the COVID-19 virus and public health measures. Visitation policies that kept families from patients were a major concern, with nurses perceiving that they were blamed for enforcing policies that they did not create: "At first, we were heroes. And then we were the main people who wouldn't let family come in… So, we lost trust of the general public, in a way" (Participant #27). In another example of changing community sentiment, a nurse in the critical care setting described protestors outside her hospital holding signs accusing the hospital of killing their family members.

Nurses described the continuing impact of distrust on relationships with patients. One participant working the Medical-Surgical setting said, "I've seen a shift the last year… people don't trust nurses anymore…" (Participant #10). Nurses also described how this loss of trust has impacted present behaviors – compared to before the pandemic, patients and families are less willing to follow hospital policies and more likely to question their care. At times, distrust escalates – nurses in multiple settings described patients and families as angry and hostile,

threatening their safety. An intensive care nurse shared, “[W]e've seen hot emotions run high… one of our nurses was followed to her car and the family member was gonna try to beat her up.” (Participant #28)

Subtheme IIIb: Politicized care

Some nurses described how their trust in healthcare and political systems was impacted by their pandemic experiences. Like the community, nurses held contrasting beliefs about the COVID-19 virus. Most often, participants expressed frustration with those who downplayed the danger and contributed to misinformation, including government leaders. A nurse who started their career on a Medical-Surgical unit during the pandemic described how difficult it was to navigate pandemic-related discourse in the community:

> [I]t's changed my outlook on working with the public unfortunately. [It was] so frustrating, because of the misinformation being spread. It was hard to separate work from home in those conversations and to not wanna get on my soapbox, especially with the whole ‘COVID's just another flu. It's not really killing people.’ We're just doing it for, you know, insert whatever kind of political thing for it not being real. (Participant #8)

However, two participants felt that government and medical institutions overstated the danger of the virus, harming public health by isolating patients and community members. A participant in the post-anesthesia care setting described how this resulted in “distrust and a feeling like I don't belong in this organization... I'm not as proud to be part of the medical community as I was before” (#11).

Vaccination policies were another source of mistrust, with three participants feeling strongly that the vaccine was developed too quickly and should not have been mandated. While more participants referenced the vaccine in positive terms, there was widespread

acknowledgement that vaccine policies had a negative ripple effect – nurses who were not granted exemptions left, exacerbating staffing shortages. A labor and delivery nurse described how her organization's vaccine policy "fractured" her unit and, in turn, her trust. Seeing experienced co-workers leave, only to be replaced by travelers, made her feel devalued: "[N]ot that probably anybody ever like, really, really trusted their employer and senior leadership, but I think there's an even bigger breach between us now… I feel very manipulated by the system… I don't trust anything anymore…" (#5)

Discussion

This qualitative descriptive study included a sample of nurses representing a range of experience levels who practiced in diverse settings to explore the social and structural factors that impact nurse well-being in the aftermath of the COVID-19 pandemic. Prior research has clearly shown negative effects on staffing and turnover, as well as a troubling emotional and psychological toll. Camaraderie, peer support and pride in nursing were identified as facilitators of nurse well-being during the first two years of the pandemic, indicating that nurses had adapted to challenge with a sense of duty, pride, and collective resilience (Jun & Rosemberg, 2022; Stimpfel et al., 2022; Watson, 2024). The current study extends these findings by describing the long-term impact of the pandemic on the nursing community, indicating that, over time, role identity, professional camaraderie, and trust are vulnerable to structural challenges including insufficient staffing, unmet needs for psychological support, socially constructed role expectations, and loss of peer support. Consistent with the collective trauma framework, the three themes – Systemic Deficiencies, Erosion of Professional Identity, and Societal Fractures – illustrate how the pandemic's long-term impact on collective identity and social capital intersects with existing structural factors influencing nurse well-being.

Systemic Deficiencies

An antecedent to collective trauma is the existing vulnerability of a collective group, which may include prior experiences of trauma. Prior to the pandemic, nurses experienced a workplace environment that placed them at risk for burnout and traumatic stress which increased their vulnerability to the impact of COVID-19. The result is a post-pandemic workplace that is systemically deficient – while nurses are facing increased pressure to care for sicker patients, their needs for adequate staffing and mental health support remain unmet. This environment continues to place nurses and other healthcare workers at elevated risk for exhaustion, burnout and traumatic stress. Findings from a recent cross-sectional study of more than 7,000 nurses illustrate this connection – when nurses were asked the top reasons for ending employment, 26% cited burnout and 21% selected insufficient staffing (Muir et al, 2024).

The impact of unaddressed traumatic experiences that nurses routinely experience in the workplace – patient suffering, death and overwhelming workloads – takes a toll on physical and mental health, but findings from this study indicate that the most common organizational approaches to improving occupational well-being are not having a significant impact. Participant references to their organizations' wellness offerings in this study were most often neutral, implying they were neither helpful nor harmful, with many commenting on the lack of time available to access these resources. Notably, most participants were drawn from one multi-state healthcare system, which provides a corporate wellness program that includes access to online health coaching, educational offerings related to promotion of healthy habits, resilience and self-care, as well as six counseling sessions per year at no cost. However, participants most often listed leader support, improved staffing, and easily accessible mental health resources as organizational interventions that would most benefit their well-being.

This finding is consistent with a recent study reporting that nurses and physicians rated improved staffing and work environments as more impactful to their mental health than interventions focused on individual clinician wellness, such as resilience training and wellness committees (Aiken et al., 2023). Further demonstrating the role of nurse staffing, research also illustrates a link between the number of nurses, patient safety and nurse retention (Aiken et al., 2010; Lasater, Aiken, Sloane, French, Anusiewicz et al., 2021). Federal staffing ratio legislation has been proposed in response to chronic staffing shortages exacerbated by the pandemic, most recently in 2023 (H.R. 2530/S.1113) but has faced opposition from healthcare interest groups. Currently, only California and Massachusetts have implemented nurse staffing ratio legislation (Han, Pittman & Barnow, 2021).

In addition to staffing, the findings of this study underscore the importance of mental health support. Participants described interventions such as debriefs or access to counseling immediately after difficult situations as essential to managing workplace trauma. In 2022, lawmakers responded to increasing rates of occupational trauma and mental health challenges among healthcare workers by passing the Dr. Lorna Breen Healthcare Provider Protection Act (HR 1667), named in honor of an emergency physician who died by suicide in the early days of the pandemic. The law provides grant funding to implement programs to support the mental health and well-being of HCW. As of 2024, however, only 1% of hospitals have received grant funding (Dr. Lorna Breen Heroes' Foundation, 2024).

Erosion of Professional Identity

Embedded in the idea of collective trauma is the notion of a collective identity, and the harm that results when connections are disrupted by disaster (Abrutyn, 2023; Hirschberger, 2018). Findings from this study illustrate the impact of collective identity on nurse well-being,

and the ways that expectations from both the public and from nurses themselves eroded professional identity in the aftermath of the pandemic. The loss of professional identity was the primary crisis of meaning that nurses experienced as they navigated changing community sentiment, unrealistic role expectations, and the loss of peer support networks.

Negative impacts of the hero and martyr archetypes demonstrate the influence of socially constructed identity on individual well-being. Unrealistic role expectations exacerbate burnout and trauma, because the desire to live up to the hero and martyr ideals clashes with the reality of the healthcare system and nurses' basic human needs for breaks, rest, and mental health support. This finding is consistent with recent quantitative research which found that attaching the label "hero" to an occupation (nurses, teachers, military veterans) promotes exploitation by increasing societal expectations (Stanley & Kay, 2023). The perception of nursing as a calling for heroes creates pressure on nurses to work even when they are physically and emotionally exhausted, neglecting their health to care for others (Cox, 2020). Participants also noted the structural influence of gender on societal expectations – as a predominantly female workforce, nursing is perceived as inherently nurturing and self-sacrificing. As a result, nursing is often undervalued as a skilled profession and entrenched power dynamics position hospital executives, who are predominantly male, at the top of the healthcare hierarchy (Lingel, 2022).

Erosion of professional identity also included a sense of disengagement from the nursing community. In contrast to earlier qualitative research (Jun & Rosemberg, 2022; Stimpfel et al., 2022; Watson, 2024), participants in this study perceived that their networks of peer support had diminished significantly in the aftermath of the pandemic, due to continued turnover and sustained stress in the workplace. The travel nurse industry was cited by multiple participants as a key contributor to loss of peer connection and is also a symptom of long-standing structural

issues in healthcare, providing nurses with access to higher pay and a sense of independence that most permanent positions do not provide. Participants described the implications of the loss of connection among nursing teams, which included a decline in professional engagement, as well as concern for the needs of new nurses entering the profession without a strong network of experienced nurses to support them. Research on social capital in nursing, while limited, is consistent with this finding, indicating that social cohesion is positively related to job satisfaction and inversely related to emotional exhaustion and mental distress (Kowalski et al., 2010; Xu et al., 2020).

Societal Fractures

Findings from this study indicate that trust, a key element of social capital (Somasundaram, 2014; Xu et al., 2020), has suffered in the wake of the pandemic, contributing to a fracture in the fabric of society. Trust is fundamental to Erikson's conceptualization of community, providing the "scaffolding" for the functioning of relationships at every level – personal, professional and institutional (Arbutyn, 2023; Erikson, 1994, p. 242). Disruptions in trust after the pandemic have fractured this foundation, impacting nurses' perceptions of relationships with patients, the community, leaders, and institutions.

Misinformation and resistance to public health measures were sources of mistrust that continue to impact nurses' interactions with patients, families and community members, but evidence for an increase in distrust and hostility toward nurses during the COVID-19 pandemic is mixed. Nursing has topped the Gallup poll as the nation's most trusted profession for 22 years, but the percentage of respondents agreeing that nurses have "very high" or "high" ethical standards has dropped 11 percentage points since 2020, reflecting a general downward trend in public trust for almost all professions (Brenan & Jones, 2024). Like staffing and burnout,

workplace violence (WPV) is an existing problem in healthcare, with one pre-pandemic systematic review estimating that 61% of HCW had experienced verbal abuse, threats, sexual harassment or physical violence (Liu et al., 2019). Whether the rate increased during and after the pandemic is unclear – three systematic reviews of WPV among HCW during the pandemic identified rates ranging from 43-47% (Hadavi et al., 2023; Ramzi et al., 2022; Zhang et al., 2023). However, WPV in healthcare has been steadily increasing since 2011, the first year it was classified and reported as an occupational injury (U.S. Bureau of Labor Statistics, 2020). WPV is also underreported by nurses, who may, due to role expectations, believe that tolerating verbal and physical abuse is part of their job (Byon et al., 2021).

Nurses' trust in healthcare and government institutions also declined, leaving some participants feeling devalued and disconnected from their leaders and organizations. Disagreement with vaccine and visitation policies as well as the lack of pandemic preparedness were major sources of nurses' distrust. This finding is consistent with data from a repeated cross-sectional study that identified a decline in nurses' confidence in their leaders to manage clinical concerns after the pandemic (Aiken et al., 2022), as well as a general decline in public trust for institutions like government and media over the past two decades (Kavanaugh et al., 2020). However, there is limited research exploring or measuring the concept of institutional trust among nurses prior to or after the COVID-19 pandemic (Brewer, 2023).

Implications for Policy, Practice and Research

Findings from this study highlight the importance of addressing the underlying causes of occupational burnout, stress and trauma that arise from the social and work environments, rather than from the individual nurse. There are two pieces of proposed federal legislation that could potentially foster positive structural change in the areas of staffing and accessibility of mental

health resources – the Nurse Staffing Standards for Hospital Patient Safety and Quality Care Act (H.R. 2530/S.1113) and the Dr. Lorna Breen Healthcare Provider Protection Act (HR 1667). Nurse participation in policy advocacy, individually or via professional organizations, is an important strategy to influence the policies that shape the healthcare system.

Unrealistic role expectations and lack of time, most often caused by understaffing, were major factors cited by participants that negatively impact their well-being. Healthcare and nursing professional organizations could begin to address these barriers by advocating for culture changes that support nurses' ability to prioritize their own well-being. This could include discouraging the use of hero imagery and metaphors when referring to nurses, instead acknowledging nurses as dedicated professionals whose basic needs for rest and safety must be met for them to accomplish their work. Supporting time away from the workplace could include reviewing attendance policies to remove punitive actions for nurses who need time off for physical or mental health needs. Leaders could also implement routine debriefs and counseling support for nurses after a patient loss or other traumatic experience. The cost of this additional mental health support could potentially be defrayed through grant funding provided by the Lorna Breen Healthcare Provider Protection Act.

Organizations should also invest time and resources in rebuilding social capital and trust lost during the pandemic. This process should include enhanced training and support for new graduate nurses, who are entering the profession at a time when experienced nurses are stretched increasingly thin. Supporting the development of positive peer relationships between new and experienced nurses could include implementation of mentor programs, which have benefits for both mentors and mentees (Kakyo, Xiao & Chamberlain, 2022). Consistent with recommendations from the National Academy of Medicine's Action Collaborative for Clinician

Well-being and the *Future of Nursing 2020-2030 Report,* health care organizations can also support nurse well-being by investing in shared governance to amplify nursing voices to influence organizational decisions. Finally, organizations should adopt holistic frameworks that address well-being through a systems approach focused on addressing structural factors and building trust (NASEM, 2021; NIOSH, 2024; Schlak et al., 2021).

Future research is needed to establish a standard definition of nurse well-being, which is often left undefined in well-being research (Patrician et al., 2022). Defining well-being in the context of nursing is an essential step in developing methods to measure it, so that longitudinal studies can be conducted to test occupational well-being frameworks for impact on both nurses and patients. The three major themes – Systemic Deficiencies, Erosion of Professional Identity, and Societal Fractures– align with the collective trauma framework's focus on the long-term impact of disaster on social cohesiveness, meaning-making and collective well-being. The findings offer additional insight into understanding the antecedents and throughputs in the collective trauma framework, but more research is needed on the outcomes. Nurses in this study most often made meaning of their experiences in relation to their collective role identity, describing the tension between unrealistic hero and martyr expectations and their very human needs for rest, mental health support, and time away from their roles as nurses. Additional research is also needed to clarify the relationships between major concepts in the collective trauma framework, including how disruptions in social capital and meaning-making processes impact well-being outcomes. This will require use of consistent operational definitions of those constructs, as well as the development and use of consistent measurement tools.

Limitations

The use of nursing voices to describe the long-term impact COVID-19 is an important addition to current discourse on nurse well-being, but there are some limitations to consider. While participants were diverse in terms of practice setting and experience levels, they similar in terms of gender, race, and culture. Only two participants reported being Black (3%) or Asian (3%), three (10%) reported being Hispanic/Latinx, and two (7%) were male. Our sample is less diverse than the nursing profession, which is also less diverse than the general population (U.S. Bureau of Labor Statistics, 2024).

Conclusion

In this study, participants identified that the primary barriers to occupational well-being were rooted in structural work conditions, not in their individual capacity for resilience. These barriers include unrealistic role expectations, lack of time, and inadequate staffing, while facilitators include time away from work, leader support, and accessible mental health resources. The findings add to the literature on the long-term impact of collective trauma and may provide a new perspective on the structural factors that shape nurse well-being, especially in the aftermath of a public health emergency. Insights from this study, including the structural influences of the work environment and the social construction of nursing role expectations, may provide guidance for leaders and policymakers seeking to understand the experience of providing care in the context of disaster and to improve nurse well-being. More research is needed to further formalize collective trauma as a framework, to understand its long-term impact, and to develop effective interventions that support nurse well-being.

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APPENDIX A: NOTIFICATION OF UMCIRB APPROVAL

EAST CAROLINA UNIVERSITY
University & Medical Center Institutional Review Board
Willis Building · Mail Stop 682
600 Moye Boulevard · Greenville, NC 27834
Office **252-744-2914** · Fax **252-744-2284** ·
rede.ecu.edu/umcirb/

Notification of Exempt Certification

From: Social/Behavioral IRB
To: Kara Evans
CC: Pamela Reis
Date: 11/6/2023
Re: UMCIRB 22-000664
Exploring Nurse Experiences of Collective Trauma

I am pleased to inform you that your research submission has been certified as exempt on 11/6/2023. This study is eligible for Exempt Certification under category # 2 AB.

It is your responsibility to ensure that this research is conducted in the manner reported in your application and/or protocol, as well as being consistent with the ethical principles of the Belmont Report and your profession.

This research study does not require any additional interaction with the UMCIRB unless there are proposed changes to this study. Any change, prior to implementing that change, must be submitted to the UMCIRB for review and approval. The UMCIRB will determine if the change impacts the eligibility of the research for exempt status. If more substantive review is required, you will be notified within five business days.

Document	Description
Demographic Questions-Registration (3).docx(0.02)	Surveys and Questionnaires
Demographic Questions-Registration (3).docx(0.02)	Data Collection Sheet
Informed-Consent-Document-Template-No-More-Than-Minimal-Risk-3-23-20 (1) (1).doc(0.02)	Consent Forms
Recruitment and Interview Guide(0.02)	Interview/Focus Group Scripts/Questions
Revised Recruitment Flyer(0.01)	Recruitment Documents/Scripts
Revised Research Methodology K Evans_4-4-2022.docx(0.01)	Study Protocol or Grant Application

For research studies where a waiver or alteration of HIPAA Authorization has been approved, the IRB states that each of the waiver criteria in 45 CFR 164.512(i)(1)(i)(A) and (2)(i) through (v) have been met. Additionally, the elements of PHI to be collected as described in items 1 and 2 of the Application for Waiver of Authorization have been determined to be the minimal necessary for the specified research.

The Chairperson (or designee) does not have a potential for conflict of interest on this study.

APPENDIX B: NOTIFICATION OF ADVOCATE HEALTH IRB APPROVAL

Fw: IRB: Notification of IRB Approval

Hedvig, Kara <Kara.Hedvig@atriumhealth.org>
Wed 01/03/2024 12:57 PM
To:Evans, Kara <evansk20@students.ecu.edu>

From: eirb@wakehealth.edu <eirb@wakehealth.edu>
Sent: Wednesday, January 3, 2024 11:02 AM
To: Hedvig, Kara <Kara.Hedvig@atriumhealth.org>
Subject: IRB: Notification of IRB Approval

Advocate Health - Wake Forest University School of Medicine

IRB APPLICATION APPROVED

To:	Kara Evans
Study Title:	Nurse Experiences Study
IRB #:	IRB00106444
PI:	Kara Evans
Link to Workspace:	IRB00106444

PLEASE DO NOT RESPOND TO THIS EMAIL- Call (336) 716-4542 if you have questions.

The Insitutional Review Board has reviewed and approved the above referenced research study. Please use the "Link to Workspace" above to access the approval memo, consent forms, assent forms, and other items associated with this study.

Advocate Health - Wake Forest University School of Medicine Institutional Review Board WFUHS: (336) 716-4542

Please do not respond to this email by using the "reply" address. This account is configured exclusively for outgoing messages from eIRB.

WFUBMC users may access eIRB remotely via WFUBMC Citrix Portal. If you have Citrix portal access, click here. If you need access, contact the **WFUHS** HELP Desk at 716-HELP (716-4357).

If the link provided does not work, please see the instructions below for accessing eIRB through your web browser.

Please use the following link for academic applications- Education and Research
https://www.wfusmapphub.com/
for access to eIRB click the Research Applications button and then Huron IRB

Choose the following and enter your Wakehealth.edu username and password

APPENDIX C: CARING SCIENCE, MINDFUL PRACTICE WELCOME SURVEY

1. What is your primary reason for taking an open online course? (Open-ended)
2. Which type of online learner best describes you? (Open-ended)
3. How many hours a week are you planning to spend on this course? (Multiple choice)
    - Less than 1 hour
    - Between 2 and 4 hours
    - Between 4 and 6 hours
    - Between 6 and 8 hours
    - More than 8 hours per week
4. How will this course help you meet your personal or professional goals? (Open-ended)
5. What is your highest level of education? (Multiple choice)
    - High school or college preparatory school
    - Completed 2-year college degree
    - Completed 4-year college degree
    - Some graduate school
    - Master's Degree (or equivalent)
    - Ph.D., J.D., M.D. (or equivalent)
6. Is English your primary spoken language? (Yes or No)
7. Where do you live? (Multiple choice)
    - Africa
    - Asia
    - Europe
    - Middle East
    - Central America
    - North America
    - South America
8. What is your gender? (Male, Female)
9. How old are you? (Multiple choice)
    - 19-24
    - 15-34
    - 25-44
    - 45-54
    - 55-64
    - 65 or older

10. What is your job? (Open-ended)
11. How did you hear about this Canvas Network Course? (Select all that apply)
12. Where have you taken an online course before? (Select all that may apply)

APPENDIX D: RECRUITMENT PROTOCOL AND DEMOGRAPHIC SURVEY

Recruitment:

Email invitations will be sent from primary investigator's ECU email address to the following groups requesting assistance disseminating the recruitment flyer:

- North Carolina Nurses Association
- Queen City National Black Nurses Association
- Atrium Health Nurse Research Council
- ECU graduate nursing faculty

Registration for the study will be via a link to a REDCap survey to collect contact information, demographic information including these questions. Response options with an "*" indicate a branching to gather more specific data:

1. Please indicate nursing licensure:
    - LPN
    - RN*
    - APRN* (Nurse Practitioner, etc.)
2. *What is your highest nursing degree? (For those who select RN/APRN)
    - Diploma
    - Associate
    - BSN
    - MSN
    - PhD/DNP
3. Please enter your years of nursing experience
    - 1-5
    - 6-10
    - 11-20
    - 21-30
    - 31-40
    - 41-50
4. Which option best describes your primary practice setting between February 2020-May 2023?
    - Critical Care
    - Emergency Department
    - Medical-Surgical
    - Progressive Care
    - Skilled Nursing
    - Other
5. Has your hospital or department received any of the following designations? (multi-select)
    - Healthy Work Environment
    - Magnet
    - Pathway to Excellence

    - Don’t know
6. How would you describe your role?
    - Direct care of clients
    - Administrative
    - Educational
    - Other
7. Did you ever have, or probably have, COVID-19 (even if you did not get tested)?
    a. Yes
    b. No
8. Did someone who lives in your house ever have, or probably have, COVID-19 (even if they did not get tested)?
    a. Yes
    b. No
9. Did someone close to you who does not live in your home ever have, or probably have, COVID-19 (even if they did not get tested)? This might be a friend, a family member who does not live with you, a co-worker, or child care provider.
    a. Yes
    b. No
10. Please enter your age
11. Please select the gender that you identify as:
    a. Male
    b. Female
    c. Non-binary
    d. Prefer not to answer
12. Which race or ethnicity best describes you?:
    a. Asian/Pacific Islander
    b. Black
    c. Indigenous
    d. Latin/Latinx
    e. White
    f. Other
    g. Prefer not to answer

APPENDIX E: INTERVIEW PROTOCOL AND QUESTIONS

Interview Guide

Introductory Statement:

I want to begin by thanking you for taking the time to speak with me today. I have been a nurse for 19 years, and I am also a student in the PhD program at East Carolina University. I am conducting this research because I think it is important to hear directly from nurses how the COVID-19 pandemic impacted us collectively. My goal is to identify common themes of nurses' experiences that will help design interventions to support nurse well-being.

Before we begin, I want to confirm some details:

- The transcript and any notes that I take during our interview will be de-identified, meaning that your name and identifying details will not be connected to the data.
- I will be asking you to respond to open-ended questions, and I may ask for additional details as we talk. If at any time you wish to take a break or to skip a question, that is completely fine. We can always pause and go back to previous questions if you would like to clarify anything you tell me.
- This study is voluntary, you can end your participation at any time.
- When we report what we learned from the study, we will not use your name or identifying details, such as where you work.
- We hope to recruit between 25-50 nurses for this study.

What questions do you have for me before we begin?

Do you agree to this interview being recorded?

Part I: Impact of COVID-19 Pandemic

- Tell me a bit about why you decided to become a nurse.
- What was it like to be a nurse during the COVID-19 pandemic?
  Probes to use as needed:
  i. *During the pandemic did you have an event and experience that greatly affected you, and do you feel safe enough to share that story with me?*
  ii. *What were the greatest disruptions to your practice as a nurse, and how did you respond?*
  iii. *What were the impacts on your relationships with co-workers or patients? The community?*
  iv. *Were there any positive aspects to your experience?*
- How has the experience of being a nurse during the pandemic impacted you four years later?
  Probe:
  i. *Did the pandemic impact what it means to you to be a nurse?*
- What changes do you perceive in the nursing profession as a whole because of the pandemic?

Probe:

i. *Have you observed any changes to relationships or trust?*

Part II: Well-Being

Now I'd like to shift gears to a related topic: the question of what nurses need to maintain or to restore their well-being.

- What does well-being mean to you in the context of your work as a nurse?
- How would you describe the current state of nurse well-being as a whole/collectively?
  Probe:
  i. *What gets in the way of well-being for nurses?*
- What would you say that nurses need most to support their well-being?
  (Probe as needed for examples of structural factors) -
  i. *What are the most important things that employers should do to support nurse well-being?*
  ii. *What are the most important things that the nursing profession should be doing to support nurse well-being?*
  iii. *What should policymakers be doing?*

Part III: Wrap Up

- What should future nurses know about your experiences during COVID-19?
  Probe:
  i. *What can your experience teach them?*
- What do you want people outside of nursing – policymakers or the general public - to know about what it was like to practice as a nurse during the pandemic, or about nurse well-being?
- Is there anything that you wish I had asked?

Thank you for your time and for your willingness to share your experiences with me.