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## Effects of Attribution and Appraisal of Control on Emergency Department Nurse Stress When Treating Patients With Severe Mental Illness

Cynthia Lynn Bentzen-Mercer  
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# Walden University

College of Social and Behavioral Sciences

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Cynthia Lynn Bentzen-Mercer

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Walden University  
2021

Abstract

Effects of Attribution and Appraisal of Control on Emergency Department Nurse Stress  
When Treating Patients With Severe Mental Illness

by

Cynthia Lynn Bentzen-Mercer

MBA, University of Phoenix, 2003

BS, University of Central Missouri, 1988

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Psychology

Walden University

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## Abstract

As the prevalence of severe mental illness continues to rise and access to mental health care is scarce, an increasing number of U.S. adults seek treatment in emergency departments. Nurses who triage the severity of a medical emergency may appraise the situation both through the lens of mental illness stigma and the degree of confidence they have to control the outcome. However, the research community knows little about the extent to which attribution and appraisal of control affect nurses' appraisal of stress. The purpose of this quantitative nonexperimental, canonical correlational study was to examine the extent to which various combinations of attribution and control predicted different types of appraisals of stress among emergency department nurses treating patients with severe mental illness. Grounded in attribution theory and the cognitive-relational theory of stress and coping, the research was focused on revealing the effect conscious and unconscious thoughts and feelings have on anticipatory stress and resulting behavior. The sample included 133 nurses from a large nonprofit Catholic health system in the U.S. Midwest. A canonical correlation analysis examined the multivariate relationships of nurses' appraisal of control and attribution in predicting primary appraisal of stress. The overall canonical correlation was statistically significant, Wilks's  $\Lambda = .19$ ,  $F(33.0, 351.3) = 8.03$ ,  $p < .001$ ; therefore, the null hypothesis was rejected. By developing literacy of mental illness to diminish stigma and equipping clinicians with the tools to confidently and competently feel in control, there is an opportunity for positive social change by minimizing the negative appraisal of threat, thus reducing occupational stress and improving quality of care.

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## Dedication

To my mother and father, who challenged and encouraged me to follow every dream and aspiration.

To my dear children, sister, and stepparents for their love, support, and cheerleading at every milestone along the way.

To my fur babies, whose companionship nurtured me through many late nights and long weekends.

To my leader, for his belief in me and his willingness to invest in my professional and personal journey.

To those who have severe mental illness and have felt marginalized or wounded by the appraisal of stigma.

And to the incredible women and men who tirelessly serve in the noble profession of nursing and gave of their time and transparency to support this vital research.

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## Chapter 1: Introduction to the Study

Designed to facilitate immediate triage, treatment, and care paths for patients with life-threatening illnesses or injuries, hospital-based emergency departments are always open (Ng & Rosenheck, 2017). However, as the number of patients with severe mental illness increases and access to mental health facilities continues to be limited, throughout the United States, a growing majority are seeking treatment in emergency departments (Ng & Rosenheck, 2017; Nordstrom et al., 2019; Santillanes et al., 2020; Slackamenac et al., 2019). The influx of non-life-threatening, mental health-related visits causes overcrowding, longer wait times, excessive boarding, and increased length of stay (Santillanes et al., 2020). This phenomenon is compounded by limited clinical mental health expertise and nonconducive environmental conditions in emergency departments (Nordstrom et al., 2019; Siddiqui et al., 2018). Beyond the well-studied effect that this influx of mental illness patients presenting in emergency departments has on the quality of care, there is growing concern within healthcare regarding the impact on nurses' physical and psychological health (Abahummad et al., 2019; Mesa'Deh et al., 2017; Smith, 2016).

Although researchers have examined nurses' experiences of stress (Gómez-Urquiza et al., 2017), they have not thoroughly scrutinized how different factors affect nurses' appraisals of stress. Specifically, there was a need to uncover the extent to which attribution (blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion) and appraisal of control (controlled by self, controlled by others, not controlled by anyone) affect the appraisal of stress (threat, centrality, challenge) for emergency

department nurses treating patients with severe mental illness. My ultimate intention was to uncover opportunities to improve the clinical milieu for emergency department nurses and, by extension, the quality of care for those with severe mental illness, thereby potentially contributing to positive social change.

This chapter includes a detailed accounting of the increasing mental illness diagnoses in the United States, the migration of care to emergency departments, and the occupational stress experienced by acute care nurses. After providing background information, I clarify the current problem, the research gap, and the associated purpose for this study. The research question (RQ), hypotheses, and operational definitions are defined through the framework of attribution theory and cognitive-relational theory of stress. In the chapter, I also review the study methodology, assumptions, scope and delimitations, limitations, and significance of the study, including its implications for potential positive social change.

## **Background**

### **Severe Mental Illness**

Mental illness has become a worldwide epidemic. As the population of those who suffer from various forms of mental illness increases, demands on healthcare professionals are compounded. In 2019, according to the Substance Abuse and Mental Health Services Administration (2020), nearly 51.5 million adults in the United States had a mental, behavioral, or emotional disorder, representing 20.6% of the population. Among those, 13.1 million adults (5.2%) lived with severe mental illness. Women aged 18-49 and those reporting two or more races represent the highest prevalence of severe

mental illness. It is important to note that these statistics do not include those incarcerated, living without an address, institutionalized, or deployed for 1 year or more.

Data revealed that 93% of frequent emergency department consumers, those who visit three or more times per year, have at least one mental illness (Fleury et al., 2019). Those with psychiatric comorbidity have five times higher utilization rates. Additionally, individuals with severe mental illness experience poorer overall health than the general population (Bahorik et al., 2017; Fleury et al., 2019; Ng & Rosenheck, 2017; Schmidt, 2017; Slankamerac et al., 2019; Slankamerac et al., 2020). Fifty to 80% of people with severe mental illness suffer from one or more comorbid medical conditions (Bahorik et al., 2017). Cardiovascular and metabolic disease is most prevalent among people with depression (National Alliance on Mental Illness, 2020). Although most of these comorbid conditions are non-life-threatening and treatable at the onset, they are often neglected and lead to emergency department visits.

### **Emergency Department Utilization**

With the closure of psychiatric institutions in the 1960s and the limited number of state-run hospitals, U.S. patients with severe mental illness have turned to emergency departments for care at significantly increased rates (Nordstrom et al., 2019). Data from the National Hospital Ambulatory Medical Care Visit Survey (NHAMCS; Centers for Medicare & Medicaid Services, 2021) indicate that from 2006 to 2014, emergency department visits related to psychosis and bipolar disorder increased 44.1%, while patients presenting with suicidal ideation grew an alarming 414.6%. A retrospective analysis of the NHAMCS data from 2009 to 2015 estimated that 1 in 8 visits to the

emergency department is related to psychiatric illness (Santillanes et al., 2020).

According to Holland et al. (2021), a study of over 190 million emergency department visits in the United States revealed that COVID-19 contributed to a dramatic increase in patients presenting with mental illness from March through October of 2020.

Although the percentage of those presenting with severe mental illness to the emergency department does not represent a majority, the time and attention per visit are disproportionately significant (Santillanes et al., 2020). Nordstrom et al. (2019) reported that psychiatric visits take 42% longer than nonpsychiatric visits, and patients presenting with a psychiatric illness are twice as likely to be admitted. As a result of the limited availability of psych-safe rooms, psychiatric patients are nearly five times more likely to be boarded in the emergency department while awaiting voluntary or involuntary hospitalization (Nordstrom et al., 2019).

Most emergency department environments are high-pressure, fast-paced, and high-stress (Berlanda et al., 2019). Patients and family members presenting in the emergency department are generally in distress. Long waits and excessive stimulus of sights and sounds serve to exacerbate anxiety, fear, and stress. The noise, chaos, and stimulus within emergency departments are fodder for agitation and accelerated anxiety. Combining patient pathology and environmental conditions makes emergency departments the most significant risk area for patient and caregiver violence toward healthcare workers (Dawson et al., 2017; Mento et al., 2020; Vrablik et al., 2019).

## **Nurse Stress**

Over 40 years ago, Freudenberger (1974) introduced the concept of burnout: physiological, psychological, and behavioral exhaustion related to intense energy, empathy, and exertion required when caring for others. Nearly two decades later, Joinson (1992), in seminal research, focused on nurses' compassion fatigue. Further research has concentrated on variations of stress and pressure associated with healthcare, most specifically in the field of nursing (Gómez-Urquiza et al., 2017). Finally, throughout the development of this study, COVID-19 has prompted emerging literature, primarily throughout Asia Pacific, addressing the occupational stress and burnout among nurses treating patients during a pandemic (Liao et al., 2021).

According to Schaufeli and Enzmann (1998) and Prapanjaroensin et al. (2017), stress predicts physical and psychological impairment among nurses. Nurses are particularly at risk of occupational stress due to the pace, intensity, and often agitated patients and family members (Lamont et al., 2017). Chronic stress triggers a physiological response that is more subtle and sustained over time; the organisms became perpetually inflamed (Rohleder, 2019). Bordignon and Monteiro (2018) found the most predominant health issues reported by nurses, other than injury, were inflammatory diseases such as gastritis and hypertension. The body responds to long-term inflammation with compromised immunity, decreased energy, and fatigue. Immune reactivity in response to stress is one of the leading causes of stress-related hypertension (Rodriguez-Iturbe et al., 2017).

According to my review of the literature, neither social psychology nor general psychology researchers have examined the multivariate relationships of attribution and appraisal of control with an appraisal of stress in the context of emergency department nurses. Such a study is needed to understand the nature and extent of the multivariate relationships. This type of investigation may uncover potential opportunities to improve the clinical milieu.

### **Problem Statement**

Closures of mental health facilities and limited access to mental health professionals have increased the number of patients with severe mental illness presenting in U.S. emergency departments (Moore et al., 2017; Nordstrom et al., 2019). Designed to treat acute and life-threatening conditions, emergency departments are often ill-equipped to safely support triage and care for individuals suffering from a psychotic episode or suicidal ideation (Marynowski-Traczyk et al., 2017). The environmental constraints often agitate those struggling with mental stability (Nordstrom et al., 2019; Slankamenac et al., 2019, 2020). Given the phenomenon of patients with severe mental illness seeking care and the limitations imposed by the emergency department environment, it is essential to understand nurses' reactive and anticipatory appraisal of stress.

Research related explicitly to nurse stress predominantly concentrates on burnout (Schaufeli et al., 2009; Zaninotto et al., 2018) and compassion fatigue (Joinson, 1999; Laeeque et al., 2018). Current studies examining the treatment of mental illness patients in emergency departments primarily focus on nurse attitudes (Arbanas et al., 2018; Bingham & O'Brien, 2017; Dickens et al., 2019; Giacchero et al., 2017;) and patient

experiences (Fleury et al., 2019; Marynowski-Traczyk et al., 2017; Nordstrom et al., 2019; Slankamenac et al., 2019, 2020).

Although there is extensive research regarding variations of nurse stress, the research community knows little about the extent to which attribution (blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion) and appraisal of control (controlled by self, controlled by others, not controlled by anyone) affect the appraisal of stress (threat, centrality, challenge) for emergency department nurses treating patients with severe mental illness. With a deeper understanding of the stress process, there is an opportunity to mitigate negative attribution and strengthen the sense of control, improving nurse coping and quality of care.

### **Purpose of the Study**

The purpose of this quantitative nonexperimental canonical correlational study was to examine the extent to which various combinations of attribution and control predict different types of appraisals of stress among emergency department nurses treating patients with severe mental illness. The study was grounded in attribution theory and the cognitive-relational theory of stress and coping. I sought to reveal the effect conscious and unconscious thoughts and feelings have on anticipatory stress and resulting behavior.

### **Research Question and Hypotheses**

RQ1: To what extent does the attribution (blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion) combined with the appraisal of control (controlled by self, controlled by others, not controlled by anyone) predict the appraisal

of stress (threat, centrality, challenge) in emergency department nurses treating patients with severe mental illness?

*H<sub>0</sub>1*: The combination of the attribution and appraisal of control a nurse associates with treating patients with mental illness in the emergency department does not predict the appraisal of stress.

*H<sub>1</sub>1*: The combination of the attribution and appraisal of control a nurse associates with treating patients with mental illness in the emergency department predicts the appraisal of stress.

## **Theoretical Framework**

### **Attribution Theory**

Attribution is defined as the conclusion reached when attempting to explain the reason or cause of another's behavior (Allport, 1954; Heider, 1958). Heider's contribution to attribution theory was the assertion that humans have an innate need to associate meaning with behavior. Heider's research suggested that people relate a cause to an effect, even if there is no clear connection. Unless an external environmental source is apparent, the perceiver will assign an internal personality trait cause to the behavior (Jones & Harris, 1967). Attribution theory provides a framework for understanding the root of mental health stigma (Corrigan, 2000) and, for purposes of this study, understanding and interpreting the attributions of emergency room nurses towards patients with mental illness.

### ***Mental Health Stigma***

Mental illness is often inferred based on symptoms, social impairment, or appearance (Corrigan, 2006). Corrigan et al. (2002) identified the most common mental health stigmas as dangerousness and personal responsibility for illness, resulting in fear, anger, or pity. In a later study, Corrigan and Penn (2015) found “research respondents were less likely to pity persons with mental illness, instead reacting to the psychiatric disability with anger and believing that help is not deserved” (p. 4). Studies among healthcare workers treating patients with mental illness found stigmatizing sentiment consistent with that of the general public (Abahummad et al., 2019; Hack et al., 2020). Stigmatizing sentiments, such as fear or anger, were represented in my study by measures of appraisals of control and appraisals of stress.

### **Cognitive-Relational Theory of Stress**

Lazarus’ (1966) cognitive-relational theory explains how an individual evaluates an encounter in their environment. In primary appraisal, the focus is on assessing the situation's risk or benefit (Folkman et al., 1986). In secondary appraisal, individuals evaluate whether they can mitigate risk or realize rewards. Lazarus and Folkman (1984) suggested that stress manifests when one perceives the environment eliciting danger or threat and the ability to control the situation beyond their capabilities. Nurses caring for patients with mental illness in the emergency department align well with risk-reward and control appraisals. In this study, I used cognitive-relational theory to interpret and discuss the multivariate relationships of attribution and appraisal of control with appraisal of stress.

### **Nature of the Study**

The study was a quantitative nonexperimental canonical correlational study, employing purposive nonprobability sampling and cross-sectional data collection. The predictor variables were the initial attribution, as measured by the Attribution Questionnaire-27 (Corrigan et al., 2003), combined with the secondary appraisal of control, measured by the Stress Appraisal Measure (Peacock & Wong, 1990). The outcome variable was the primary appraisal of stress. Multivariate combinations of attributions and appraisals of control were expected to predict multivariate combinations of different types of anticipatory stress.

I chose the online self-administered survey methodology to protect anonymous responses, decrease social desirability bias, minimize input error, and control costs. The benefit of an online survey, rather than a paper survey, is the ability to control the sequencing of questions and minimize the number of questions inadvertently missed (Babbie, 2017). The decision not to use a researcher-facilitated survey was due to the sensitivity of information and concern for social desirability bias. When the researcher is directly engaged with the participant, subjects may feel compelled to respond in the least implicating way (Babbie, 2017).

### **Definitions**

*Emergency department:* Facilities that are licensed by the state as an emergency facility, promoted publicly as available for treating emergency medical issues, and able to directly address urgent medical conditions for at least one third of patient visits in a calendar year (Centers for Medicare & Medicaid Services, n.d.). As part of the Centers

for Medicare & Medicaid Services regulations guiding treatment in emergency departments, the Emergency Medical Treatment and Labor Act (EMTALA) of 1986 requires hospital emergency departments to provide medical screening and examination to anyone who presents for services.

*Mental health stigma:* A negative association toward an out-group based on perceived undesirable characteristics (Allport, 1954; Goffman, 1963). Mental health stigma is unique because it is often signaled through behavior rather than appearance (Corrigan, 2000). According to Corrigan and Penn (2015) and Hack et al. (2020), mental health stigma includes negative stereotyping, prejudice, or discrimination. Salamat et al. (2019) found that though healthcare professionals do not believe they subscribe to stigmatizing behaviors, they are not above reproach. Unlike other stereotypes, which are often consciously challenged, mental health stigma has a more widely adopted public opinion (Corrigan, 2000).

*Severe mental illness:* The primary diagnosis of “a mental, behavioral, or emotional disorder (excluding developmental and substance use disorders) resulting in serious functional impairment, which substantially interferes with or limits one or more major life activities [including] major depressive disorder, schizophrenia, and bipolar disorder” (APA, 2018, n.p.). Severe mental illness is a subset of more than 300 diagnoses and affects approximately 5.2% of the U.S. population (Substance Abuse and Mental Health Services Administration, 2020).

*Psychological Stress:* A “relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and

endangering his or her wellbeing” (Lazarus and Folkman, 1984, p. 19). Acute stress is a innate reaction to fear, threat, or unexpected discomfort (Rohleder, 2019). Chronic stress is ongoing; generally, the result of a perpetual stressor.

### **Assumptions**

I had several assumptions in conducting this study. I assumed that a representative sample of participants would have access to the electronic survey and could read and understand the questions. Also, I expected that participants would respond to the survey questions thoughtfully and honestly. Finally, it was assumed that the multivariate model was not substantively misspecified in that uncontrolled for predictors of the nine dimensions of attributions and three dimensions of appraisals of control would invalidate practical or theoretical interpretations of the results. A nonrepresentative sample, participants who did not understand survey items or respond honestly, and model misspecification could have limited study reliability and validity.

### **Scope and Delimitations**

I collected data from emergency department nurses who were employed at a U.S. Midwest Catholic health system. The nursing staff’s demographic makeup represented the communities they serve and emergency departments throughout the United States. Recognizing that this study was conducted in a specific geographic area within a nonprofit health system, a potential limitation was related to a unique community, hospital, and organizational culture. However, I expected that appraisal of control applies across emergency department settings and, therefore, the findings would be applicable for analytic generalizations.

### **Limitations**

Given my employment as an executive within the partner organization, nurses may have felt coerced to participate, which could have impacted the nature of their response to survey items. However, throughout the recruitment and survey process, I explicitly stated that participation was voluntary and anonymous in my communications. There was no benefit for participating or risk for abstaining. Potential participants were assured that neither the partner organization nor I would have access to information that could link individual employees to their responses. Prior consultation with Walden University's Institutional Review Board (IRB) suggested that coercion would be mitigated by the proposed research procedures and data management.

As individuals called to a healing profession, nurses may naturally feel uncomfortable disclosing any information they believe would potentially harm their reputation or put them in a negative light. Participants may have wished to provide valuable data, but they also wanted to be perceived as good people. Questions that uncovered fear, bias, or frustration could have elicited desirability bias (Babbie, 2017). Given the ethical obligation to minimize harm, obtaining informed consent and taking appropriate measures to maintain anonymity was a priority (American Psychological Association, 2018).

Although multivariate analyses better capture the real world compared to multiple univariate analyses (Diebold, 2019), the analytic canonical correlation model is still correlational analysis. Although essential insights consistent with theoretical explanations could have been achieved, this study's results cannot be interpreted as causal. Finally,

acknowledging or controlling for internal and external validity threats relates only to experimental and quasi-experimental designs (Campbell & Stanley, 1963). For nonexperimental, correlational studies such as mine, design limitations relate only to construct validity issues and statistical conclusion validity (Cook & Campbell, 1979). In this study, I controlled for construct validity by using previously validated instruments. I controlled for statistical conclusion validity by specifying a priori the analyses to answer the RQ.

### **Significance**

This study's results reveal an opportunity to contribute to positive social change. The results should encourage nursing programs and health systems to increase the education on mental illness diagnoses and mental health stigma and deescalation, safe escape, and team-based restraint techniques. Equipping nurses with the tools to build confidence and competence to deliver life-extending care and compassion to patients presenting with mental illness without compromising their physical or mental health could decrease occupational stress (Bordingnon & Monteriro, 2018; Lamont et al., 2017; Prapanjaroensin et al., 2017), increase nurse engagement, and ultimately improve the healthcare experience for those they serve (Salamat, 2018; Sukhera et al., 2017). Further, governmental grants to help fund expanded training and education within nursing programs and health systems could accelerate positive social change.

### **Summary**

Mental illness diagnoses in the United States have been on a steep upward trajectory for the past decade. In the absence of accessible mental health facilities,

treatment has shifted to emergency departments. Designed primarily to address urgent physical needs, emergency departments have environmental limitations and a lack of specialized clinical training that can minimize the degree of control nurses believe they have in the safe treatment of patients with severe mental illness (Marynowski-Traczyk et al., 2017).

Further challenging the experience for both patients and nurses is the attribution of mental health stigma, which affects the quality of care (Corrigan, 2000; Corrigan et al., 2002; Salamat et al., 2018; Sukhera et al., 2017) due to perceptions of futility or fear (Bingham & O'Brien, 2017; Knaak et al., 2017; Marynowski-Traczyk et al., 2017; Nordstrom et al., 2019). Clinical caregivers are at an increased risk of physical and psychological harm related to work-related stress (Bordignon & Monteiro, 2018; Lamont et al., 2017; Prapanjaroensin et al., 2017). This quantitative nonexperimental canonical correlational study revealed insights that can improve nurse education and onboarding, specifically related to mental illness.

I begin Chapter 2 by delving into the theoretical framework that grounded this research and explaining the extensive literature search strategy. A comprehensive review of the current and relevant literature is included, covering each of the key variables. Although there is extensive research regarding nurse stress (Laeque et al., 2018; Zaninotto et al., 2018) and the clinical experiences of patients with mental illness (Arbanas et al., 2018; Bingham & O'Brien, 2017; Dickens et al., 2019; Fleury et al., 2019; Giacchero et al., 2017; Marynowski-Traczyk et al., 2017; Nordstrom et al., 2019; Slankamenac et al., 2019, 2020), Chapter 2 establishes that little is known about the

extent to which attribution (blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion) and appraisal of control (controlled by self, controlled by others, not controlled by anyone) affect the appraisal of stress (threat, centrality, challenge) for emergency department nurses. As I discuss in Chapter 2, I conducted this study to address this gap in the literature.

## Chapter 2: Literature Review

The purpose of this study was to examine the extent to which various combinations of attribution and appraisal of control predict different types of appraisals of stress among emergency department nurses treating patients with severe mental illness. With numerous psychiatric hospitals' closures and limited access to outpatient facilities, patients with severe mental illness increasingly turn to already overtaxed emergency departments for care (Moore et al., 2017; Ng & Rosenheck, 2017). Current researchers who have examined the interaction between nurses treating people with mental illness have primarily focused on nurse attitudes (Abuhammad et al., 2019; Giaccherio et al., 2017; Salamat, 2018; Sukhera et al., 2017) and patient experiences (Marynowski-Traczyk et al., 2017). Research shows that limited mental health expertise, mental health stigma, nonconducive environmental conditions, and fear of workplace violence have increased stress and burnout (Dafny & Beccaria, 2020; Mento et al., 2020; Mesa'Deh et al., 2017). Acute stress has also been identified as a predictor of physical and psychological impairment among nurses (Prapanjaroensin et al., 2017).

Although there is extensive research regarding emergency department nurse burnout and stress (Gomez-Urquiza et al., 2017), little is known about the extent to which attribution (blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion) and appraisal of control (controlled by self, controlled by others, not controlled by anyone) have on the appraisal of stress (threat, centrality, challenge) for emergency department nurses treating patients with severe mental illness. In this chapter, I outline the search strategy I used to uncover the relevant literature and expose the gap in the

literature. I also provide a comprehensive explanation of the theoretical framework grounded in attribution theory and the cognitive-relational theory of stress and coping. Finally, this chapter concludes with an overview of each of the key variables in relation to the current literature, making a clear connection to the RQ contemplated in this study.

### **Literature Search Strategy**

In searching for literature for this study, I focused on finding peer-reviewed articles and others deemed conclusive and meaningful published in English between 2017 and 2020. Literature was primarily sourced from the PsycINFO database. Additional sources included PubMed and CINAHL databases, scholarly books, and other online resources. Search terms included *emergency department, mental illness, mental health stigma, nurse and anxiety, nurse and attitudes, nursing and emergency department, nurse and stress, nurse and threat, Stress Appraisal Measure, SAM, SAM psychometrics, Attribution Questionnaire, AQ-27, and AQ-27 psychometrics*. An open-ended data search yielded seminal research related to the theoretical framework and psychometric analysis of scales. Applicable information and insight from the collection of resources were synthesized to provide background and relevance to this study (see Table 1).

**Table 1***Literature Search Results*

Source type	Number of sources	Seminal research published before 2017	Current literature published in last 5 years
Book	11	8	3
Peer-reviewed article	86	31	55
Website	6	0	6
Total	103	39	64

**Theoretical Framework**

Two theories constituted this study's theoretical framework: attribution theory and the cognitive-relational theory of stress and coping. Attribution theories provide a basis for how individuals give meaning to a situation (Heider, 1958). Cognitive-appraisal theories explain how individuals anticipate the effect of a situation (Lazarus, 1966). The two theories can be used together to assess how nurses' perception of a patient with severe mental illness and the degree of control they have to achieve a positive outcome impacts their appraisal of stress. I sought to bridge the seminal work by Alport (1954), Goffman (1963), and Weiner (1980, 1983, 1985, 1988, 1993, 1995), related to attribution theory and the formative research of Lazarus (1966, 1991), Lazarus and Folkman (1984), and Folkman et al. (1986) regarding cognitive-relational appraisal of stress and coping.

**Historical Context of Attribution Theory**

Attribution theory is defined as an archetype of how humans feel and respond based on the meaning they assign to everyday events that they witness, hear, or imagine

(Weiner, 1980, 1983, 1985, 1988, 1993, 1995). Heider (1958) posited that humans have an innate need to associate meaning to behavior, suggesting that people relate a cause to an effect, even if there is no apparent connection. Early attribution theory identified two causal forces that explained human behavior: those that come from within the person and represent disposition and character, and those resulting from external factors unique to the situation (Heider, 1958). Heider noted that individuals attribute others' behavior to an internal cause more often, as the situational effects are often less salient. Unless an external environmental source is present, the perceiver will assign an internal personality trait to the behavior (Corrigan, 2000; Penn & Martin, 1998).

Jones and Harris (1967) furthered the theory by introducing the first formal attribution model, which added the concept of inference to internal causality. Behaviors attributed to the person, rather than the situation, were labeled either intentional or unintentional. This elaboration of attribution theory is particularly relevant in the context of severe mental illness where an assumption of choice, rather than disability, contributes to negative or unusual behavior (Corrigan & Penn, 2015; Goffman 1963; Weiner, 1988).

### ***Mental Health Stigma***

Goffman's (1963) social constructionism focused on the negative and debilitating stigma that plagues mental illness and breeds fear and disassociation. Among the most misunderstood and stigmatized conditions worldwide, those living with mental illness are often labeled, marginalized, and avoided (Corrigan & Penn, 2015; Corrigan et al., 2002; Corrigan et al., 2003; Link et al., 1989). Although there are stigmas related to physical disabilities, public opinion of mental illness is significantly more negative as there is an

increased assumption of control and responsibility (Corrigan & Penn, 2015; Goffman 1963; Weiner, 1988; Weiner & Magnusson, 1988).

A common perception regarding people with severe mental illness is unsafe and unstable (Link & Cullen, 1986). Individuals with severe mental illness are compared to criminals, prostitutes, and drug addicts (Albrecht et al., 1982). The inability to behave consistently with social norms is deemed a lack of effort within one's control or uncontrollable, and retribution for poor choices (Corrigan, 2000; Corrigan & Penn, 2015).

Weiner's (1995) causal attribution theory draws upon the relationship between stigmatizing beliefs and discriminatory behavior. Building on causal attribution theory, Corrigan et al. (2002) distinguished stigmatizing attitudes attributed to those with mental illness as personally responsible or dangerous. The two-path model posits that when mental illness is deemed the individual's responsibility, the emotional response is either pity or anger, influencing helping behavior (Corrigan et al., 2002). Conversely, when mental illness is considered outside of the person's control, individuals are deemed dangerous, eliciting fear and avoidance (Sukhera et al., 2017).

### **Historical Context of Cognitive-Relational Theory of Stress**

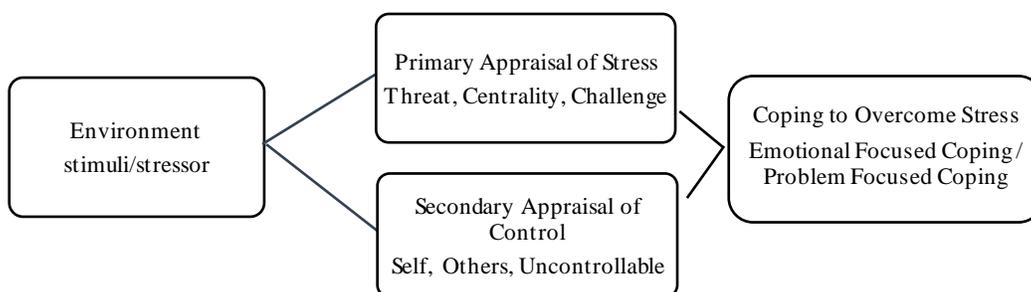
For the first half of the 20th century, the scholarly community primarily viewed stress as a natural reaction to an event, suggesting that stress response was impulsive, universal, and unanticipated. Lazarus' (1966) seminal research, grounded in appraisal theory, introduced the cognitive-relational theory. The concept of anticipatory perceptions regarding the environment challenged that all people respond spontaneously

to stress and have little control over their response. Instead, the cognitive-relational theory suggests that an evaluation of threat and control influences psychological stress (Lazarus & Folkman, 1984). The appraisal of one's situation triggers a psychological stress response, which activates a behavioral response.

Lazarus and Folkman (1984) defined psychological stress as a “relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her wellbeing” (p. 19). The cognitive-relational theory introduces thoughts and feelings as a mechanism to anticipate stress and initiate response through two evaluations: primary appraisal and secondary appraisal (see Figure 1). Lazarus and Folkman stated that neither primary appraisal of stress nor secondary appraisal of control is more important than the other. One does not precede the other in time, even though the naming convention would otherwise imply. The dynamic nature of the appraisals is an important distinction related to this study.

### Figure 1

#### *Cognitive-Relational Theory of Stress and Coping*



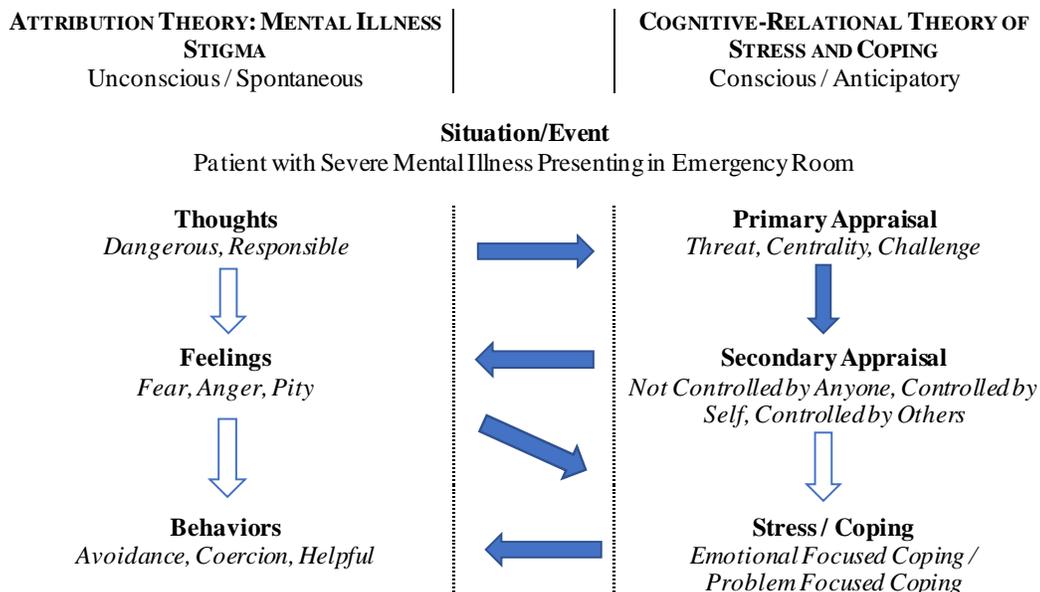
Primary appraisal represents assessing the risk or benefit of the situation between the person and the environment (Folkman et al., 1986; Lazarus & Folkman, 1984). The

primary appraisal considers the degree of perceived threat, centrality, or challenge. Threat is the appraisal most studied related to negative emotions and potentially unhealthy stress responses (Lazarus, 1991). Centrality explains the evaluation of how critical or essential the situation is to the person, according to. Centrality is recognized when the stakes are high, possibly causing anxiety. When the environment is assessed as a challenge to overcome, positive feelings and behaviors ensue.

The secondary appraisal is an assessment of who, if anyone, is in control of the situation. Lazarus and Folkman (1984) suggested that stress manifests when one perceives the environment eliciting danger or threat and cannot control the situation. Individuals who perceive situations as generally outside their control exhibit higher stress and anxiety (Lazarus, 1966). Factors that may impact perceived control include capabilities, time, physical environment, and policies (Masa'Deh et al., 2017).

### **Theory Rationale**

Although the study of attribution related to mental health stigma and the cognitive-relational theory of stress date back nearly 60 years, both remain relevant and useful among the scholarly community when making sense of the present social condition (Abuhammad et al., 2019; Dickens et al., 2019; Giacchero Vedana et al., 2017; Masa'Deh et al., 2017; Marynowski-Traczyk et al., 2017; Salamat et al., 2019; Simões et al., 2019; Sukhera et al., 2017). Bridging the two theories highlighted a specific gap in the literature related to the stress nurses might experience when treating severe mental illness patients in emergency departments (see Figure 2).

**Figure 2***Bridging Attribution Theory and Cognitive-Relational Theory of Stress*

Corrigan's (2000) model of discrimination and prejudice, grounded in attribution theory, explores the stigmatizing experiences of those with mental illness. Signals, including labels, symptoms, skill deficits, and appearance, are not always apparent among individuals with severe mental illness; thus, attributions are inferred based on stigma (Goffman, 1963; Penn & Martin, 1998). Nurses who have never experienced a patient in a psychotic state or who have not received training on how mental illness presents have only their normative frame of reference from which to draw. Absent context, this behavior may be frightening, unpredictable, unknown, and perceived as out of the nurse's control.

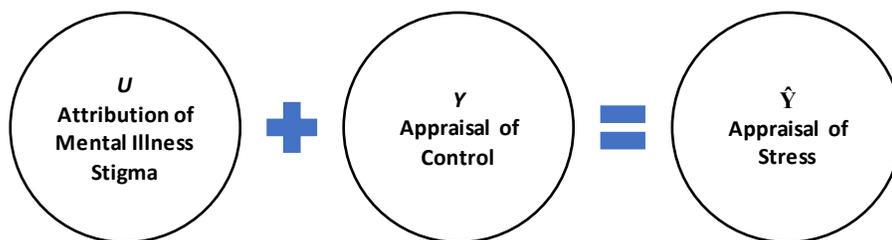
When nurses feel the patient is responsible for their illness, they may be more measured in their expression of empathy and sensitivity. Nurses may feel anger and

frustration with a patient who is a frequent visitor to the emergency department, resulting in intensified agitation. Nurses may also blame the patient for their mental illness and punish them by withholding treatment, which increases patient distress (Corrigan & Penn, 2015; Corrigan et al., 2002; Corrigan et al., 2003; Mannarini & Rossi, 2019). Even with the unbalanced distribution of power, nurses may feel they have little ability to change the situation when a patient is perceived as responsible for their illness (Corrigan & Penn, 2015).

As the cognitive appraisal of stress and coping theory points out, the assessment of who controls the situation has a profound impact on stress (Lazarus, 1966, 1991; Lazarus & Folkman, 1984; Folkman et al., 1986; Simões et al., 2019; Sukhera et al., 2019). Gillespie et al. (2017) posited that nurses who do not feel resourced or equipped to deescalate and safely treat an agitated patient feel threatened and without control. Attribution theory does not account for the cognitive appraisal of control and potential influence on stress appraisal. Likewise, cognitive-relational appraisal of stress and coping does not consider the impact of mental health stigma on the appraisal of control and, ultimately, stress. By bridging the two theories, I sought to examine the extent to which various combinations of attribution and control predict different types of appraisals of stress among emergency department nurses treating patients with severe mental illness (see Figure 3).

**Figure 3**

*Attribution and Appraisal of Control Predicts the Appraisal of Stress*



### **Literature Review Related to Key Variables and Concepts**

The phenomenon surrounding the increasing number of patients with severe mental illness seeking care in emergency departments is not new to the scholarly community. Current research is primarily focused on an attempt to understand a potential relationship between mental illness and nurse attitudes (Abuhammad et al., 2019; Dickens et al., 2019; Giacchero Vedana et al., 2017), care site (Fleury et al., 2019; Moore et al., 2017; Nordstrom et al., 2019), perceived threat of violence (American College of Emergency Physicians, 2018; Berlanda et al., 2019; Dafny & Beccaria, 2020; Dawson et al., 2017; Gillespie et al., 2017; Mento et al., 2020; Vrablik et al., 2019), nurse competency (Abuhammad et al., 2019; Carroll, 2018; Knaak et al., 2017; Liu et al., 2018), and nurse burnout (Gomez-Urquiza et al., 2017; Laeque et al., 2017; Zaninotto et al., 2018). The disparate collection of research addresses each theoretical framework element, providing a solid foundation for this research. However, comprehensive literature regarding the extent to which attribution and appraisal of control have on the appraisal of stress for emergency department nurses treating severe mental illness is scant. I review research related to this study's RQ about the multivariate relationships of

attribution and appraisal of control on appraisal of stress in this chapter's remaining subsections.

### **Attribution of Mental Illness Stigma**

The study of mental health stigma is pervasive in both clinical and nonclinical settings. Fox et al. (2018) reviewed over 400 mental health stigma measures, mainly from the stigmatizer's perspective, consistent with the focus on this research. Stereotypes and discrimination were the most common areas of study, with growing research regarding nurse attitudes (Abuhammad et al., 2019). While most clinicians do not believe they assess patients with mental illness via a stereotype or behave in discriminatory ways, the attribution theory framework has been used to explore the cognitive dissonance revealed in the study of nurse attitudes (Abuhammad et al., 2019; Dickens et al., 2019; Giacchero Vedana et al., 2017; Marynowski-Traczyk et al., 2017; Salamat et al., 2019; Sukhera et al., 2017).

### ***Nurse Attitudes***

In keeping with attribution theory, studies established that labeling patients with mental illness as time-consuming, unstable, culpable, or incurable served to rationalize feelings of frustration, fear, or helplessness (Giacchero Vedana et al., 2017; Knaak et al., 2017; Marynowski-Traczyk et al., 2017; Sukhera et al., 2017). Extensive literature related to patients with severe mental illness presenting in emergency departments focuses on nurse attitudes and perceptions (Giacchero Vedana et al., 2017; Marynowski-Tracyk et al., 2017; Sukhera et al., 2017). Thematically, nurses studied were not optimistic about patients' ability to recover from severe mental illness (Giacchero Vedana et al., 2017;

Marynowski-Traczyk et al., 2017; Liu et al., 2018). Additionally, nurses lacked confidence or competence to effectively treat patients with mental illness, eliciting fear, frustration, or helplessness (Giacchero Vedana et al., 2017; Knaak et al., 2017; Sukhera et al., 2017). Ultimately, current research concluded that recurrent patients test the efficacy of nurses trained in recovery-focused care (Marynowski-Traczyk et al., 2017) and are more challenging to move through an acute crisis in an efficiency-driven emergency department (Sukhera et al., 2017).

**Causal Attributions.** Beyond patient recovery and nurse competence concerns, the literature covered patient blame or fault (Knaak et al., 2017). Attribution theory relies on these types of causal attributions. When mental illness is perceived as a genetic or biological condition outside the patient's control, nurse attitudes have been recorded as less negative (Bingham & O'Brien, 2019; Sukhera et al., 2019). However, when mental illness is identified as self-induced or a character flaw within the patient's control, data demonstrates that nurses are less tolerant (Giacchero Vedana et al., 2017; Marynowski-Tracyk et al., 2017).

### **Cognitive-Relational Appraisal of Stress and Coping**

Lazarus' (1969) cognitive-relational appraisal of stress and coping has been applied within recent studies as the theoretical framework to examine occupational stress, psychological health, burnout (Masa'Deh et al., 2017; Salvagioni, 2017; Simões et al., 2019), job satisfaction, and performance among nurses (Admi et al., 2018). Current research aims to demonstrate that the perceptions of job demands and the ability to cope influence nurse stress (Masa'Deh et al., 2017; Simões et al., 2019). Research suggests

that when the perception of threat is high, and the confidence to control the situation is low, nurse stress and burnout will quickly take shape (Bingham & O'Brien, 2017).

### ***Primary Appraisal of Threats in the Workplace***

As the cognitive-relational appraisal of stress and coping proposes, the anticipation of stress begins with a person's relationship with their environment (Lazarus & Folkman, 1984). Current research suggests that the emergency department's physical environment is evaluated through primary appraisal and threat (Berlanda et al., 2019; Nordstrom et al., 2019). Additional studies suggest that threat assessment is exacerbated by growing workplace violence against healthcare professionals (Berlanda et al., 2019; Gillespie et al., 2017; Mento et al., 2020; Wong et al., 2019).

**Workplace Violence.** Among the behavioral emergencies presenting in emergency departments throughout the United States, 1.7 million agitated patient events occur annually (Wong et al., 2019). Research centered on emergency department nurse stress, burnout, and anxiety includes the pervasiveness and heightened risk of patient-to-caregiver violence (Berlanda et al., 2019; Dafny & Beccaria, 2020; Mento et al., 2020; Mikkola et al., 2017; Vrablik et al., 2019). Various studies have focused on the fear that emergency department nurses experience in reaction to an immediate threat or response to a situation like a past incident (Mikkola et al., 2017; Vrablik et al., 2019). According to the American College of Emergency Physicians (2018), 70% of emergency department nurses report being hit or kicked by a patient while on duty.

### ***Secondary Appraisal of Threats Perceived to Be Uncontrollable by Anyone***

Cognitive-relational appraisal of stress and coping implies that negative stress ensues when threat is perceived, and the situation is determined to be uncontrolled by anyone (Lazarus, 1966). The predominance of literature related to nursing stress suggests that when a threat is present, positive coping fails when the environment is limiting (Masa 'Deh et al., 2017; Simões et al., 2019) or ability is lacking (Admi et al., 2018; Gillespie et al., 2017). When a situation is deemed uncontrollable, the resulting behavior associated with fear is avoidance, anger, or anxiety (Knaak et al., 2017; Laeeque et al., 2019; Sukhera et al., 2017).

**Coping and Environment Factors.** In 2016, one out of every eight patients presenting in an emergency department experienced a mental health crisis (Moore et al., 2017). Recognizing that emergency departments are designed to treat acute and life-threatening conditions, they are often ill-equipped to safely support triage and care for individuals suffering from a psychotic episode or suicidal ideation (Nordstrom et al., 2019). The noise, pace, and urgent emergency department environment are highly stimulating and more agitating than soothing for individuals with severe mental illness (Nordstrom et al., 2019).

Further provoking escalation is the physical limitations of most emergency departments, including longer wait times due to the need to triage and prioritize high-risk cases, as well as a limited number of psych-safe rooms (Ng & Rosenheck, 2017; Nordstrom et al., 2019). Patients with severe mental illness often present unaccompanied and frequently comorbid substance abuse disorder, intensifying psychosis. The

environmental constraints, resulting in patients waiting longer, overcrowding, and increased length-of-stay (Nordstrom et al., 2019; Moore et al., 2017; Slankamenac et al., 2019, 2020), serve to agitate those who are struggling with mental stability, further taxing the already strained system of care.

**Coping and Perceived Ability.** Another area that has been significantly researched is nurses' perceived confidence and competence when treating a mental illness patient (Abuhammad et al., 2019; Giacchero Vedana et al., 2017; Knaak et al., 2017; Marynowski-Traczyk et al., 2017). Studies focused on this area have concluded that nurses with little or no experience or training in mental health are more likely to experience fear and associated stress (Arbanas et al., 2018; Bingham et al., 2018; Carroll, 2018; Knaak et al., 2017). Efforts to provide mental health training and exposure have demonstrated positive results in building nurse confidence and competence (Arbanas et al., 2018; Bingham et al., 2018; Carroll, 2018).

### **Nurse Burnout**

Clinicians have historically endured long hours, dealt with others' pain and suffering, and were often required to move at a pace that determined a patient's life or death (Bordignon & Monteiro, 2018; Gómez-Urquiza et al., 2017; Heidemann & Heidemann, 2018). Current literature primarily addresses stress and burnout as an outcome of ineffective coping related to emergency department nurses treating mental illness patients (Gillespie et al., 2017; Laeeque et al., 2018; Vrablik et al., 2019). The physical, mental, and emotional endurance related to managing a situation appraised as

threatening and uncontrollable is reported as a contributor to significant stress and pressure (Simaes et al., 2019; Ye et al., 2018).

### **Summary**

As the access to mental health treatment facilities has decreased and patient needs are increasing, social psychologists have turned significant attention to emergency departments' quality and care experiences. Current literature focused on patients with severe mental illness presenting in emergency departments has applied attribution theory to explain the thoughts, feelings, and behaviors of attending nurses through the lens of mental health stigma (Abuhammad et al., 2019; Dickens et al., 2019; Giacchero Vedana et al., 2017; Knaak et al., 2017; Liu et al., 2018; Marynowski-Traczyk et al., 2017; Salamat et al., 2019; Sukhera et al., 2017). Other studies have employed the cognitive-relational theory of stress and coping to understand how a negative appraisal of a situation, followed by a perceived lack of control, contributes to nurse stress (Simões et al., 2019).

While there is extensive research regarding nurse burnout and patient experiences, little was known about the extent to which attribution (blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion) and appraisal of control (controlled by self, controlled by others, not controlled by anyone) have on the appraisal of stress (threat, centrality, challenge) for emergency department nurses treating patients with severe mental illness (Lazarus, 1966). Combining attribution theory and the cognitive-relational theory of stress and coping allowed an opportunity to assess how variations of attributions of mental illness stigma and degrees of control impact how

nurses assess stress. In Chapter 3, the quantitative nonexperimental canonical correlational study performed to measure the extent to which various combinations predict different types of appraisals of stress among emergency department nurses treating patients with severe mental illness is outlined.

### Chapter 3: Research Method

I conducted this study to uncover the extent to which attribution (blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion) and appraisal of control (controlled by self, controlled by others, not controlled by anyone) account for the appraisal of stress (threat, centrality, challenge) for emergency department nurses treating patients with severe mental illness. Emergency departments have been documented as offering limited environmental resources for the safe administration of mental healthcare (Abuhammad et al., 2019; Salamat et al., 2019). This research was intended to examine the power of attribution of mental health stigma and assessment of control in predicting stress appraisal of nurses working in these settings. Negative attributions toward patients with serious mental illness are related to corresponding nurse behavior of avoidance or aggression (Fleury et al., 2019; Nordstrom et al., 2019; Sukhera et al., 2017; Wong et al., 2019).

In this chapter, I outline the research design and rationale and provide a comprehensive description of the methodology. An assessment of the validity, reliability, and appropriateness of the psychometric instruments is included. I also discuss the recruitment strategies and data collection and analysis procedures that I used to ensure that ethical standards were met and that participants were protected from harm.

#### **Research Design and Rationale**

The study was a quantitative, nonexperimental canonical correlational study, employing purposive nonprobability sampling and cross-sectional data collection. The research considered how the combination of nine independent variables (IVs) of

attribution (blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion) and three IVs of appraisal of control (controlled by self, controlled by others, not controlled by anyone) impact the three dependent variables (DVs) of appraisal of stress (threat, centrality, challenge). I chose survey research from the various quantitative research methodologies due to the psychometric scales and measures available, supported by empirical data. Bingham and O'Brien (2018), Del Olmo-Romero et al. (2019), Giaccherio et al. (2017), and Zaninotto et al. (2018) are among several researchers who have successfully used psychometric surveys to gather data related to nursing attitudes.

This study did not lend itself to experiments or quasi-experiments. They are not only time-consuming and potentially expensive in a clinical setting, but there are also ethical considerations and limitations to population size. Further, I ruled out observation due to the pace and congestion in a busy emergency department, Health Insurance Portability and Accountability Act of 1996 concerns, and social desirability bias.

## **Methodology**

### **Population**

The sample frame included nurses from four large hospitals, five medium hospitals, and 16 small, critical access hospitals, part of the partner organization, one of the largest nonprofit Catholic health systems in the United States. The typical respondent from a large hospital subsample works in a 350-900 bed hospital, whereas the average respondent from the medium subsample works in a 150-350 bed hospital. The study included large and medium hospitals located in urban markets in the Midwest. The 16

critical access hospitals were all located in rural areas of the Midwest, and as per government regulation, have 25 or fewer beds.

The population units included active full-time, registered nurses who had a minimum of 6 months of experience working in an emergency department and had been assigned shifts within the emergency department in the past 6 months. Participants accessed the study via a computer survey in a location of their choosing. The emergency department nurse population of the partner organization was comparable to national census data concerning age, race, ethnicity, and gender distribution. The demographic breakdown of the target population was 80% female and 20% male. Female racial and ethnic minorities represented 6.6% of the active headcount, with male minorities representing 17%. Fifty percent of the target population had 6 months to 3 years of experience. The mode age range was 25-35, with 60% of the nurses under 35.

### **Sampling and Sampling Procedures**

I used purposive nonprobability sampling to ensure that participants were eligible to participate in the study (see Daniel, 2012). Based on my desire to research a specific unit of nurses, I concluded that there was a more significant benefit to including all who met the research criteria. Utilizing payroll lists and job codes increased reliability and allowed for the identification and targeting of emergency department nurses for voluntary, confidential participation.

Cohen (1988) provided formulas to calculate sample size for multivariate set correlations, including canonical correlation. Based on these formulas, an initial sample size of 130 was needed at alpha equals .05 and power equals .80 to statistically

significantly detect a medium-sized squared canonical correlation of .13 between a 12-variable set and a three-variable set. Although 130 would have been sufficient for statistical significance, a larger sample size was desired to make the canonical loadings more reliable to interpret each variable's relative importance. I sought to engage between 130 and 250 participants for this study, representing 13%-24% of the eligible population.

### ***Recruitment Activities***

Concerning the conduct of a dissertation, the Walden University IRB defines a partner organization, in part, as an organization that provides access to its members for original data collection. The partner organization's authorizing authority signed a letter of cooperation (see Appendix A). I sent an electronic invitation to all eligible registered nurses using the company's email server. The survey was also advertised on the company's intranet site, included in hospital newsletters, and added to daily huddle communication and huddle boards. The intention was to reach most nurses where they naturally receive communication. The email invitation and other forms of recruitment contained the URL link to the survey. The text of these invitations and advertisements is in Appendix B.

An additional recruitment strategy included snowballing using social media. At the end of the survey, participants were asked if they knew other partner organization nurses who met the criteria and might be interested in voluntarily participating. The solicitation summarized the study's purpose and could be forwarded via email to other partner organization nurses. The intention was to help encourage participation and provide an additional method for reaching nurses.

### **Procedures for Recruitment, Participation, and Data Collection**

The data collection method was an online, self-administered questionnaire distributed as a URL link in invitations to all full-time emergency room registered nurses from 26 hospitals across the Midwest. I created and distributed the survey via the partner organization's Qualtrics software platform, which remained open for 20 days. Study participation consisted of completing a one-time survey including the two study instruments, demographic questions, and eligibility statements, which took approximately 20 minutes to complete.

The survey began with an informed consent form about the nature and purpose of the study and a reminder that participation was voluntary, confidential, and not a condition of employment. After acknowledging informed consent, participants gained access to the participant eligibility page to affirm that they (a) were full-time employed as a registered nurse, (b) had at least 6 months experience in an emergency department, and (c) had been assigned to shifts in an emergency department within the past 6 months. Those who affirmed eligibility were provided access to the survey items; those who did not acknowledge informed consent or affirm eligibility were taken to an exit page. The complete survey, including exit page text, is in Appendix C. By submitting the survey, respondents consented to include their data in the research study. After submittal, a statement appeared thanking the subject, inviting them to encourage other eligible nurses to participate in the research study, and providing my contact information (see Appendix D).

### ***Data Management***

The source of data collected for the study was completed electronic surveys. Only my Walden committee chair and I had access to study records and study data. Survey data and files exported from Qualtrics are stored on the partner organization's secure server. The Qualtrics survey did not capture identifying information, such as IP addresses or email addresses. I uploaded the data to SPSS for analysis.

No paper records or data were maintained for this study. The deidentified data will be retained for 5 years on the partner organization's secure server, per the partner organization's policies and procedures before appropriate destruction. I will disseminate the findings from this study to Walden University and then upload to ProQuest in fulfillment of the requirements for the degree of Doctor of Philosophy.

### **Instrumentation and Operationalization of Constructs**

I gathered survey research data through an electronic self-administered questionnaire. The web-based methodology was chosen to protect confidentiality, decrease social desirability bias, minimize input error, and control cost. Although there are potential limitations to online survey research, the methodology has been successfully administered in several similar studies, including Bingham and O'Brien (2017), Del Olmo-Romero et al. (2019), Granados-Gómez et al. (2017), Khalid & Latif (2020); Tavares et al., (2021); Tertemiz, O. F., & Tüylüoğlu, E., (2020), and Zaninotto et al. (2018). In addition, all appropriate cautions outlined in the ethical procedures section were taken to protect participant data and confidentiality.

The survey led with questions to confirm eligibility to participate. Two psychometric questionnaires followed: first, the Attribution Questionnaire (AQ-27; Corrigan et al., 2002) to assess mental health stigma and then the Stress Appraisal Measure (SAM; Peacock & Wong, 1990) to gauge primary and secondary stress perception. Last, demographic and descriptive questions were included.

The survey design allowed for questions to be initially skipped within each assessment. Before transitioning to the following assessment, the participant was invited to answer any incomplete questions or skip to the next section. This design allowed the participant to move thoughtfully through each assessment while controlling for sequencing of scales and inadvertent nonresponse (DeVellis, 2017). Participants were able to discontinue the survey at any time. By submitting the survey, respondents consented to the inclusion of their data in the research study. Once submitted, the participant received a message thanking them, inviting them to encourage other eligible nurses to participate, and providing my contact information (see Appendix D).

### ***Eligibility Questions***

Participants responded *yes* or *no* to the following statements: (a) employed full-time as a registered nurse, (b) 6 months experience in an emergency department, and (c) assigned to shifts in an emergency department within the past 6 months. Participants' affirmation of all three of these statements confirmed their eligibility to complete the survey.

### ***Attribution Questionnaire***

Stereotypes inform the attributions associated with mental illness and elicit conscious or unconscious thoughts, feelings, and behaviors (Corrigan, 1999). Corrigan's (2000) model of discrimination and prejudice, grounded in attribution theory, explores the stigmatizing experiences of those with mental illness. Empirically supported (Corrigan et al., 2002, 2003), the model concludes that mental illness attributions take one of two routes: belief the individual is responsible for their condition or is dangerous. Both attribution routes can lead to adverse reactions. Therefore, understanding the impact that bias may have on the degree of nurse stress when caring for patients with severe mental illness was critical in this study.

Reisenzein (1986) intended to provide empirical evidence supporting Weiner's (1980) attribution model when developing the original attribution questionnaire. Reisenzein evaluated the link between the perceived personal responsibility a subject had for their circumstances, the associated sympathy or anger elicited by the observer, and the relationship of the emotional response to helping behavior. In 2002, Corrigan et al. expanded on Reisenzein's work, suggesting a second path to discrimination, dangerousness.

The formal development of the psychometric Attribution Questionnaire (Corrigan et al., (2002) began with 11 of Reisenzein's (1986) 12 initial questions. One question from the personal responsibility path was eliminated upon fit testing, as it tested as a multidimensional variable. The remaining 10 items measured the variables of personal responsibility, pity, anger, and help.

Corrigan et al. (2002) added the dimension of dangerousness to explain attribution related to mental illness. Based on earlier research, Corrigan (2000) submitted that public opinion of persons with severe mental illness is that they are dangerous, which leads to them being feared and subsequently avoided. The authors added nine items to assess each new construct variable (dangerousness, fear, and avoidance). Confirmatory factor analysis supported acceptable goodness of fit indexes ( $> .09$ ) on the normed fit index, nonnormed fit index, and comparative fit index for structure and paths on the revised instrument.

Corrigan et al. (2003) continued evolving the Attribution Questionnaire based on research on helping and rejecting responses to persons with severe mental illness. The 2003 study introduced Harry, the subject of four vignettes, in contrast to previous instruments that referred more generally to people with mental illness. There was no explanation of Harry's mental illness in two of the four scenarios, though he was described as not dangerous in one and dangerous in the other. Two additional scenarios described Harry as dangerous in both; however, his mental illness was attributed to an accident in one and drug addiction in the other. The personalization of the subject in the scenarios demonstrated high reliability with alpha coefficients from .70 to .96.

Following their 2003 study, Corrigan et al. chose the single, least leading scenario prompt and added dangerous as a unique variable. Also, the variables of coercion and segregation were separated. The final instrument contains 27 items with three items for each of nine subscales: blame, anger, pity, help, dangerousness, fear, avoidance,

segregation, and coercion (Corrigan et al., 2003). Participants rated their agreement using a Likert scale of 1 (*not at all*) to 9 (*very much*) in response to the following scenario:

Harry is a 30-year-old single man with schizophrenia. Sometimes he hears voices and becomes upset. He lives alone in an apartment and works as a clerk at a large law firm. He has been hospitalized six times because of his illness.

Examples of items on the AQ-27 are “I would feel unsafe around Harry,” “I would feel pity for Harry,” and “I would share a carpool with Harry every day.” Scores for each of the nine factors were determined by summing the three corresponding items; the three items that measure avoidance were reversed scored. The higher the score, the more the factor was supported.

The AQ-27 factor analysis resulted in interclass correlation coefficients from .74 to .90 (Brown, 2008) and Cronbach’s alpha of .82 in the Pingani et al. (2012) psychometric assessment. Recent research employing the AQ-27 to assess nurses’ attitudes toward treating patients with mental illness has demonstrated strong reliability, significance, and meaningfulness (Bingham & O’Brien, 2017; Del Olmo-Romero et al., 2019; Granados-Gómez et al., 2017; Zaninotto et al., 2018).

**Table 2***Instrument Characteristics*

Instrument/Author/ Purpose	Population/ Factors/Subscales	Reliability	Validity
Attribution Questionnaire- 27 (AQ-27)  Corrigan et al., 2003	Original normative Sample under-graduate college students ( $n = 542$ ), 13 courses of study, including nursing  27 items, three items for each of 9 domains  Responses for a Likert-type scale, from 1 ( <i>not at all</i> ) to 9 ( <i>very much</i> )  1. Blame 2. Anger 3. Pity 4. Help 5. Dangerousness 6. Fear 7. Avoidance 8. Segregation 9. Coercion	Interclass correlation coefficients (.74 to .90)	Confirmatory factor analysis supports the fit of structure and paths (Corrigan, 2002).  Pingani et al. (2012) psychometric assessment reported acceptable internal consistency, with a Cronbach's alpha of 0.82.
Instrument/Author/ Purpose	Population/ Factors/Subscales	Reliability	Validity
Stress Appraisal Measure (SAM)  Peacock & Wong, 1990	Under-graduate college students ( $n = 100$ )  28 items, four items for each of 6 domains, and four items for overall stressfulness  Responses for a Likert-type scale, from 1 – 5  1. Threat 2. Challenge 3. Centrality 4. Controllable by self 5. Controllable by others 6. Uncontrollable by anyone 7. Overall index of stressfulness	The alphas for all six dimensions were good  Threat (.65–.75) Challenge (.66–.79) Centrality (.84–.90) Control by self (.84–.87) Control others (.84–.85) Uncontrollable (.51–.82) Stressfulness (.75–.81)	Factor analysis of two separate samples demonstrated that the six dimensions were relatively independent. Threat and centrality emerged as consistently statistically significant predictors of overall stressfulness, with threat accounting for around 80% of the overall effect in three separate samples.

### ***Stress Appraisal Measure***

The stress appraisal measure (SAM; Table 2; Peacock & Wong, 1990) assesses anticipated stress based on Lazarus' (1966) cognitive-relational theory. The literature review by Peacock and Wong (1990) revealed that numerous scales evaluated stress; however, none of the existing instruments measured both primary and secondary appraisals of stress. The majority of scales were single-item measures subject to error, and several erroneously combined appraisal with coping. Peacock and Wong developed the SAM to deliver a psychometric scale that assessed both primary and secondary cognitive appraisals of anticipated stress.

In conducting the psychometric validation, Peacock and Wong (1990) conducted three separate studies to assess item selection, analysis, and the relationship between the primary and secondary appraisals, and stressfulness. Using stepwise multiple regression analysis in study one, threat ( $R^2$  change = 0.53,  $p < 0.001$ ; beta = 0.73) and centrality ( $R^2$  change = 0.05,  $p < 0.001$ ; beta = 0.23) emerged as consistently statistically significant predictors of overall stressfulness ( $R^2 = 0.60$ ,  $p < 0.001$ ). Study two revealed similar results for threat ( $R^2$  change = 0.50,  $p < 0.001$ ; beta = 0.71) and centrality ( $R^2$  change = 0.02,  $p < 0.01$ ; beta = 0.19); however, challenge ( $R^2$  change = 0.08,  $p < 0.001$ ; beta = 0.28) emerged as uniquely associated with stressfulness. Study three yielded similar results with threat ( $R^2$  change = 0.41,  $p < 0.001$ ; beta = 0.64) and centrality ( $R^2$  change = 0.01,  $p < 0.001$ ; beta = 0.34) appearing for the third time, and uncontrollable by anyone ( $R^2$  change = 0.02,  $p < 0.05$ ; beta = 0.15) identifying for the first time. Recent research employing the SAM to assess stress among healthcare and health science professionals

have demonstrated appropriate internal consistency with Cronbach's alpha coefficients from .71 to .86 (Khalid & Latif, 2020; Tavares et al., 2021; Tertemiz, O. F., & Tüylüoğlu, E., 2020).

The final 28-item self-reported tool includes four items within seven subscales. Three of the subscales assess primary appraisal of threat, challenge, and centrality. Three subscales measure secondary appraisals, including controllable-by-self, controllable-by-others, and uncontrollable-by-anyone. The final scale measures overall stressfulness. Among the three separate samples, threat and centrality emerged as consistently statistically significant predictors of overall stressfulness, with threat accounting for around 80% of all three samples' overall effect. Threat is an important measurement relating to the cognitive appraisal theory of stress (Lazarus, 1984) in this study.

For this study, the SAM scenario concerned Harry, the subject of the AQ-27, presenting in the emergency department while the respondent was the attending nurse. The 28-items were rated using a Likert scale of 1 (*not at all*), 2 (*slightly*), 3 (*moderately*), 4 (*considerably*), and 5 (*extremely*). Examples of the items on the SAM are “Is this a totally hopeless situation,” “Does this situation make me feel anxious,” and “Do I have what it takes to do well in this situation?” The final computer scoring generated a mean score for each of the seven subscales. Higher scores indicated higher levels of perceived stress.

### ***Demographic Data***

Demographic variables were included and measured as follows: gender; 0 (*male*), 1 (*female*), 2 (*prefer not to specify*); age; years of nursing experience; years of clinical

mental health experience; and hospital size; 0 (*1 – 150 beds*), 1 (*151-350 beds*), and 2 (*350+ beds*).

### ***Permissions***

The partner organization's IRB approved the study on May 22, 2021. After which, approval from Walden University's IRB was pursued. Upon final approval from both institutions, data collection began.

### **Data Analysis Plan**

#### ***Research Question and Hypotheses***

RQ1: To what extent does the attribution (blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion) combined with the appraisal of control (controlled by self, controlled by others, not controlled by anyone) predict the appraisal of stress (threat, centrality, challenge) in emergency department nurses treating patients with severe mental illness?

$H_01$ : The combination of the attribution and appraisal of control a nurse associates with treating patients with mental illness in the emergency department does not predict the appraisal of stress.

$H_11$ : The combination of the attribution and appraisal of control a nurse associates with treating patients with mental illness in the emergency department predicts the appraisal of stress.

#### ***Data Analysis***

I used a canonical correlation analysis (CCA) to examine the multivariate relationships of nurses' appraisal of control (controlled by self, controlled by others, not

controlled by anyone) and attribution (blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion) in predicting primary appraisal of stress (threat, centrality, challenge) in emergency department nurses treating patients with severe mental illness.

Before conducting CCA, I examined data following standard practices for data cleaning and screening for missing item values, univariate normality, univariate and multivariate outliers, and collinearity and multicollinearity (Diebold, 2019; Tabachnick & Fidell, 2019). Participant mean substitution is psychometrically accurate (Downey & King, 1998; Shrive et al., 2006) and was used for participants with no more than 30% missing values across a subscale item. Reliability analysis for each subscale was conducted and reported.

There were three independent solutions or roots for CCA with three subscale scores in the smallest set of variables. Wilks's lambda was reported for the overall solution and each dimension reduction analysis. Roots deemed statistically significant at  $p < .05$  were interpreted. Each subscale's function and structure coefficients were examined to interpret the subscales' combined pattern and relative importance. Coefficients  $\geq .32$  are generally considered to contribute, but it is also recommended to assess the relative distribution of coefficients to determine the importance of predictors (Tabachnick & Fidell, 2019).

### **Threats to Validity**

As a correlational study, the applicable threats to validity relate to construct and statistical conclusion validity. Stress appraisal and stereotype attribution were the

constructs of interest in this research. Established instruments were used to measure the seven dimensions of stress appraisal (Peacock & Wong, 1990) and the nine dimensions of stereotype attribution (Corrigan et al., 2003). As detailed in the Instrumentation and Operationalization section of this chapter, subscale scores of the dimensions of these constructs are reliable, a necessary ingredient of construct validity. However, reliability is not an inherent attribute of an instrument; instead, reliability has to do with the sample-specific responses to items that constitute a scale (Wilkinson and The Task Force on Statistical Inference, 1999). I conducted and reported sample-specific reliability analysis on all scales to address this potential threat to construct validity.

Statistical conclusion validity is about the appropriate use of statistical analyses (Cook & Campbell, 1979). Cook and Campbell (1979) discussed several specific threats, including the reliability of measures, low statistical power, and violated assumptions of statistical tests. Sample-specific reliability was reported for all scales. Power analysis for sample size was conducted a priori to ensure adequate statistical power. Before CCA, data was cleaned and screened for statistical assumptions and limiting conditions following procedures outlined in Diebold (2019) and Tabachnick and Fidell (2019).

### **Ethical Procedures**

The partner organization's approval allowing distribution of an email invitation to all emergency department nurses requesting they complete an online survey was obtained (see Appendix A). The cover email identified me as a coworker within the partner organization and a Walden University doctoral student. The memo further explained that the study aimed to understand the impact of patients with severe mental illness presenting

in emergency departments on nurse experiences (see Appendix B). To decrease the possibility of social desirability bias, the introductory language did not explicitly mention mental health stigma; instead, referring to job-related attitudes, work environment, and mental health perceptions.

The survey opened with consent language, expressly noting that the study was voluntary, confidential, and not an employment condition. Participants were not required to respond; they did not have to provide a reason, nor would it affect their position or relationship with the partner organization. If they did wish to participate, they were permitted to change their mind and discontinue at any time before submission.

All data will remain private and confidential following the partner organization's institutional policies and the mandates of the Health Insurance Portability and Accountability Act of 1996. No identifying data were collected from the subjects who chose to complete the questionnaire. The survey introduction included essential information about the study. Subjects implied consent by completing the questionnaire after reading the information provided about the study.

Potential risks of participation included breach of confidentiality, implied coercion, and personal discomfort responding to questions that may have revealed a bias toward patients with severe mental illness. Designed to mitigate potential ethical concerns, I employed the following protections: (a) a partner organization administrator provided a group-mail address which included all emergency department nurses, (b) the survey URL through Qualtrics blocked email addresses and IP addresses, thus prohibiting the collection of individual identifying information by the partner organization or me, (c)

electronic data is stored on a password-protected, secure computer where it will remain for a minimum of five-years, and d) any reports of this research will not include information that would be identifiable. There was no direct benefit from participating in this study other than the anticipated positive social impact on emergency department experiences for patients with severe mental illness and emergency department nurses.

The study methods and procedures did not represent greater than minimal risk. Unanticipated problems, including adverse events, were not expected or experienced. If any unanticipated problems related to the research involving risks to subjects or others had occurred, they would have been reported to the partner organization's IRB per their Institutional and IRB policies.

### **Summary**

The quantitative nonexperimental canonical correlational study exposed the extent to which attribution (blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion) combined with the appraisal of control (controlled by self, controlled by others, not controlled by anyone) predict the appraisal of stress (threat, centrality, challenge) in emergency department nurses treating patients with severe mental illness. Online data were gathered employing purposive nonprobability, cross-sectional data collection from active full-time registered nurses with a minimum of 6-months of experience working in emergency departments throughout the Midwest. In addition, two psychometric questionnaires were administered: the AQ-27 to assess mental health stigma and the SAM to gauge primary and secondary stress perception. It was posited that the combination of the attribution of mental health stigma and the

appraisal of control a nurse associates when treating patients in the emergency department predicts the appraisal of stress. A detailed description of the data collection process and results of the data analysis are provided in Chapter 4.

## Chapter 4: Results

I designed this study to reveal to what extent the attribution (blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion) combined with the appraisal of control (controlled by self, controlled by others, not controlled by anyone) predicts the appraisal of stress (threat, centrality, challenge) in emergency department nurses treating patients with severe mental illness. Participants completed the AQ-27 (Corrigan et al., 2002) to measure mental health stigma and then the SAM (Peacock & Wong, 1990) to gauge primary and secondary stress perception. Full-time emergency department nurses with a minimum of 6 months of recent experience participated in the study, representing an adequate sample of 133 individuals. In this chapter, I provide a comprehensive review of the data collection and screening processes, reliability analysis, participant demographics, and statistical findings that support rejecting the null hypothesis.

### **Data Collection and Screening**

In keeping with the partner organization's IRB protocols, a human resources administrator generated a list of employees identified as full-time emergency department nurses who had performed a shift within the past 6 months. The partner organization's information technology department created an email group containing 1,059 employee email addresses. I used the group email address to solicit participation in this research study.

On May 24, 2021, I sent the study population the survey invitation and study outline (see Appendix B). Data were collected from May 24 to June 13, 2021, with 200

individuals accessing the online survey. Throughout the 3-week study period, three email reminders were sent to the group email address. Additionally, the partner organization's chief nurses and directors of emergency services shared the study outline in nurse huddles.

The sample from the partner organization (see Table 3) was comparable to national census data concerning age and gender distribution. Consistent with the partner organization's eligible study population, there were more than five times more female participants than males, with 1 in 4 participants from medium-size hospitals (151-350 beds) and the other 101 participants evenly split between small hospitals (0-150 beds) and large hospitals (350+ beds). The average age of participants was 39.5 ( $SD = 9.2$ ), ranging from 24 to 63, which aligns with the study population mean of 37. Years of nursing experienced averaged 12.5 ( $SD = 8.5$ ), ranging from 1 to 40, and years of clinical mental health experience averaged 6.4 ( $SD = 6.7$ ), ranging from 0 to 30. The partner organization does not capture total years of experience data.

**Table 3***Demographics of Participants*

Demographic	Frequency	Valid percent					
Sex							
Male	20	15.0					
Female	109	82.0					
Prefer not to say	4	3.0					
Hospital size							
0 - 150 beds	50	37.6					
151 - 350 beds	32	24.1					
350+ beds	51	38.3					
	<i>M</i>	<i>SD</i>	Min	Mdn	Max	<i>S</i>	<i>K</i>
Age	39.5	9.2	24	39	63	0.4	-0.5
Years nursing experience	12.5	8.5	1	11	40	0.8	0.1
Years clinical mental health experience	6.4	6.7	0	4	30	1.2	1.2

*Note.* *S* = skewness. *K* = kurtosis. Valid-*n* for age, years nursing and years clinical were 129, 132, 130, respectively.

**Missing Data**

Of the three eligibility items, five participants were not employed as a full-time registered nurse, 12 did not have a minimum of 6-months experience as an emergency department nurse, and nine had not been assigned a shift in an emergency department within the past 6 months. One participant passed the first screening item but did not answer the second. These 27 cases were eliminated ( $n = 173$ ). Of the 173 eligible cases, 143 had no missing data on the 55 items that make up a key subscale. Fifteen had missing data on all 55 items. Eleven had missing data on 28 of the 55 items, one had missing data on 23 items, and one had missing data on 19 items; in all cases, there was more than one item missing on at least one of the 15 subscales. These 28 cases were eliminated ( $n = 145$ ).

### **Imputation of Participant Missing Data**

Participant ID57 had missing data on Question 14 within the AQ-27 blame subscale. As “1” was entered for the corresponding subscale questions 13 and 26, “1” was entered for Question 14. Participant ID132 had missing data on Questions 42 and 43. Question 42 is part of the SAM control by self subscale along with Questions 44, 52, and 55. The three questions were scored 4, 2, and 4, respectively, for an average of 3.33, which was entered for the missing data on Question 42. Question 43 is part of the SAM centrality subscale. Corresponding Questions 36, 39, and 57 scored 3, 3, and 1, respectively, for an average of 2.33, which was entered for Question 43. Output for missing data was rerun, providing 145 cases with valid data across the 55 items.

### **Data Cleaning**

Initial data cleaning included reverse item coding, initial subscale computations, multivariate outliers screening, and univariate outliers screening. The three AQ-27 Avoidance items required reverse coding. I reviewed the frequency output of the original and reverse coded versions. The review showed that the frequency of cases from 1 to 9 in the original matched the frequency of 9 to 1 in the reverse-coded version.

I computed each of the 16 subscales as mean composites of the items associated with each subscale. A preliminary run of reliability was conducted to ensure no major issues would affect initial subscale computations. Three of the 16 subscales had Cronbach  $\alpha$  values in the 50s and one other in the mid-60s. These alphas were suitable for initial subscale construction.

### **Multivariate Outliers**

I examined multivariate outliers following Tabachnick and Fidell's (2007) procedure of regressing a random variable on the 15 key subscales. For 15 subscales ( $df = 15$ ), the critical chi-square value for Mahalanobis at alpha equal to .001 is 37.697. The maximum observed Mahalanobis value was 56.659 exceeding the critical value. From the partial frequency output and the histogram, three cases had values above 37.697 and were substantially discontinuous with the rest of the distribution. These three cases were eliminated from further analysis, producing a new valid  $n = 142$ . The multivariate outlier screen was rerun with 142 cases, and the maximum Mahalanobis value was 36.176, below the critical value.

### **Univariate Outliers**

Five subscales had standardized scores greater than the  $\pm 3.29$  cutoff (Tabachnick & Fidell, 2007), and two subscales were very close to the cutoff. Blame and centrality each appeared to have one discontinuous outlier; fear, segregation, and threat each appeared to have two discontinuous outliers; danger appeared to have three discontinuous outliers; anger appeared to have four discontinuous outliers.

Nine cases accounted for these 15 outlier values; five cases only had one outlier value across these subscales, two had outlier values on two subscales, and two had outlier values on three subscales. Because the discontinuity relative to the rest of the distribution for each of these was substantial, and extreme univariate outliers can affect the validity of statistical results, these nine cases were eliminated from further analysis, resulting in a final valid  $n = 133$ .

### **Collinearity and Multicollinearity**

I examined initial subscale composites for collinearity and multicollinearity. From the correlation matrix, the minimum absolute value within the IV correlations was .018, the maximum was .846, and the average was .268. For the DV, the minimum absolute value correlation was .210, the maximum was .404, and the average was .308. The minimum absolute value correlation between the IV and DV sets was .013, the maximum was .620, and the average was .270. The large correlation of .846 between danger and fear within the IV set indicated a potential collinearity issue in the CCA solution.

To examine multicollinearity, I examined the IV set of subscales and the DV set separately. Danger and fear had relatively low tolerance values (.23), suggesting that 77% of the variance in each was accounted for by the other 11 subscales. Because this could have resulted in suppressed function coefficients for danger and fear in the CCA solution, the two subscales were combined, as outlined in the reliability analysis. No multicollinearity concerns were found among the three DVs with a minimum tolerance of .675.

## **Results**

### **Reliability Analysis**

I administered two psychometric questionnaires, the AQ-27 (Corrigan et al., 2002), to assess mental health stigma and the SAM (Peacock & Wong, 1990), to gauge primary and secondary stress perception. Results of the initial reliability analysis of each of the 16 subscales are outlined in Table 4. To reach reliability of .75 with three items, the average interitem correlation needs to be .50, and with four items, it needs to be .43.

In examining subscale reliability, priority was given to the a priori established subscale set of items even if reliability could be improved. However, if reliability was very low (< .60) and could be improved, improvement seemed justified. If reliability could be substantially improved by removing an item that did not correlate well and did not conceptually fit, improvement seemed justified.

**Table 4**

*Reliability of the AQ-27 and SAM Subscales*

Scale/Subscale	A	# Items	Inter-item correlations		
			M	Min	Max
<b>Attribution Questionnaire-27</b>					
Blame	.58	2	.45		
Anger	.75	3	.57	.50	.67
Pity	.66	3	.40	.29	.46
Help	.68	2	.53		
Danger+Fear	.92	6	.66	.45	.83
Avoidance	.74	3	.51	.43	.64
Segregation	.70	3	.47	.38	.64
Coercion	.54	3	.30	.19	.39
<b>Stress Appraisal Measure</b>					
Control by self	.82	4	.53	.42	.65
Control by others	.91	4	.71	.57	.84
Control by no one	.73	4	.42	.30	.56
Threat	.77	4	.46	.35	.61
Centrality	.80	4	.51	.42	.63
Challenge	.82	4	.54	.46	.66
Stressfulness	.74	4	.43	.23	.66

*Note.*  $\alpha$  = Cronbach's alpha.  $n = 133$ .

#### ***Attribution Questionnaire-27***

To complete the AQ-27, participants were asked to rate their agreement with 27 items using a Likert scale of 1 (*not at all*) to 9 (*very much*; Corrigan et al., 2003). I revised the blame and help subscales and combined danger and fear to improve reliability. Cronbach's alpha for Coercion was very low at .54, with average interitem

correlations of .30, ranging from .19 to .39. Caution was used in interpreting the effect of this subscale in the CCA solution. The remaining four subscales had acceptable to excellent reliability with an average Cronbach's alpha of .71.

Blame had a Cronbach's alpha of .492, which should be considered unacceptable. Question 14 relates to "controllable behavior" and does not seem to fit the other two items about fault and responsibility. Reliability without Question 14 was .575, with the remaining two items correlated at .450. As a summative scale, the reliability of the blame subscale is very weak but results from just having two items. The correlation of .450 warranted using this as a composite subscale.

Help reliability was .611 and could be improved to .681 if Question 11 was removed. Question 11 is about "talking" to Harry, while the other two items are about "helping." The two-item subscale had a low but acceptable Cronbach's alpha of .68 with a correlation of .53, which warranted use as a summative composite.

Danger (Cronbach's  $\alpha = .85$ ) with average interitem correlations of .67, ranging from .63 to .71 and fear (Cronbach's  $\alpha = .85$ ) with average interitem correlations of .66, ranging from .55 to .83, had good reliability. However, danger and fear were highly collinear,  $r(131) = .85$ , and both had relatively low tolerance values within the IV set of .23.

I examined an exploratory principal axis factor analysis to determine if the two sets of items were unidimensional. A single factor emerged with item loadings ranging from .65 to .92, indicating that danger and fear could be combined into a single subscale. The reliability of the combined set of items was excellent (Cronbach's  $\alpha = .92$ ) with

average interitem correlations of .66, ranging from .45 to .83. I used the combined subscale, rather than two separate subscales, in CCA to eliminate collinearity concerns.

### ***Stress Appraisal Measure***

The control by others subscale had excellent reliability (Cronbach's  $\alpha = .91$ ) with average interitem correlations of .71, ranging from .57 to .84). As noted in Table 4, four subscales had good reliability: control by self (Cronbach's  $\alpha = .82$ ), threat (Cronbach's  $\alpha = .77$ ), centrality (Cronbach's  $\alpha = .80$ ), and challenge (Cronbach's  $\alpha = .82$ ). Control by no one (Cronbach's  $\alpha = .73$ ) and stressfulness (Cronbach's  $\alpha = .74$ ) had acceptable reliability.

**Table 5**

#### *Descriptive Statistics of the AQ-27 and SAM Subscales*

Scale/Subscale	<i>M</i>	<i>SD</i>	Mdn	Min	Max	<i>S</i>	<i>K</i>
<b>Attribution Questionnaire-27</b>							
Blame	2.46	1.37	2.00	1.00	6.00	0.67	-0.43
Anger	1.55	0.78	1.00	1.00	4.33	1.54	1.90
Pity	5.85	1.68	6.00	2.33	9.00	-0.02	-0.87
Help	7.56	1.50	8.00	2.50	9.00	-0.85	0.10
Danger/Fear	2.17	1.06	2.00	1.00	6.50	1.49	3.19
Avoidance	4.61	1.95	5.00	1.00	9.00	-0.24	-0.58
Segregation	2.08	1.11	1.67	1.00	5.67	1.18	0.77
Coercion	3.83	1.54	3.67	1.00	8.33	0.01	-0.54
<b>Stress Appraisal Measure</b>							
Control by self	3.68	0.78	3.75	2.00	5.00	-0.17	-0.48
Control by others	3.24	1.09	3.00	1.00	5.00	0.19	-1.04
Control by no one	1.80	0.63	1.75	1.00	3.25	0.40	-0.80
Threat	1.75	0.61	1.75	1.00	3.50	0.72	-0.01
Centrality	2.06	0.82	2.00	1.00	4.50	0.62	-0.17
Challenge	2.69	0.94	2.50	1.00	5.00	0.40	-0.35
Stressfulness	2.12	0.70	2.00	1.00	4.00	0.48	-0.34

*Note.* *S* = skewness, *K* = kurtosis.

All final subscale composite scores were within normal distribution parameters as indexed by skewness and kurtosis (see Table 6).

### **Correlation Matrices of Subscales**

Correlations among the eight AQ-27 subscales varied from  $-.471$  to  $.470$ , with an average absolute value of  $.227$  (see Table 6). Anger had medium to large correlations with blame, danger/fear, avoidance, and segregation. Danger/fear also had medium to large correlations with avoidance and segregation. Avoidance and segregation had a medium-size correlation, as did segregation and coercion. Help had a large negative correlation with avoidance.

Control by self had a large positive correlation with control by others, and both of these had large negative correlations with control by no one (see Table 6). Control by no one had medium to large positive correlations with blame, anger, danger/fear, avoidance, and segregation. Both control by self and control by others had a large positive correlation with help, and medium to large negative correlations with anger, danger/fear, and avoidance.

**Table 6***Correlations Among Independent Variable Subscales*

Subscale	1	2	3	4	5	6	7	8	9	10	11
1. Blame		.326	-.040	-.141	.198	.073	.216	.204	-.145	-.058	.309
2. Anger	.000		.074	-.232	.446	.355	.449	.211	-.357	-.320	.473
3. Pity	.645	.396		.219	.097	.018	.168	.172	.018	.036	.189
4. Help	.105	.007	.011		-.161	-.471	-.186	.055	.447	.389	-.199
5. Danger & Fear	.023	.000	.269	.064		.407	.470	.212	-.296	-.279	.296
6. Avoidance	.402	.000	.833	.000	.000		.336	.043	-.517	-.448	.427
7. Segregation	.012	.000	.053	.032	.000	.000		.386	-.241	-.136	.406
8. Coercion	.018	.015	.048	.528	.014	.621	.000		-.028	.047	.177
9. Control by self	.095	.000	.839	.000	.001	.000	.005	.749		.627	-.525
10. Control by others	.506	.000	.677	.000	.001	.000	.119	.590	.000		-.483
11. Control by no one	.000	.000	.030	.022	.001	.000	.000	.041	.000	.000	

*Note.* Upper diagonal contains Pearson correlations, lower diagonal contains two-tailed  $p$  values. Interpret  $p$  values of .000 as  $< .001$ .

Among the DVs, threat and centrality and centrality and challenge had medium-size positive correlations (see Table 7). Threat and challenge had a small-to-medium negative correlation.

**Table 7***Correlations Among Dependent Variable Subscales*

Subscale	12	13	14
12. Threat		.404	-.210
13. Centrality	.000		.309
14. Challenge	.015	.000	

*Note.* Upper diagonal contains Pearson correlations, lower diagonal contains two-tailed  $p$  values. Interpret  $p$  values of .000 as  $< .001$ .

Concerning the DV set, control by self and control by others had large positive correlations with challenge and large negative correlations with threat (see Table 8). Control by no one had a large positive correlation with threat. Centrality had near zero to small correlations with each of the eight AQ-27 subscale scores. Threat had large positive correlations with anger, danger/fear, avoidance, and segregation. Challenge had a large positive correlation with help and a large negative correlation with avoidance.

**Table 8***Correlations Between Independent Variables, Dependent Variables, and Stressfulness*

Subscale	Correlation				<i>p</i>			
	12	13	14	15	12	13	14	15
1. Blame	.246	.034	-.043	.141	.004	.695	.622	.106
2. Anger	.573	.062	-.251	.496	.000	.475	.004	.000
3. Pity	.284	.161	.155	.155	.001	.064	.074	.075
4. Help	-.144	.162	.452	-.044	.099	.062	.000	.611
5. Danger & Fear	.639	.168	-.230	.494	.000	.053	.008	.000
6. Avoidance	.395	-.082	-.432	.214	.000	.348	.000	.013
7. Segregation	.503	.097	-.129	.264	.000	.269	.138	.002
8. Coercion	.220	.109	-.017	.177	.011	.212	.849	.042
9. Control by self	-.493	-.117	.450	-.403	.000	.181	.000	.000
10. Control by others	-.448	-.196	.431	-.389	.000	.024	.000	.000
11. Control by no one	.594	.199	-.232	.344	.000	.022	.007	.000
12. Threat		.404	-.210	.690		.000	.015	.000
13. Centrality	.404		.309	.490	.000		.000	.000
14. Challenge	-.210	.309		-.066	.015	.000		.452
15. Stressfulness	.690	.490	-.066		.000	.000	.452	

*Note.* Interpret *p* values of .000 as  $< .001$ .

Though not essential to the RQ, stressfulness had medium to large correlations with anger, danger/fear, control by no one, threat, and centrality and medium to large negative correlations with control by self and control by others.

## **Canonical Correlation Analysis**

Researchers use CCA to examine multivariate relationships, providing an appropriate statistical approach to addressing this study's RQ and hypotheses. Based on the reliability analysis, I revised the RQ to combine danger and fear.

RQ1: To what extent does the attribution (blame, anger, pity, help, dangerousness/fear, avoidance, segregation, and coercion) combined with the appraisal of control (controlled by self, controlled by others, not controlled by anyone) predict the appraisal of stress (threat, centrality, challenge) in emergency department nurses treating patients with severe mental illness?

$H_{01}$ : The combination of the attribution and appraisal of control a nurse associates with treating patients with mental illness in the emergency department does not predict the appraisal of stress.

$H_{11}$ : The combination of the attribution and appraisal of control a nurse associates with treating patients with mental illness in the emergency department predicts the appraisal of stress.

### ***Multicollinearity***

There was no evidence of multicollinearity among the set of IV or DV; VIF values were all less than ~2.0.

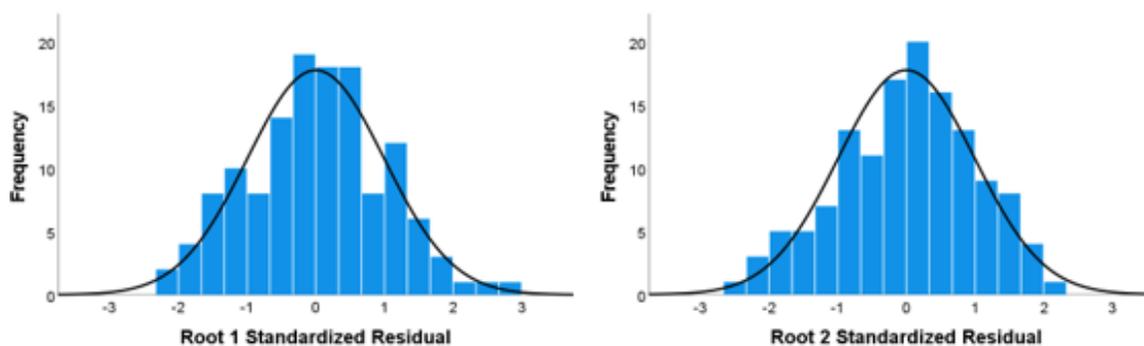
### ***Normality, Linearity, and Homoscedasticity***

In CCA, the assumption of normality is with respect to the residual. Independent and dependent variate scores for the first two statistically significant roots were computed. Simple regressions were run to examine the normal distribution of each

standardized residual and homoscedasticity of the standardized residuals with standardized predicted values. As evident in Figures 4 and 5, Root 1 and Root 2 have normally distributed residuals. There is no evident pattern of violation of homoscedasticity; as well, linearity is confirmed by the rectangular shape of the scatterplot.

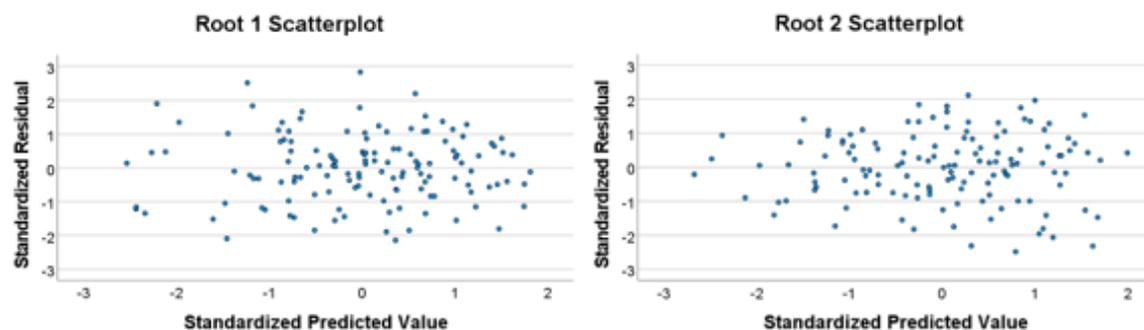
**Figure 4**

*Histogram of Root 1 and Root 2 Standardized Residuals*



**Figure 5**

*Homoscedasticity Scatterplot of Root 1 and Root 2 Residuals by Predicted Values*



### ***Canonical Correlation Results***

The overall canonical correlation was statistically significant, Wilks's  $\Lambda = .19$ ,  $F(33.0, 351.3) = 8.03$ ,  $p < .001$ . In the dimension reduction analysis, Roots 1 to 3 and Roots 2 to 3 were statistically significant (see Table 9). Root 3 was not statistically significant and is not interpreted. Root 1 accounted for 70.3% of shared variance between the IV and DV sets of variables, and in Root 2, 26.7% of the variance between sets was shared. On Root 1, those individuals scoring low on anger, pity, danger/fear, control by no one, and high on control by self and control by others tended to score low on threat and high on challenge. On Root 2, those individuals scoring low on avoidance and coercion and high on blame, pity, help, danger/fear, segregation, control by self, and control by others tended to score low on centrality and high on both challenge and threat.

**Table 9***CCA Summary Results of Two-Root Solution of Math and Science Variates*

Variate Set	Root 1			Root 2			$h^2$
	B	$r$	$r^2$	$\beta$	$r$	$r^2$	
<b>Dependent Set</b>							
Threat	-0.945	-.974	.949	0.527	.215	.046	.995
Centrality	0.038	-.278	.078	-0.216	.328	.108	.186
Challenge	0.213	.423	.179	1.071	.894	.799	.978
Adequacy			.402			.318	
Redundancy			.282			.085	
$R_c$		.838	.703		.517	.267	
Redundancy			.216			.039	
Adequacy			.308			.148	
<b>Independent Set</b>							
Blame	-0.006	-.286	.082	0.138	.147	.022	.104
Anger	-0.222	-.706	.498	0.074	.037	.001	.499
Pity	-0.160	-.273	.075	0.357	.545	.297	.372
Help	-0.032	.284	.081	0.461	.722	.521	.602
Danger/Fear	-0.435	-.772	.596	0.208	.104	.011	.607
Avoidance	0.009	-.559	.312	-0.296	-.458	.210	.522
Segregation	-0.105	-.596	.355	0.220	.205	.042	.397
Coercion	-0.001	-.247	.061	-0.156	.144	.021	.082
Control by self	0.232	.665	.442	0.203	.478	.228	.670
Control by others	0.170	.605	.366	0.314	.519	.269	.635
Control by no one	-0.218	-.720	.518	0.249	.041	.002	.520

*Note.*  $\beta$  = standardized function coefficient. In the  $R_c$  row,  $r$  and  $r^2$  are the canonical correlation and squared canonical correlation; in all other rows,  $r$  and  $r^2$  are the structure and squared structure coefficients.  $h^2$  = communality. Bold values indicate relatively high contribution.

### ***Univariate Regression Results***

The RQ focused on the multivariate relationships between the set of IVs and DVs. However, CCA also provides univariate regression results of each DV separately regressed on the set of IVs summarized in Table 10. The set of IVs accounted for 68.0% of the variance in threat, 34.2% of the variance in challenge, and only 18.4% of the

variance in centrality. Anger, pity, danger/fear, control by self, and control by no one were statistically significant predictors of threat while controlling for all other IVs.

Similarly, avoidance and control by others were statistically significant predictors of centrality, and help was the only statistically significant predictor of challenge.

**Table 10**

*Univariate Regression Results for Each Dependent Variable*

Independent variable	Dependent variable								
	Threat $R^2 = .680$			Centrality $R^2 = .184$			Challenge $R^2 = .342$		
	<i>b</i>	<i>SE<sub>b</sub></i>	<i>p</i>	<i>b</i>	<i>SE<sub>b</sub></i>	<i>p</i>	<i>b</i>	<i>SE<sub>b</sub></i>	<i>p</i>
Blame	.008	.026	.763	-.006	.055	.913	.038	.057	.501
Anger	.140	.052	.008	-.084	.111	.447	-.082	.114	.472
Pity	.062	.020	.003	.040	.043	.356	.059	.044	.187
Help	.035	.026	.188	.106	.056	.062	.137	.058	.019
Danger/fear	.219	.037	.000	.134	.079	.093	-.046	.081	.571
Avoidance	-.018	.022	.418	-.109	.046	.021	-.080	.048	.095
Segregation	.060	.037	.112	.025	.079	.750	.050	.082	.538
Coercion	-.004	.023	.848	.026	.049	.594	-.036	.050	.470
Control by self	-.135	.058	.023	-.082	.125	.510	.200	.128	.122
Control by others	-.070	.040	.084	-.188	.086	.031	.140	.089	.117
Control by no one	.204	.071	.005	.179	.152	.241	.067	.156	.667

*Note.* *b* = unstandardized regression weight; *SE<sub>b</sub>* = standard error of *b*. Each regression at  $F(11, 121)$ . Values of .000 should be interpreted as  $< .001$ .

### Summary

This chapter focused on the statistical findings related to the RQ and hypotheses. Data were obtained from a representative sample of emergency department nurses ( $n = 133$ ). The overall canonical correlation was statistically significant, Wilks's  $\Lambda = .19$ ,  $F(33.0, 351.3) = 8.03$ ,  $p < .001$ . Therefore, the null hypothesis, "the combination of the attribution and appraisal of control a nurse associates with treating patients with mental

illness in the emergency department does not predict the appraisal of stress,” was rejected. In Chapter 5, I will provide a detailed interpretation of the findings and discuss how the results may be used to effect positive social change.

## Chapter 5: Discussion, Conclusions, and Recommendations

I conducted this research to understand if the combination of the attribution and appraisal of control a nurse associates with treating patients with mental illness in the emergency department predicts stress appraisal. The partner organization, a large health system located in the U.S. Midwest, granted access to the target population of emergency department nurses. I analyzed data from emergency department nurses who completed the AQ-27 (Corrigan et al., 2002), SAM (Peacock & Wong, 1990), and general demographic questions using the CCA. The overall canonical correlation was statistically significant, Wilks's  $\Lambda = .19$ ,  $F(33.0, 351.3) = 8.03$ ,  $p < .001$ . This chapter includes an interpretation of the findings, a discussion of the study's limitations, recommendations for further research, and consideration of the study's implications for positive social change.

### **Interpretation of the Findings**

The RQ in this study was, To what extent does the attribution (blame, anger, pity, help, dangerousness/fear, avoidance, segregation, and coercion) combined with the appraisal of control (controlled by self, controlled by others, not controlled by anyone) predict the appraisal of stress (threat, centrality, challenge) in emergency department nurses treating patients with severe mental illness? Before this study, the literature had focused on nurse attitudes, highlighting the impact of mental illness stigma attributed to patients by caregivers or nurse stress associated with nurses' competence and confidence caring for patients with mental illness (Giacchero Vedana et al., 2017; Knaak et al., 2017; Marynowski-Traczyk et al., 2017; Sukhera et al., 2017). Although these studies have contributed to understanding attribution of mental illness stigma (Corrigan et al., 2002)

and the cognitive relational theory of stress (Lazarus, 1966), the combined theories offer a more comprehensive interpretation of the antidotes of negative stress appraisal and coping.

The CCA results revealed that participating nurses experienced a stress appraisal of threat when they attribute danger/fear, pity, or anger to the patient with mental illness and do not feel that they, or anyone else, can control the situation. Conversely, when participating nurses attributed a need to help patients with severe mental illness and feel they are in control, they appraised the situation as a challenge. Finally, when nurses attributed the situation as one to avoid and appraise that someone else is in control, a stress appraisal of centrality is formed. The null hypothesis—that the combination of the attribution and appraisal of control a nurse associates with treating patients with mental illness in the emergency department does not predict the appraisal of stress—is therefore rejected.

### **Limitations of Study**

One limitation of this study is the potential for social desirability responses by participants. Nurses called to the healing profession may have been uncomfortable responding honestly to questions that expose potential mental illness stigma. Another related limitation is my position as an executive within the partner organization. Nurses could have felt concerned that their participation or responses would harm their employment. However, the adequate response rate and statistical significance of the findings do not suggest respondent bias.

Concerning generalizability, this study was conducted within a Catholic health system in the U.S. Midwest. Although I was initially concerned that the influence of a faith-based environment in a geographic area culturally known for hospitality could influence the appraisal of stigma, there is no evidence of that in the data. Given the size of the partner organization and the distribution of emergency department size and census, I believe that the results are generalizable.

### **Recommendations**

Although not specifically in scope for this study, further analysis of how hospital size and census, geographic location, and nurse tenure influence appraisals of attribution and control could provide additional insight to the scholarly community. This additional level of analysis could reveal opportunities to customize future training and clinical education. Additionally, a pre- and poststudy could be conducted to assess levels of nurse occupational stress and increased joy in practice with the employment of unconscious bias education and training to identify, treat, and de-escalate patients with mental illness.

### **Implications**

The results should encourage nursing programs to increase the education surrounding mental illness diagnoses and mental health stigma. In addition, health systems should invest in regular training on de-escalation, safe escape, and team-based restraint techniques. Equipping nurses with the tools to build confidence and competence to deliver life-extending care and compassion to patients presenting with mental illness without compromising their physical or mental health could decrease occupational stress, increase nurse engagement, and ultimately improve the healthcare experience for those

they serve. Further, governmental grants to support the expanded training and education investment could facilitate the rapid adoption of social change.

On a more macro scale, bridging attribution theory and the cognitive-relational theory of stress and coping highlighted a specific gap in the literature. The scholarly community should continue to study the significant impact that mental illness stigma, coupled with an appraisal of control, can have on the appraisal of stress. Data from this study could catalyze positive social change within law enforcement, education, and home health.

### **Conclusion**

Experts anticipate that the number of patients presenting in emergency departments across the United States will continue to rise at an accelerated pace, particularly in light of COVID-19 (Holland et al., 2021). This study's results, gathered from 133 emergency department nurses, reveal the prospect of contributing to positive social change for those treating patients with severe mental illness. By developing literacy of mental illness to diminish stigma and equipping clinicians with the tools to confidently and competently feel in control, there is an opportunity to minimize the negative appraisal of threat. This study suggests that when nurses desire to help a patient with mental illness and feel in control of the situation, they positively appraise the situation as a challenge, triggering problem-focused coping. Positive coping can reduce occupational stress for those called to the healing profession (Lazarus, 1966, 1991; Lazarus & Folkman, 1984; Folkman et al., 1986; Simões et al., 2019; Sukhera et al., 2019) and can improve the quality of care for those often marginalized by contemporary society

(Corrigan & Penn, 2015; Corrigan et al., 2002; Corrigan et al., 2003; Mannarini & Rossi, 2019).

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## Appendix A: Letter of Cooperation

**Congratulations! All steps of the [Name redacted] Research study Start Up process have been completed and you are approved to start conduct of your study.**

This email also serves to inform you of **ONGOING RESPONSIBILITIES** that are required to keep your study in good standing with [Name redacted] Research and the [Name redacted] IRB:

- **Conduct the Study** according to the [Name redacted] IRB-approved protocol, all applicable [Name redacted] Institutional Review Board policies and procedures, and applicable regulations.
- Any **Revisions or Modifications** to the [Name redacted] IRB approved study materials must be reviewed and approved by the [Name redacted] IRB prior to implementation. **This includes changes to the number of subjects to be enrolled in the study or number of charts to be reviewed, etc.**
- **Maintain Study Records** including the following documents:
  - [Name redacted] IRB-approved Protocol
  - Data Collection Forms
  - [Name redacted] IRB submissions and letters
  - Correspondence between you and the [Name redacted] IRB or [Name redacted] Research
  - Credentials and Training for research personnel
- **Maintain Privacy and Confidentiality** of study records and data.
- **Report any Unanticipated Problems** related to the study including a breach of patient privacy or confidentiality to the [Name redacted] IRB.
- **Report any Non-Compliance or Complaints** regarding this study to the [Name redacted] IRB.
- Submit a **Notification of Study Closure** to [Name redacted] Research *within 30 days* of completion of all study activities including data analysis and poster and/or manuscript submission.

**Your project may be subject to monitoring by a [Name redacted] Research Compliance Analyst.** The Analyst will notify you prior to review and may ask that you provide documentation of IRB review in addition to your project records.

Contact the [Name redacted] Research Regulatory Coordinator (myself) for assistance with study amendments, submitting reports or other [Name redacted] IRB inquiries.

If you have any questions or need assistance, please contact us at [redacted].

Sincerely,

[Name redacted]  
Regulatory Coordinator - [Name redacted] Research

## Appendix B: Invitations and Advertisements

Dear Emergency Department Nurses:

I am a leader with [Name redacted] and a doctoral student at Walden University. I am conducting a dissertation research study to evaluate nurse stress assessment when treating severe mental illness in emergency departments. You are being asked to participate in this study because you have been identified as a full-time emergency department nurse.

Your participation in this study is voluntary and will require you to complete a one-time online survey. After acknowledging informed consent, you will be asked to confirm eligibility, affirming you (a) are full-time employed as a registered nurse, (b) have at least 6-months experience in an emergency department, and (c) have been assigned to shifts in an emergency department within the past 6-months. It will take approximately 20 minutes to complete the survey.

Please contact me at [redacted] if you have any questions about the study.

**Click the link below for additional information and to take the survey.**

Sincerely,

Cynthia Bentzen-Mercer

Walden University Ph.D. Psychology –a.b.d.

### **Survey Reminder Email**

Your participation in the advancement of research in mental health and emergency department treatment is requested.

Your participation in this study is being requested because you have been identified as a full-time emergency department nurse. Your participation in this study is voluntary and will require you to complete a one-time online survey. It will take approximately 20 minutes to complete the survey. The survey will remain open until June 13, 2021. Please contact me at [redacted] if you have any questions about the study.

**Click the link below for additional information and to take the survey.**

## Study Information Sheet

**Study Title:** Emergency Department Nurse Experiences When Treating Patients With Severe Mental Illness

**Principal Researcher:** Cynthia Bentzen-Mercer

[Name redacted] emergency department nurses will be asked to participate in a study to evaluate the impact of emergency department nurse experiences when treating patients with severe mental illness. You were chosen to participate in this study because of your expertise.

Whether or not you take part is your choice. If you do not want to take part, you do not have to give a reason, and it will not affect your position or your relationship with the partner organization. If you do want to take part now but change your mind later, you can pull out of the study at any time.

This Study Information Sheet defines why we are doing the study, what your participation will involve, the benefits and risks to you, and what would happen after the study ends.

**Purpose of the Study:** The study aims to understand patients with severe mental illness presenting in emergency departments and their impact on nurses' experiences.

**What Will My Participation in the Study Involve?** Completion of a one-time, online survey

We will ask you about your job-related attitudes, work environment, and mental health perceptions in the surveys. Your participation will require approximately 20 minutes and will be completed at the partner organization while at work.

The only foreseeable risk of participating in this study is a breach of confidentiality. Your survey will be submitted confidentially. Your email and IP address are blocked and, therefore, not linked to your responses. Your responses will be kept strictly confidential, and all electronic data will be stored in secure computer files. Any report of the information generated by this study and made available to parties outside the study team will not include your name or other individual information by which you could be identified.

**Who Do I Contact for More Information or If I Have Concerns?**

If you have questions, you may contact me at [redacted] or [redacted]. If you have any questions, comments, complaints, or concerns about the research or your rights as a participant in a research study, contact the [Name redacted] Institutional Review Board (IRB) coordinator at [redacted]. The partner organization's IRB is a group of people responsible for protecting people's rights participating in research studies. You may keep it for your records.

## Appendix C: Complete Survey

### Eligibility Questions

Please respond *yes or no* to the following statements:

1. I am employed as a full-time registered nurse.
2. I have a minimum of 6-months of experience working as a nurse in an emergency department.
3. I have been assigned to shifts in an emergency department within the past 6 months.

### Attribution Questionnaire (AQ-27)

**PsycTESTS Citation:**

Corrigan, P. W., Rowan, D., Green, A., Lundin, R., River, P., Uphoff-Wasowski, K., White, K., & Kubiak, M. A. (2002). Attribution Questionnaire [Database record]. Retrieved from PsycTESTS. doi: <https://dx.doi.org/10.1037/t12425-000>

**Instrument Type:** Inventory/Questionnaire

**Test Format:** Items are rated on 9-point scales with varying anchors such as "not at all" (1) to "very much" (9) and "not at all responsible" (1) to "very much responsible" (9).

**Source:** Supplied by author.

**Original Publication:**

Corrigan, P. W., Rowan, D., Green, A., Lundin, R., River, P., Uphoff-Wasowski, K., White, K., & Kubiak, M. A. (2002). Challenging two mental illness stigmas: Personal responsibility and dangerousness. *Schizophrenia Bulletin*, 28(2), 293-309. <https://dx.doi.org/10.1093/oxfordjournals.schbul.a006939>

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## Stress Appraisal Measure (SAM)

**PsycTESTS Citation:**

Peacock, E. J., & Wong, P. T. P. (1990). Stress appraisal measure [Database record].

<http://dx.doi.org/10.1037/t42442-000>

**Instrument Type:** Inventory/Questionnaire

**Test Format:** This 28-item measure utilizes a five-point Likert scale (1 = not at all, 5 = a great amount).

**Source:** Supplied by author.

**Original Publication:**

Peacock, E. J., & Wong, P. T. (1990). The stress appraisal measure (SAM): A multidimensional approach to cognitive appraisal. *Stress Medicine, 6*(3), 227-236.

<http://doi.org/10.1002/smi.2460060308>

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### **Demographic Questions**

Please respond to the following demographic questions:

1. Gender: Male, Female, Prefer not to specify
2. Age
3. Years of nursing experience
4. Years of clinical mental health experience
5. Hospital size: 1 – 150 beds, 151-350 beds, 350+ beds

#### Appendix D: Message That Appeared After Survey Submission

If you have questions, you may contact me at [redacted]. If you have any questions, comments, complaints, or concerns about the research or your rights as a participant in a research study, contact the partner organization Institutional Review Board (IRB) coordinator at [redacted]. The partner organization IRB is a group of people in charge of protecting the rights of people participating in research studies.