LABOR AND DELIVERY NURSES' EXPERIENCES OF TRAUMATIC EVENTS AND INSTITUTIONAL SUPPORT: A MULTIMETHOD STUDY

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ABSTRACT

Catherine Crawford: Labor and Delivery Nurses' Experiences of Traumatic Events and Institutional Support: A Multimethod Study
(Under the direction of Jessica Williams)

Introduction: This study explored how labor and delivery (L&D) nurses define and experience traumatic events in the workplace, if institutional supports meet desired needs of L&D nurses, and how psychological distress and institutional support affect absenteeism, turnover intention, and resilience.

Background: Traumatic experiences in healthcare are associated with negative outcomes including absenteeism, turnover intention, burnout, and secondary traumatic stress. Although well studied in some high exposure areas, the traumatic event experiences of L&D nurses have received less attention in published literature.

Methods: A multimethod study examined L&D nurses' workplace traumatic event experiences. Nurses (N=171) recruited from the Association of Women's Health, Obstetric and Neonatal Nurses organization completed a survey utilizing the Second Victim Experience and Support Tool – Revised and the Second Victim Support Desirability survey. Descriptive analyses compared available to desired support options. Multiple regression analysis examined levels of psychological distress and lack of institutional support associations with L&D nurse turnover intention, absenteeism, and resilience. Additionally, 13 nurses participated in semi-structured interviews about their experiences. Directed content analysis was used to compare

nurses' traumatic experiences to the Core Beliefs and Second Victim Recovery Trajectory models.

Results: Participants described various experiences deemed traumatic in the L&D workplace including neonatal and maternal death, complicated deliveries, workplace violence among others, and indicated that support services offered did not meet their desired needs. Psychological distress, overall distress and lack of institutional support were associated with absenteeism and turnover intention, while only institutional support was associated with resilience. Revisions to the Second Victim Recovery Trajectory were made to reflect the post-trauma experience of L&D nurses, and L&D nurses described many instances in which their core beliefs were shaken by their traumatic experiences.

Conclusion: L&D nurses face various traumatic events in the workplace and support offerings provided after traumatic events are not meeting desired needs of L&D nurses. Additional research is needed to understand the scope of the problem and investigate best practices to assist L&D nurses following traumatic events.

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CHAPTER I: INTRODUCTION

Workplace exposure to traumatic events is common among healthcare workers (Harrison & Wu, 2017; Seys et al., 2013); however, the definition of events described as traumatic differs across specialty areas. Some events that have been identified by healthcare workers as traumatic include patient death, workplace violence, involvement in medical errors, listening to or witnessing traumatic experiences of others, to name just a few. Healthcare workers indicate that experiencing *adverse events* such as unexpected patient harm, death or medical error are often traumatic for the worker. An adverse event in healthcare is defined as an event which may be either preventable or non-preventable and has or could have caused harm to a patient as a result of the medical care provided (Rafter et al., 2014). It has been reported that at least half of all healthcare workers will experience at least one adverse patient event during their careers (Scott et al., 2010). There are no available estimates for the prevalence of all types of traumatic events experienced by healthcare workers since there is not yet a complete understanding of all events that are found to be traumatic across specialty areas. However, it is known that traumatic events cause a high level of stress and are associated with poor health for nurses and other healthcare workers (Beck & Gable, 2012; Healy & Tyrrell, 2011; Seys et al., 2013). Of these trauma-exposed healthcare workers, 7% proceed to develop severe psychological effects secondary to trauma exposure (Hooper et al., 2010).

Patient death and other traumatic events are found to be harmful to the long-term health of all healthcare workers (Adriaenssens et al., 2012; Beck & Gable, 2012; Donnelly, 2012; Halpern et al., 2011, 2012; Kellogg et al., 2018; Komachi et al., 2012; Mealer & Jones, 2013;

Wilson & Kirshbaum, 2011; Yu & Chan, 2010). According to these studies, healthcare workers may experience psychological, physical and cognitive effects due to their exposure to these events. Physical symptoms may include difficulty sleeping, fatigue and exhaustion. Cognitive symptoms experienced may include having difficulty focusing, rumination, and periods of irritability. Psychological symptoms include depressed mood, anxiety, and avoidance of situations. These symptoms in turn may lead to increased incidence of poor workplace behaviors and outcomes such as burnout, patient errors, horizontal violence, absenteeism, and intent to leave the profession (de Boer et al., 2011; Fonseca et al., 2012; Sirriyeh et al., 2010), and can become more pronounced when the traumatic event is unexpected or the healthcare worker is unprepared to cope with the event (Coughlan et al., 2017).

The term *second victim* was originally coined by Albert Wu in an exploration of distress experienced by physicians following medical error (Wu, 2000). Over time, this term has been expanded to include a wider range of experiences. Current research refers to the second victim as a healthcare provider "involved in an unanticipated adverse patient event, medical error, and/or a patient-related injury who become[s] victimized in the sense that the provider is traumatized by the event" (Scott et al., 2010, p. 233). Often health care workers experience secondary traumatic stress symptoms after these events. Secondary traumatic stress (STS) is defined as the emotional threat to an individual on witnessing or hearing of the trauma experiences of another (Figley, 1995). Exposure to traumatic events create effects on workers similar to those felt by the primary victims leading to symptoms of increased negative arousal, intrusive thought/images of another's traumatic experiences, difficulty separating work from personal life, decreased feelings of work competence, and diminished enjoyment with their chosen career (Figley, 1995). STS is used interchangeably in the literature with the terms

vicarious traumatization (VT) (Pearlman & Saakvitnes, 1995) and compassion fatigue, although these terms have some conceptual differences. VT results in a change in one's "self-identity, spirituality, world view, and cognitive frame of reference" following exposure to another's traumatic stories (Pearlman & Saakvitnes, 1995, p. 31). Compassion fatigue refers to the declining ability of individuals to provide empathetic care due to repeated exposure to the suffering of others (Peters, 2018).

There has been an abundance of research on the lived experiences of healthcare workers following traumatic workplace events (Bridgeman et al., 2018; Cocker & Joss, 2016; Frey et al., 2018; Sinclair et al., 2017; Van Mol et al., 2015). Studies overwhelmingly demonstrate that some healthcare workers report symptoms of STS. Moreover, many participants state that they desire institutional support to help with these workplace stressors (Healy & Tyrrell, 2011; McCready & Russell, 2009; Morrison & Joy, 2016). A wide variety of institutional interventions have been described in the literature to aid those who have experienced traumatic events. In one intervention, an institution developed a *post-code pause* to support workers' psychological and spiritual health (Copeland & Liska, 2016). Another hospital questioned whether debriefings could be responsible for causing some degree of post-traumatic stress; they determined that debriefing was not associated with an elevated PTSD risk (Spencer et al., 2019). Other interventions found in published literature include well-being programs (Slater et al., 2018), bereavement support (Zajac et al., 2017), death cafés (Nelson, 2017), critical incident stress management and debriefing (Everly et al., 2002; Healy & Tyrrell, 2011; Keene et al., 2010; Priebe & Thomas-Olson, 2013; Schiechtl et al., 2013), among others. The volume and quality of literature specific to post-trauma intervention evaluation is inadequate to determine true

effectiveness at this time. Therefore, the evidence-base for refining and demonstrating efficacy of these various methods is poorly understood.

Institutional methods for addressing psychological distress of healthcare workers have aligned with recommendations by The Joint Commission (TJC) advocating for institutional support services (The Joint Commission, 2018). TJC recommends providing support to workers as quickly as possible after traumatic events to avoid the ripple effect that may arise from performance issues and the impact this may have on patient safety (The Joint Commission, 2018). One such program developed by the University of Missouri Health System utilized the model of the "*Second Victim Recovery Trajectory"* which identifies six stages that a trauma-exposed healthcare worker moves through when exposed to adverse patient events (Scott et al., 2009): *Chaos and Accident Response; Intrusive Reflection; Restoring Personal Integrity; Enduring the Inquisition; Obtaining Emotional First Aid; and Moving On.* According to the model, institutional response and support is a key driver of emotional recovery for healthcare staff as they move through the recovery steps.

The impact of traumatic patient events on one's psychological, physical, and professional well-being has been widely studied across a variety of healthcare professionals and medical specialties, often focusing on healthcare workers in general (including both physicians, residents, midwives, anesthesiologists and nursing) (Beck, 2011; Cocker & Joss, 2016; Kinker et al., 2018; Peters, 2018; Roden-Foreman et al., 2017; Rotenstein et al., 2018; Zhang et al., 2018) or on nurses in particular high-risk areas such as emergency medicine, critical care and pediatrics (Barleycorn, 2019; Beck, Cusson, et al., 2017; Borges et al., 2019; Kellogg et al., 2018; Morrison & Joy, 2016; Partlak Günüşen et al., 2019; Rotenstein et al., 2018; Van Mol et al., 2015). Nurses

in those care areas have a higher level/extent of exposure to these events and have attracted more research.

In the obstetrics specialty area, studies have focused on the second victim experiences of midwives and obstetricians (Beck et al., 2015; Favrod et al., 2018; Kerkman et al., 2019; Oe et al., 2018; Schrøder et al., 2016). Only a limited number of studies were found in the literature describing the second victim experiences of labor and delivery (L&D) nurses (Beck et al., 2016; Beck & Gable, 2012; Finney et al., 2020). Even though exposure to traumatic events in L&D may be less than other settings, the unexpected nature of these events is associated with more severe and complicated grief reactions (Shorey et al., 2017). As the birth process is not often viewed from the lens of illness, but instead from an expectation of wellness, unanticipated negative outcomes such as stillbirth, neonatal demise, traumatic deliveries, medication errors and maternal death can often shake the core beliefs of nurses in this specialty area (Beck & Gable, 2012; Dietz, 2009; Foreman, 2014). Core beliefs are the set of beliefs that one has about the world around them, how it works and one's place in it (Calhoun & Tedeschi, 2013). In addition, most nurses working in L&D units are female and may personally identify with the mothers and families for whom they are caring. Therefore, many nurses experiencing traumatic events in the perinatal specialty area experience disruptions to their core belief (Cann et al., 2010) of expecting a "good, safe delivery" and experience stress responses following these situations.

Studies that have investigated workplace trauma for L&D nurses have selected specific types of traumatic events (i.e., perinatal loss, maternal death) as a topic of interest. No studies have investigated how L&D nurses define workplace trauma. Given the paucity of research in this area, the purpose of this research study was to describe how L&D nurses define traumatic

experiences within their specialty practice and to uncover how best to support their recovery following exposure in their L&D practice. The following research questions were addressed:

RQ1: What institutional supports are desired by L&D nurses following a traumatic event and how do these compare to the supports that were available and offered by the institution following the event? (quantitative)

RQ2: Is psychological distress and institutional support following a traumatic workplace event associated with L&D nurse turnover intention, absenteeism, and resilience, controlling for socio-demographic factors? (quantitative)

RQ3: How do L&D nurses define and experience traumatic events in the workplace? (qualitative)

RQ4: How do L&D nurses describe the process of recovery following a traumatic event in the workplace? (qualitative)

RQ5: How do the traumatic workplace experiences of L&D nurses as *second victim* compare with Susan Scott's *Second Victim Recovery Trajectory* model? (qualitative)

This study used a multimethod research design to address these research questions (Chapter III). Findings highlight the specific needs of L&D nurses who experience a traumatic workplace event (Chapter IV) and provide recommendations for future interventions to facilitate their recovery trajectories (Chapter V). To understand more about the gaps in research in this area, literature related to nurses' experiences with traumatic events, secondary traumatic stress, vicarious trauma, burnout, absenteeism, turnover intent, trauma specific to the labor and delivery arena, and the Six Stages of Second Victim Recovery Trajectory model is explored in detail in Chapter II.

CHAPTER II: LITERATURE REVIEW

Introduction

Workplace exposure to traumatic events in the healthcare environment has been widely studied (Adriaenssens et al., 2012; Marran, 2019; Nydoo et al., 2020). Previous studies have examined what constitutes traumatic events for healthcare workers (Coughlan et al., 2017; Marran, 2019; Somville et al., 2016), the lived experiences of healthcare workers following traumatic events (Beck & Casavant, 2019; Goldbort et al., 2011; Michael & Jenkins, 2001), the prevalence of traumatic events (Berger et al., 2012; Scott et al., 2010) and the effects of traumatic exposure on healthcare workers (Balch et al., 2009; Missouridou, 2017; Schrøder et al., 2016; Wahlberg et al., 2017). This literature review will explore concepts of secondary traumatic stress, compassion fatigue, burnout and vicarious trauma including the integration of these concepts in literature regarding healthcare workers' traumatic experiences. In addition, current research describing implementation and evaluation of various institutional supports for trauma-exposed healthcare workers will be explored. This literature review will discover the state of the science in this important area as well as provide a comprehensive review of the Core Beliefs model and the Second Victim Recovery Trajectory model to help guide our understanding of the experiences and recovery trajectory of trauma-exposed healthcare workers. This review will seek to uncover gaps in current research specifically regarding L&D nurses' experiences of traumatic events in each of the focus areas mentioned above, as this is a population of nurses that has been infrequently studied to date.

Traumatic Events in Healthcare

A traumatic event is defined as a "situation that is so extreme, so severe and so powerful that it threatens to overwhelm a person's ability to cope, resulting in unusually strong emotional, cognitive, or behavioral reactions in the person experiencing it" (Adriaenssens et al., 2012). The term *second victim* (Wu, 2000) has been used to describe a healthcare provider victimized by the experience of an *adverse event*. An *adverse event* is one type of traumatic event in which there is an "unintended physical injury [to a patient] resulting from or contributed to by medical care (including the absence of indicated medical treatment) that requires additional monitoring, treatment or hospitalization or that results in death" (Griffin & Resar, 2009). However, many more situations have been described as traumatic for healthcare workers in the literature, and as such, the term "second victim" has been expanded to include healthcare workers affected by all events that are perceived as traumatic.

Traumatic events in the literature have included a wide variety of events that were perceived by healthcare workers to be traumatic to either the patient or themselves. For example, witnessing adverse events or near misses have been identified as traumatic to healthcare workers (Marran, 2019). Other events such as healthcare acquired infections, patient falls, and miscommunication during patient handoff have also been described as traumatic (Pham et al., 2012). Emergency medicine providers define traumatic events as sudden infant death, severe incidents involving children, interactions with psychiatric patients, facing upset patients and family members, and experiences of violence (Somville et al., 2016).

Identified traumatic events specific to the labor and delivery arena include early perinatal or neonatal death, difficult delivery of an infant, massive postpartum hemorrhage, uterine rupture, peripartum hysterectomy and maternal death (Coughlan et al., 2017; McNamara &

O'Donoghue, 2019). Whereas in most specialty areas, views of both medical providers and nursing staff have been elicited on what constitutes a traumatic event, most of the research in the labor and delivery area has sought the views of midwives and obstetricians. A gap in research exists in understanding what events L&D nurses describe as traumatic to them.

Prevalence of Traumatic Events

It has been reported that at least 50% of healthcare workers will experience one or more events involving medical error during their careers (Scott et al., 2010; Wu, 2000). Recent research has also indicated that one in seven patients will suffer from medical error (Seys et al., 2013). The incidence of adverse events involving medical error ranges from 3.2% to 21% of hospitalized inpatients (Grossmann et al., 2019). Some studies suggest that available figures of harm due to medical error may be an underestimation, as these figures rely on errors that are extractable from hospital medical records, or on hospital coding practices that may not capture data accurately (Coughlan et al., 2017). In addition to medical error trauma, many hospital staff are exposed to patient death. According to the most recent National Hospital Discharge Data Survey published by the Centers for Disease Control and Prevention, 2% of all hospitalized patients die as inpatients in the United States (Hall et al., 2013). In addition, there are a wide variety of experiences that may be described as traumatic aside from error and patient death, making it difficult to quantify the dosage of exposure for healthcare workers.

Some studies have attempted to quantify the prevalence of exposure through trauma symptomatology among healthcare workers in both pre-hospital and in-hospital settings. A meta-analysis by Berger et al. (2012) focused on prevalence of stress symptoms displayed by pre-hospital emergency workers. They found that 10% of emergency workers demonstrate symptoms of posttraumatic stress disorder, which is three to six times higher than the general

population (Berger et al., 2012). However, the exact prevalence of the problem has remained unmeasured. It is an accepted fact that healthcare workers are exposed to traumatic events as part of the job description, but the scope of the problem is yet undefined.

On L&D units, severe patient morbidity and mortality is less prevalent compared with other specialty areas, but rates are increasing in the United States (Neggers, 2016). The maternal mortality rate in the United States has risen over the last twenty-five years with demonstrated disparities in morbidity and mortality among African American women compared to Caucasian women (Neggers, 2016). In addition, it is suggested that as much as 50% of maternal deaths are preventable (Troiano & Witcher, 2018). Although there has been literature exploring the prevalence of nurses and nurse midwives who have experienced symptoms related to traumatic birth events (Beck & Gable, 2012; Beck et al., 2015; Wahlberg et al., 2017), there is no research that has described the prevalence of overall traumatic events for labor and delivery nurses.

Staff Perceptions of What Constitutes Trauma

Refining our knowledge of traumatic workplace events requires a definition of the concept of trauma. According to the American Psychological Association, trauma is "an emotional response to a terrible event like an accident, rape or natural disaster" (American Psychological Association, n.d.). Trauma results when an individual is unable to cope with an event (Tedeschi & Calhoun, 1995). Staff in different healthcare specialty areas may describe traumatic events differently. In the ICU environment for example, traumatic events may involve situations such as end of life issues, ethical decision-making, observing the suffering of patients, disproportionate care, medical futility, miscommunication, and demanding relatives of patients (Van Mol et al., 2015). Pediatric nurses describe traumatic incidents as those that involve witnessing critically ill children and their families and performing painful procedures on children

(Kellogg et al., 2018). Some of the events described as most traumatic to emergency room nurses include dealing with the sudden death of a young person, dealing with the death or resuscitation of a baby or young child, handling victims of car crashes, caring for those with physical trauma and burns, and dealing with suicide (Adriaenssens et al., 2012).

In the obstetric specialty, the perceptions of certified nurse midwives have been described in several studies. Events in which either the mother or infant is felt to be at risk for injury or death are reported as traumatic to midwives (Sheen et al., 2016b). Midwives in one study described characteristics of events in which they felt loss of control, fear, or horror. These included unexpected and sudden events, events that were highly severe in nature, those involving multiple complications, events that were difficult to control, and events with poor outcomes or long-lasting complications (Sheen et al., 2016b). In addition, midwives described other aspects of the situation that increased the potential for trauma: (1) the institutional environment and support; (2) previous relationship with the laboring couple; (3) social support of colleagues; (4) blame or litigation; and (5) personal characteristics (prior personal and professional experiences) (Sheen et al., 2016a).

Student midwives' perceptions of trauma were described in another study. Traumatic events included negative perceptions by these students related to birthing in a hospital setting. The discordance with midwifery training and the medicalized care given to birthing women in the hospital were identified as traumatic by these students (Davies & Coldridge, 2015). When events become critical in the labor unit, students described feeling unprepared and ill-equipped for these situations. In addition to feeling inadequate for these complicated events, student midwives' experiences were perceived as traumatic due to the empathy these students felt for the women under their care (Davies & Coldridge, 2015).

Only one study used a qualitative approach to elicit descriptions of events found to be traumatic for labor and delivery nurses. Sights and smells of disturbing images such as abnormal fetal heart rate tracings, excessive blood, and traumatic births were described by nurses in this study (Beck, 2020). To date, no studies have examined labor and delivery nurses' definitions of what constitutes trauma in their work environment.

Effects of Exposure to Traumatic Events on Healthcare Staff

There has been a wealth of literature on how trauma impacts healthcare staff. Nurses exposed to trauma report feeling overwhelmed, horrified, and helpless when confronted with these events. Nightmares and intrusive memories may persist and increasing levels of anxiety may lead to feelings of hopelessness, frustration, and meaninglessness (Missouridou, 2017). Exposure to trauma may lead to feelings of anger and moral outrage (Missouridou, 2017). Previous studies have indicated that midwives and obstetricians experience increased incidence of mental health problems such as burnout, stress, depression, and suicide in response to their experiences (Balch et al., 2009; Schrøder et al., 2016; Walker et al., 2019).

One qualitative study of labor and delivery nurses reported evidence of flashbacks following traumatic birthing experiences (Goldbort et al., 2011). In another study, one-third of midwives exposed to a traumatic birth reported significant levels of post-traumatic stress symptoms (Sheen et al., 2016a). In addition, midwives report taking time away from practice and consider leaving the profession following traumatic events (Sheen et al., 2016a). To understand the experiences of healthcare workers exposed to trauma, it is imperative to conceptually clarify the psychological symptoms identified in the literature, specifically secondary traumatic stress, compassion fatigue, burnout, and VT.

Secondary Traumatic Stress

Charles Figley (1995) first introduced the term *secondary traumatic stress* (STS) to describe the stress response for those who witness or participate in the traumatic experiences of another. This stress results "from helping or wanting to help a traumatized or suffering person" (Figley, 1995, p. 10). The symptoms of STS are identical to those faced by a primary victim of trauma. In the case of the primary victim, the American Psychological Association has defined the psychological effects of trauma as *post-traumatic stress* (PTS). *Post-traumatic stress disorder* (PTSD) is a condition sometimes diagnosed in those who have experienced PTS and is included in the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition: DSM-5 (American Psychological Association, 2013). Although up to 90% of individuals will experience traumatic events in their lifetime, most will not develop PTSD (American Psychiatric Association, 2013; Ursano et al., 2004). The four clusters of symptoms related to posttraumatic stress include intrusive thoughts, avoiding reminders, negative thoughts and feelings, and arousal and reactive symptoms (American Psychological Association, 2013). Symptoms included for each cluster appear in Table 1 (American Psychiatric Association, 2013).

One conceptual analysis of PTSD specific to nursing utilized the Nurse as Wounded Healer theory to understand more about PTSD in this context (Mealer & Jones, 2013). Mealer & Jones (2013) differentiate the use of the term PTSD as a concept as opposed to a medical diagnosis when examining the psychological symptoms for nurses following traumatic events. Nurses' experiences of trauma can include personal trauma, professional trauma, or both. The Nurse as Wounded Healer theory postulates that exposure to trauma can seriously impair functioning of nurses physically, psychologically, emotionally, socially, and spiritually (Conti-O'Hare, 2002).

Table 1

Posttraumatic Stress Symptoms

PTS clusters	Associated symptoms
Intrusive Thoughts	Recurring dreams Flashbacks Intense psychological distress Marked physiological reactions
Avoiding reminders	Avoidance of or efforts to avoid distressing memories Avoidance of thoughts or feelings about or related to the event Avoidance of external reminders – avoid places, people, activities that bring back memories
Negative thoughts and feelings	Inability to remember an important aspect of the event Persistent negative beliefs about oneself Persistent disturbed thoughts regarding the cause of the event or the consequences of it Persistent negative emotional state (fear, horror, guilt, or shame) Less interest in activities that were once desired Emotional detachment from others Inability to express positive emotions
Arousal and Reactive Symptoms	Irritable behavior or outbursts Reckless or self-destructive behavior Hypervigilance Exaggerated startle response Difficulty concentrating Difficulty sleeping

STS has the same symptoms as PTS but results from experiencing the trauma of another. STS has been examined abundantly in published literature on healthcare workers in general (de Boer et al., 2011), rescue or pre-hospital workers (Berger et al., 2012), emergency physicians (Donnelly, 2012; Somville et al., 2016), medical students (Kinker et al., 2018), nurses in general (Beck, 2011; Komachi et al., 2012; Missouridou, 2017), pediatric nurses (Kellogg et al., 2018), NICU nurses (Beck, Cusson, et al., 2017), obstetricians and nurse midwives (Beck et al., 2015; Wahlberg et al., 2017), maternal/newborn nurses (Beck, 2020) and labor and delivery nurses

(Beck & Gable, 2012). In general, the terms PTS and STS have been used interchangeably in the research when describing healthcare workers' experiences and symptoms.

Prior research has demonstrated a negative association between development of PTSD/STSD and resilience (Mealer et al., 2017). Resilience is the ability of one to positively respond to adversity and is an important mechanism for one's adjustment after trauma. Although some personality traits promote innate resilience, resilience can be strengthened though training interventions requiring the action and engagement of both the individual and the organization (Cooper et al., 2020; Mealer et al., 2017).

Compassion Fatigue

Compassion fatigue (CF) occurs when nurses or other healthcare workers are repeatedly exposed to the suffering of others, leading to a decrease in one's ability to provide empathetic care to others (Peters, 2018). A higher risk for developing CF exists for those exposed to repeated traumatic events, those who work in high stress environments, and for those who are often providing emotional support (Peters, 2018). A metasynthesis of the literature on CF has shown that CF has been used interchangeably in the literature with STS, vicarious traumatization, and burnout, and has been described differently over time. However, it is generally understood to be a "state of exhaustion that is dependent on a caring relationship with a loss of coping ability" (Nolte et al., 2017, p. 4365). CF results in symptoms such as sleep disturbance, hypervigilance, fear, anxiety, lack of concentration, body aches, spiritual emptiness, dissatisfaction, and a sense of emptiness (Nolte et al., 2017). Although often used as a synonym for STS, CF refers to a process that occurs over time, whereas STS has a potential to develop after exposure to one single traumatic event. Manifestations of CF are described in Table 2.

Table 2

Manifestations of Compassion Fatigue

Physical	Behavioral	Psychological	Spiritual
Exhaustion	Anger	Emotional exhaustion	Disinterest in introspection
Difficult sleeping	Irritability	Cynicism	Decreased spiritual awareness
Headaches	Absenteeism	Resentment	
Fatigue	Poor decision-making	Diminished enjoyment of career	
Hypochondria	Compromised patient care	Negative self-image	
	Attrition	Depression	
		Intrusive imagery	
		Lack of empathy	

(Lee et al., 2019)

Burnout

Burnout is viewed as a potential outcome of CF or STS. It is a "prolonged response to chronic emotional and interpersonal stressors characterized by emotional exhaustion, depersonalization and social accomplishment" (Friganović et al., 2019). Although a serious problem exists related to burnout syndrome, a recent review of the literature finds that there have been inconsistent prevention efforts for staff members and no evidence-based systematic efforts at prevention (Friganović et al., 2019). One difference between burnout and STS and CF lies in the types of exposure that healthcare workers report leading to burnout. Although repeated exposure to traumatic events may promote burnout, other factors such as overwork, inadequate staffing, interpersonal difficulties, poor management, and life stressors among others can, over time, promote burnout in staff members (Cañadas-De La Fuente et al., 2018; Lilly et al., 2019; Molero Jurado et al., 2018; Rodrigues et al., 2018). Studies on burnout have focused attention on physicians (Lilly et al., 2019; Rodrigues et al., 2018; Rotenstein et al., 2018), hospice and

palliative care nurses (Fonseca et al., 2012; Frey et al., 2018), intensive care nurses (Colville et al., 2017; Friganović et al., 2019; Padilla Fortunatti & Palmeiro-Silva, 2017; Van Mol et al., 2015), oncology nurses (Cañadas-De La Fuente et al., 2018), emergency nurses (Adriaenssens et al., 2015; Li et al., 2018; Munnangi et al., 2018), medical area nurses (Molina-Praena et al., 2018), nurses in general (Zhang et al., 2018), nursing assistants (Molero Jurado et al., 2018) and nurse midwives (Oe et al., 2018; Suleiman-Martos et al., 2020). Of note, no recent literature can be found that has examined burnout specifically for labor and delivery nurses.

Vicarious Trauma

Vicarious trauma (VT) was first used by McCann and Pearlman (1990) in their work with psychiatric workers. They proposed that the therapist's cognitive world becomes disrupted by hearing of the traumatic stories of others (McCann & Pearlman, 1990). VT results in "a transformation in the [trauma worker's] inner experience resulting from empathetic engagement with clients' trauma material" (Pearlman & Saakvitnes, 1995, p. 151). Nursing researchers, and others involved with research such as transcriptionists and interpreters, subjected to hearing the stories of trauma victims and other traumatic events are also at particular risk of VT (Taylor et al., 2016). VT results in the change of one's world view and can last for months or even years (McCann & Pearlman, 1990). Although conceptually different than STS, VT has been widely used interchangeably in literature focusing on healthcare workers exposed to traumatic events in the workplace. However, as STS primarily relates to the specific symptoms related to the disorder mentioned above, VT speaks to the moral as well as emotional trauma experienced. For example, one recent study examined clinicians' experiences of death in the operating room. In an area where preserving life is paramount, patient death can result in a shift in assumptions about one's purpose as a clinician, resulting in VT (Hartley et al., 2019).

Interventions to Support Healthcare Staff after a Traumatic Event

Overview of Interventions

Previous studies involving trauma-exposed healthcare workers indicate that participants desire institutional support to help with situational stress (Barleycorn, 2019; Healy & Tyrrell, 2011; McCready & Russell, 2009; Morrison & Joy, 2016). It has been suggested that managerial efforts to provide education and training and to promote resilience and coping through positive workplace culture is vital to support staff (Zhang et al., 2018). The Joint Commission (TJC) recommends supporting the needs of healthcare staff as quickly as possible following adverse or traumatic events (The Joint Commission, 2018). However, participants in several studies have indicated that institutional support is either non-existent or insufficient for workers' needs (Healy & Tyrrell, 2011; McCready & Russell, 2009; Theophilos et al., 2009). Several authors have reported that availability of emotional support from supervisors, managers, and colleagues (i.e., listening, offering sympathy, and acting as a confidante) decreases the risk of developing of STS symptoms in the health care worker (Lavoie et al., 2016; Wahlberg et al., 2017). A recent systematic review of literature concluded that pre-trauma factors of healthcare workers (i.e., personality traits, older age, previous history of trauma, etc.) were found to be a predictor of STS symptoms and suggested that interventions to train healthcare workers on anticipatory coping methods for traumatic events would promote better psychological outcomes for these workers (D'Ettorre et al., 2020). Several different methods of providing emotional support have been described in the literature.

Critical Incident Stress Management. Critical Incident Stress Management (CISM) is a widely utilized intervention for supporting healthcare workers after patient death and traumatic events (Everly et al., 2002; Healy & Tyrrell, 2011; Keene et al., 2010; Priebe & Thomas-Olson,

2013; Schiechtl et al., 2013). CISM was initially developed for those in emergency services; it consists of a structured group discussion designed to address the trauma experienced by staff and to help staff learn to manage their feelings of loss or grief and prevent long term health harm (Everly et al., 2002). Although widely used in healthcare organizations, evidence regarding effectiveness of its use in the healthcare environment is lacking. One meta-analysis of studies on CISM found that single session debriefings using CISM methodology did not improve natural recovery from traumatic events and were less effective in symptom management than either non-CISM interventions or no interventions at all (van Emmerik et al., 2002).

Institutional efforts to promote mental health. A recent exploratory review of the literature on institutional-level interventions to promote mental health of healthcare workers identified fifty-five studies on this topic (Gray et al., 2019). It found that healthcare workers experience high rates of poor mental health which impact not only themselves, but patients and the organization as well. Common themes include the need for employee engagement in the development of support interventions, and the need for long-term sustainability and longevity of effect on the employee's health (Gray et al., 2019). An example of one institutional-led intervention is a "post-code" pause in the ICU environment. In this intervention, staff felt that this ritual helped to foster team effort recognition but was not overwhelmingly effective at preventing staff burnout (Kapoor et al., 2018). One hospital developed a workplace educational intervention to promote personal resilience among nurses and midwives (McDonald et al., 2012) which reportedly improved collaboration and teamwork as well as allowed time for participants to reflect and develop strategies to improve personal resilience. Another healthcare system developed a "Three Good Things" intervention for NICU staff that was shown to foster positive emotions and resilience (Rippstein-Leuenberger et al., 2017).

The Death Café model has been utilized as a safe space for people to talk about issues related to death and dying and learn from each other (Nelson et al., 2018). These events are volunteer run and started as community events targeted outside of healthcare (Nelson, 2017). However, there is some indication that they are also useful for healthcare workers to examine their ideas and beliefs surrounding death and dying which may help support emotional health when faced with such cases in their professional lives (Nelson et al., 2018).

An example of one institutionally developed intervention is the Healer Education and Referral (HEAR) program at UC San Diego Health system (Lee et al., 2019). Developed to address the increased risk for suicide for staff suffering from compassion fatigue, this program provides educational interventions and counselling services. The HEAR program provides services to employees based on a suicide risk screening tool; 43% of nurses who completed the survey over the first six months of the program were found to be at "high risk" of suicide secondary to burnout and compassion fatigue. Reported outcomes of this program state that within the first six months following program implementation, 17 nurses who may not have reached out for support were identified and referred for mental health treatment.

Another program developed at the University of Missouri Health Care system is entitled the "forYou" Program (Scott et al., 2010). This program was developed and implemented based on research in staff reported needs. They devised a framework for assistance entitled the *Scott Three-tiered Interventional Model of Second Victim Support* (Scott et al., 2010). Research in their institution supported a multi-level model of care based on specific needs of staff. Their research suggests implementing a progression of interventions starting at the local (unit) level and moving to higher-level supports as needed as an efficient way to provide rapid support to

staff. Continued research is necessary to determine the effectiveness of each individual model of institutional support.

As indicated, the effectiveness of CISM as an intervention has not been positively associated with improved psychological health in the literature. There is inconsistent evidence that utilizing the CISM methodology, and critical incident stress debriefing in particular, have proven effective in reducing symptoms of STS, CF, VT and burnout (van Emmerik et al., 2002). There is a gap in research supporting the effectiveness of most hospital-developed interventions that have been described in the literature to date. Many of the programs described in the literature have focused on interventions tailored to a specific hospital unit, worker needs, or organization. There is a lack of theoretical basis for the development and implementation of many programs. Effectiveness of interventions, if evaluated, tends to focus on participant perceptions of the program rather than health outcomes.

Frameworks for Understanding Traumatic Events

A theoretical lens or framework is useful for understanding the development of stress reactions and the trajectory of recovery once exposed to traumatic events and can help guide the development of future intervention efforts. Two such theoretical models are the Core Beliefs Model and the Second Victim Recovery Trajectory Model.

Core Beliefs Model

When faced with a traumatic event, an individual may experience a shaken belief in their *assumptive world*. The *assumptive world* is a "broad set of fundamental beliefs that include … how we believe people will behave, how events should unfold, and our ability to influence events" (Cann et al., 2010). These core beliefs are essential to one's understanding of how the world is understood, provide a structure to the events in one's life and make meaning of our

interactions with others (Beck, 1995). Once impacted by a traumatic event, these core beliefs are "shaken" as the individual struggles to make sense of their new reality (Cann et al., 2010).

This phenomenon has been studied in the application of how a disruption in core beliefs relates to one's psychological recovery and growth following trauma. *Post-traumatic growth* (PTG) refers to the positive changes that can result from exposure to trauma in areas such as relating to others, personal strength, new possibilities, appreciation of life, and spiritual change (Tedeschi & Calhoun, 1995). The nine item Core Beliefs Inventory (CBI) has been used in studies to determine the extent to which participants perceive a traumatic event caused a reexamination of their core beliefs (Cann et al., 2010) including the following:

1. Because of the event, I seriously examined the degree to which I believe things that happen to people are fair.
2. Because of the event, I seriously examined the degree to which I believe things that happen to people are controllable.
3. Because of the event, I seriously examined my assumptions concerning why other people think and behave the way that they do.
4. Because of the event, I seriously examined my beliefs about my relationships with other people.
5. Because of the event, I seriously examined my beliefs about my own abilities, strengths, and weaknesses.
6. Because of the event, I seriously examined my beliefs about my expectations for my future.
7. Because of the event, I seriously examined my beliefs about the meaning of my life.
8. Because of the event, I seriously examined my spiritual or religious beliefs.

9. Because of the event, I seriously examined my beliefs about my own value or worth as a person.

This model is especially relevant to the study of healthcare workers in the maternity setting, especially in labor and delivery. Death and poor patient outcomes in labor and delivery units are not routinely expected and unanticipated outcomes are considered "never" events. In one study, midwives described initial responses to traumatic deliveries as causing shock and self-blame and describe attempts to make sense of the event (Sheen et al., 2016b). Another study examined the relationship of a challenge to midwives' core beliefs and measures of PTG following the event (Beck, Rivera, et al., 2017). Researchers found that a greater disruption in core beliefs resulted in higher levels of posttraumatic growth (Beck, Rivera, et al., 2017). The transformation related to posttraumatic growth is not a direct result of the trauma, but due to the person's struggle to make meaning following the trauma experience. The trauma can remain as a distressing event while posttraumatic growth occurs (Beck & Casavant, 2019). To support personnel following traumatic events, posttraumatic growth intervention is recommended to make meaning of the trauma and find new perspectives leading to more growth outcomes (Calhoun & Tedeschi, 2013).

The use of the Core Beliefs model in published research. The Core Beliefs model has not been widely used to describe the impact on healthcare workers following traumatic events. Limited published studies have examined this concept for healthcare workers overall, and with labor nurses in particular. Two recent studies have utilized the Core Beliefs model to describe PTG following traumatic experiences in both NICU nurses (Beck & Casavant, 2019) and in certified nurse midwives (Beck, Rivera, et al., 2017). Results of these studies reinforce that the greater the disruption to one's core beliefs, the higher the amount of posttraumatic growth. It is

hypothesized that providing opportunities for nurses to gather together to examine their core beliefs and any disruptions to those beliefs may promote psychological growth for nurses. Use of the Core Beliefs model may help elucidate more fully how adverse events in labor and delivery disrupt the assumptive world of labor and delivery nurses and what supports are needed to promote growth after these traumatic events.

Second Victim Recovery Trajectory Model

The *Second Victim Recovery Trajectory* model identifies six stages that a trauma-exposed second victim moves through when exposed to adverse patient events and can be used to inform the development and refinement of interventions to assist healthcare workers affected by workplace trauma (Scott et al., 2009). Although second victims describe different methods of coping with traumatic events, a predictable path of recovery was identified in prior research with healthcare workers (Scott et al., 2009). The stages of recovery are as follows: (1) chaos and accident response, (2) intrusive reflections, (3) restoring personal integrity, (4) enduring the inquisition, (5) obtaining emotional first aid, and (6) moving on (Scott et al., 2009). The first three stages occurred after "impact realization" and second victims were found to move through one or more of these stages simultaneously. The second victim may also progress through the fourth and fifth stage simultaneously depending on circumstances at the institution. Each stage is outlined in detail below.

Stage 1: Chaos and accident response. The first stage occurs immediately after the traumatic or adverse event. In this period, there is confusion and turmoil for the healthcare worker with multiple events happening simultaneously. The worker is often torn between determining what has gone wrong, how an error has happened, or trying to mentally process events while the patient may be experiencing a critical event (Scott et al., 2009).

Stage 2: Intrusive reflections. This period is described as a time of "haunted reenactments" (Scott et al., 2009, p. 327). During this period the victim doubts their performance from the event and imagines alternative scenarios and outcomes if they had done something differently.

Stage 3: Restoring personal integrity. In this stage, second victims often turned to colleagues with whom they have had a supportive relationship to help process the event. There are often feelings relating to how others will judge them following their event. It is here that the presence or absence of a supportive environment helps or hinders one's path along this trajectory. A lack of support or negative work culture can hinder movement through this stage. Second victims in a non-supportive environment report difficulty moving on from adverse events (Scott et al., 2009).

Stage 4: Enduring the inquisition. When the traumatic experience results from an adverse or unexpected event, there is often a review conducted by the healthcare organization. The review to determine processes that may have contributed to the outcome or error, and possible litigation related to the event are difficult to face as a healthcare worker. In this phase, the second victim starts to worry about their license, employment, or reputation because of this event. Due to privacy regulations, workers again are limited on who they can confide in and what details that can be shared to obtain emotional support (Scott et al., 2009).

Stage 5: Obtaining emotional first aid. During this stage the individual seeks out support from others. In this stage, institutional support is found to be desired and when insufficient, can impair the individual from moving towards a positive recovery. Use of family members for support has been difficult as those individuals may not understand the culture

surrounding this trauma. Lack of support services or services that don't meet the needs of healthcare workers is most keenly felt during this stage (Scott et al., 2009).

Stage 6: Moving on. This stage is defined by three paths: (1) *dropping out*, (2) *surviving*, or (3) *thriving*. *Dropping out* refers to the healthcare workers leaving the profession or moving to another position. *Surviving* indicates that the healthcare worker moves on but continues to be haunted by the event. *Thriving* refers to the path of using the experience to change practice or grow from the experience (Scott et al., 2009).

Use of the Second Victim Recovery Trajectory model in published studies. The Second Victim Recovery Trajectory was initially developed from a small (n=31) sample of healthcare workers from multiple disciplines (physicians, nurses, and other interdisciplinary team members) (Scott et al., 2009). Common themes were developed from interviews with participants in which they described experiences during and following traumatic events. To date, there are no published studies that have used the second victim recovery trajectory as a model to analyze traumatic experiences of nurses in depth, including those experiences common to labor and delivery.

Use of the Core Beliefs model in previous research to describe the disruption in the assumptive world of L&D nurses has shown that a moderate amount of post-traumatic growth is possible following second victim events (Beck et al., 2020). It is also well demonstrated that not all persons who experience trauma will experience post-traumatic growth (Beck et al., 2020) and that pursuing social support to cope with stress is the greatest predictor of growth (Rhee et al., 2013). Using the Second Victim Recovery Trajectory model to understand the recovery trajectory of trauma-exposed L&D nurses and examining their experiences of institutional support is the first step towards understanding how to aid in positive outcomes for L&D nurses.

Summary of Gaps in Current Research

There is overwhelming evidence supporting the need for organizations to assist healthcare workers exposed to traumatic events. There is an ample body of literature supporting the existence of adverse stress responses including STS, CF, VT and burnout for all healthcare workers including physicians and residents (Lilly et al., 2019; Rodrigues et al., 2018; Rotenstein et al., 2018; Walker et al., 2019), medical students (Kinker et al., 2018), midwives (Kerkman et al., 2019; Suleiman-Martos et al., 2020), and nurses (Friganović et al., 2019; Marran, 2019; Partlak Günüşen et al., 2019; Sullivan et al., 2019; Wang et al., 2020; Zhang et al., 2018). In labor and delivery, most studies on traumatic experiences examine midwives' experiences (Beck et al., 2015; Beck, Rivera, et al., 2017; Davies & Coldridge, 2015; Favrod et al., 2018; Oe et al., 2018; Schrøder et al., 2016; Sheen et al., 2016b). Only a few published studies have specifically focused on labor and delivery nurses' experiences of trauma (Beck, 2020; Foreman, 2014; Shorey et al., 2017).

In addition, published research in this area has often focused on either the perceptions of staff members, the incidence of symptoms such a burnout, STS, VT or CF, or staff perceptions of institutional support. Most studies have not reported a theoretical basis for their work, such as the second victim recovery trajectory framework (Scott et al., 2009; 2010). In light of these findings, there are several questions that arise requiring further research is this area.

Importance of Examining Traumatic Events in Labor and Delivery

As there has been a clear lack of adequate research around labor and delivery nurses' experiences of trauma, the following avenues of research are suggested for further exploration.

Tragedies and Trauma in the Obstetrics Field

It is still unknown or formally described what constitutes traumatic events for nurses in the obstetrics area. Although some research has described the experiences of nurses and other providers in general, the vast majority of research defining traumatic events has primarily elicited views of emergency services and critical care nurses. In obstetrics, published research has described the perceptions of obstetricians and midwives. To understand more about these experiences in the labor and delivery unit, it is important to invite nurses from this area to define what constitutes trauma for them.

Disruption in Core Beliefs of Labor and Delivery Nurses

As indicated earlier, good outcomes for patients and newborns are the expectation for nurses. Most women admitted to labor and delivery are young and healthy. Labor is looked on by most as a natural process which happens every day around the world. Except for the small percentage of high-risk women in labor, the expectation by both healthcare staff and by patients is that labor will be uneventful with a happy, safe outcome. There has been no research to date on how those expectations are verbalized by labor nurses and how these expectations relate to the core beliefs of labor nurses. Without proper post-traumatic support, witnessing unexpected or tragic outcomes can cause doubt in those core beliefs which may contribute to poor mental health for nurses including STS, VT, CF, and burnout. It is imperative to address this gap in knowledge and determine how to identify situations that may cause shifts in core beliefs and determine how best to support nurses who may encounter these events.

Support for the Labor and Delivery Nurse as Second Victim

There have been no studies at this time that examine the support structure for labor and delivery nurses exposed to trauma, form an understanding of the trajectory of recovery for labor

and delivery nurses, or evaluate whether interventions offered have been described as meaningful or desired by this population. As most traumatic incidents occur in specialty areas that deal with trauma daily (such as in emergency medicine or critical care) it is understandable that the research has focused there. However, although less common, the emotional impact of unexpected incidents involving new mothers and newborns may be more severe (Shorey et al., 2017). Using a model such as Scott's *Second Victim Recovery Trajectory Framework* to evaluate the labor and delivery nurse experience following traumatic events will be a much-needed addition to the literature.

CHAPTER III: METHOD

Based on gaps in the existing literature, this research study seeks to improve understanding about the traumatic experiences of labor and delivery nurses in the workplace and identify ways organizations can provide support through these experiences. Review of current literature demonstrates that there is ample research dedicated to the psychological effects on healthcare workers in general, and nurses in particular, when exposed to traumatic events or experiences. Overall, a large proportion of research has focused on experiences of nurses in certain nursing subspecialties such as emergency medicine, critical care, and pediatrics, to name a few. Evidence suggests that trauma experiences differ by specialty area.

Understanding the nuances of trauma experiences for nurses of different specialty areas can inform organizations as they tailor interventions to meet the needs of staff members. How labor and delivery (L&D) nurses define or describe such experiences has not been adequately examined. In addition, the experiences of L&D nurses following exposure and their recovery trajectory has also not yet been adequately described. This chapter describes the methods for studying this important nursing subspecialty. The study's research questions, research design, setting, selection of study participants, procedures and instruments, data analysis and ethical considerations, assumptions, and limitations are discussed in detail.

Research Questions

This study used a multimethod approach to describe how labor and delivery nurses define traumatic experiences and examine how best to support recovery following exposure to traumatic events. Specifically, this research sought to answer the following questions:

RQ1: What institutional supports are desired by L&D nurses following a traumatic event and how do these compare to the supports that were available and offered by the institution following the event? (quantitative)

RQ2: Is psychological distress and institutional support following a traumatic workplace event associated with L&D nurse turnover intention, absenteeism, and resilience, controlling for socio-demographic factors? (quantitative)

RQ3: How do L&D nurses define and experience traumatic events in the workplace? (qualitative)

RQ4: How do L&D nurses describe the process of recovery following a traumatic event in the workplace? (qualitative)

RQ5: How do the traumatic workplace experiences of L&D nurses as *second victim* compare with Susan Scott's *Second Victim Recovery Trajectory* model? (qualitative)

To fully answer these questions, a multimethod design, with quantitative and qualitative components, was used to collect data and provide a more robust understanding of this phenomenon.

Methodology Overview

A multimethod design was used to answer the research questions posed above. A cross-sectional quantitative survey design was used to answer RQ1 and RQ2, while qualitative semi-structured interviews using a qualitative descriptive approach were conducted to answer RQ3, RQ4, and RQ5. Participants were recruited using a "nested" model, wherein I first recruited individuals to complete the quantitative survey. At the end of the survey, participants were asked if they were interested in participating in a qualitative interview. Those who responded "yes" were contacted to schedule an interview. Specifics of both research methods are outlined in

further detail in this chapter. Using a multimethod approach allowed for the exploration of L&D nurses' experiences with traumatic events and the ability to incorporate both their qualitative descriptions of experiences and quantitative measures of how institutional support services are perceived by these healthcare workers. "Multiple methods are used in a research program when a series of projects are interrelated within a broad topic and designed to solve an overall research problem" (Morse, 2003, p. 196). By implementing both qualitative and quantitative methods in this study, a more complete understanding of these experiences can be obtained and greater confidence that the results reflect truth rather than methodological error is possible (Brewer & Hunter, 1989). Using a multimethod approach allowed the open exploration of L&D nurses' traumatic experiences while also evaluating the support mechanisms designed to assist in their recovery trajectories facilitating a greater understanding of the phenomenon.

Obtaining IRB Approval

Following the presentation of the proposal defense and approval from the dissertation committee, application was made to the Office of Human Research Ethics (OHRE) Institutional Review Board (IRB), the organization responsible for oversight of research involving human subjects at the University of North Carolina at Chapel Hill (UNC-CH). The next steps of the research procedure were completed once this approval was obtained. See *Ethical Considerations* section below for more information about human subjects' protections.

Quantitative Methods

Design

A quantitative cross-sectional, correlational design was used to answer RQ1 and RQ2. A correlational design is appropriate to use when the researcher suspects a relationship between variables (Brink & Wood, 1998). A study of this population is not hypothesizing a cause-and-

effect relationship and only seek to validate whether the characteristics of the phenomena exist in this subset of nurses (Brink & Wood, 1998). A descriptive statistical analysis of the Second Victim Support Option Desirability survey was used to answer RQ1. A series of multiple regression analyses was used to answer RQ2.

Sample and Setting

Nurses were recruited using convenience sampling. Inclusion criteria were any number of years working as an L&D nurse in the United States and self-report of at least one experience they identify as challenging, emotionally difficult, or traumatic in the L&D workplace. Nurses also needed to be able to complete the evaluation tool in English. Inclusion criteria were determined through two screening questions participants answered in Qualtrics before being able to access the survey. The first question asked, "Have you ever worked as a labor and delivery nurse in the United States?" The second question asked, "Have you ever experienced an event or situation you felt was extremely challenging, emotionally difficult, or traumatic while working as a nurse in the labor and delivery setting?"

To determine sample size, I first examined previous research that used the Second Victim Experience and Support Tool (SVEST) (the original version of the instrument used in this study) and conducted analyses similar to RQ1 and RQ2 of this study. Two prior studies were found, demonstrating that sample sizes between 155 and 169 were sufficient to power statistical analyses (Burlison et al., 2016; Quillivan et al., 2016). To further inform sample size for this study, a power analysis was conducted using G*Power 3.1 (Faul et al., 2009) to determine the sample size needed to detect an effect that truly exists between the level of psychological distress and reported lack of institutional support and the outcome variables of absenteeism, turnover intention, and resilience (RQ2) with an alpha set at .05. Using a two-tailed test, this analysis

showed that a sample size of 165 was sufficient to detect an effect size f^2 of 0.068 ($R^2 = 0.064$) with a power of 0.80. Cohen's conventions for R^2 place this between a small and medium effect size, which is reasonable for this study (Cohen, 1988). Considering these previous studies and power calculations, a sample size of 165 labor and delivery nurses were found to be an acceptable sample size for this study. A quota was set in Qualtrics to deactivate the link for the survey once 165 participants completed the last question in the survey.

Study Procedures

Participants were recruited via emails sent through the Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) member listservs. Initial email outreach included information regarding the purpose of the study, participant expectations, and participant incentives. An initial email was sent to 1478 members on January 13, 2021, and a repeat email was sent to the same members on January 27, 2021. A link for the survey, which was administered using Qualtrics software (Qualtrics, Provo, UT), was included in the email. The first screen provided additional information regarding the purpose of the study, study aims, participant expectations, risks and benefits of participation, and other informed consent information. Accessing the survey and completion indicated consent for participation. To help avoid missing data, the survey was programmed to notify participants of unanswered questions; however, participants could elect to skip these questions if they wished. Surveys took approximately 10 minutes to complete. All survey participants were given the option to provide an email address that was only used for entry into a raffle for a $100 Amazon gift card following completion of the survey. The survey link remained active until February 2, 2021, at which time the desired quota of respondents was reached.

Instruments

Data were collected using the Second Victim Experience and Support Tool-Revised (SVEST-R). Appendix A includes a copy of the participant survey tool. The SVEST-R is a revised version of the Second Victim Experience and Support Tool (SVEST), a survey tool designed to assist healthcare organizations in tracking performance of and identifying gaps in support services offered for healthcare workers impacted by traumatic events. Investing in support services and resources is indicated at the institutional level to mitigate the consequences of second victim experiences (Scott et al., 2010).

Original SVEST instrument. The SVEST was originally developed in 2017 and consists of 25 items grouped in 7 dimensions and 2 work-related outcome variables. Since that time, a Chinese (C-SVEST) and a Korean version (K-SVEST) have been published (Kim et al., 2018; Zhang et al., 2020) among others. A psychometric evaluation of the original tool was conducted with a sample of 303 participants. The study participants were all healthcare providers involved in direct patient care. Development of the tool utilized Hinkin's guide for developing questionnaires (1998). Dimensions and item generation were developed after a thorough search of the literature in which all relevant constructs related to the second victim experience were identified. The survey tool underwent several revisions and was evaluated by a working group of several members with expertise in this area. The original seven dimensions included psychological distress, physical distress, colleague support, supervisor support, institutional support, non-work-related support, and professional self-efficacy. The two outcome variables are turnover intentions and absenteeism.

During development of the original version of the SVEST, content validity was assessed with a team of 9 individuals from different healthcare specialties (nurses, physicians, and

pharmacists). During this process, three items were identified as potentially problematic in the original design. One item was removed, one item moved to a different construct, and the last was retained in the original construct. Overall, a 78% interrater agreement was obtained from the content validity exercise. Confirmatory factor analysis was performed for the original instrument and demonstrated good fit for a nine-component solution (χ^2=566.06, df = 254, p < 0.01; CFI = 0.910; RMSEA, 0.066).

SVEST-Revised instrument. A revised version (SVEST-R) was published in 2020 and includes an additional factor measuring positive outcomes after traumatic events and has deleted one of the original dimensions (Winning et al., 2020). The SVEST-R removed the factor related to non-work-related support and added resilience as a work-related outcome measure. Responses to survey items are measured on a 5-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree") (Burlison et al., 2017). The SVEST-R measures psychological distress, physical distress, colleague support, supervisor support, institutional support, and professional self-efficacy for labor and delivery nurses following second victim experiences. In addition, the SVEST-R also measures turnover intention, absenteeism, and resilience for those nurses as a result of their traumatic experiences.

The SVEST-R also underwent content validity testing for the added items by a 6-member interdisciplinary team. Confirmatory factor analysis of the SVEST-R demonstrated a good fit for a nine-component solution (χ^2 = 1555.6, *df* = 524, p < 0.0001; CFI = 0.821; RMSEA = 0.079; SRMR = 0.091). Table 3 details survey item loading for the 9-factor model for all 35 items (Winning et al., 2020).

Table 3

Survey Item Loadings for the 9-factor SVEST-R Model with 35 Items

Variable	Psychological Distress	Physical Distress	Colleague Support	Supervisor Support	Institutional Support	Professional Self-Efficacy	Turnover	Absenteeism	Resilience
1. I have experienced embarrassment from these instances.	0.42								
2. My involvement in these types of instances has made me fearful of future occurrences.	0.68								
3. My experiences have made me feel miserable.	0.79								
4. I feel deep remorse for my past involvements in these types of events.	0.56								
5. The mental weight of my experience is exhausting.		0.77							
6. My experience with these occurrences can make it hard to sleep regularly.		0.80							
7. The stress from these situations has made me feel queasy or nauseous.		0.79							
8. Thinking about these situations can make it difficult to have an appetite.		0.64							
9. I have had bad dreams as a result of these situations		0.68							
10. My colleagues can be indifferent to the impact these situations have had on me.			0.41						
11. My colleagues help me feel that I am still a good healthcare provider despite any mistakes I have made.			0.40						
12. My colleagues no longer trust me.			0.74						

Variable	Psychological Distress	Physical Distress	Colleague Support	Supervisor Support	Institutional Support	Professional Self-Efficacy	Turnover	Absenteeism	Resilience
13. My professional reputation has been damaged because of these situations.			0.79						
14. I feel that my supervisor treats me appropriately after these occasions.				0.84					
15. My supervisor's responses are fair.				0.67					
16. My supervisor blames individuals.				0.68					
17. I feel that my supervisor evaluates these situations in a manner that considers the complexity of patient care practices.				0.66					
18. My organization understands that those involved may need help to process and resolve any effects they may have on care providers.					0.67				
19. My organization offers a variety of resources to help me get over the effects of involvement with these instances.					0.57				
20. Concern for the well-being of those involved in these situations is not strong at my organization.					0.76				
21. Following my involvement, I experienced feelings of inadequacy regarding my patient care abilities.						0.73			
22. My experience makes me wonder if I am not really a good healthcare provider.						0.73			

Variable	Psychological Distress	Physical Distress	Colleague Support	Supervisor Support	Institutional Support	Professional Self-Efficacy	Turnover	Absenteeism	Resilience
23. After my experience, I became afraid to attempt difficult or high-risk procedures.						0.64			
24. These situations negatively impacted my performance at work.						0.40			
25. My experience with these events has led to a desire to take a position outside of patient care.							0.73		
26. Sometimes the stress from being involved with these situations makes me want to quit my job.							0.82		
27. I have started to ask around about other job opportunities.							0.75		
28. I plan to leave my job in the next 6 months because of my experience with these events.							0.74		
29. My experience with an adverse patient event or error has resulted in me taking a mental health day.								0.92	
30. I have taken time off after one of these instances occurs.								0.89	
31. When I am at work, I am distracted and not 100% present because of my involvement in these situations.								0.51	
32. Because of these situations, I have become more attentive to my work.									0.50
33. The situations have caused me to improve the quality of my care.									0.74

Variable	Psychological Distress	Physical Distress	Colleague Support	Supervisor Support	Institutional Support	Professional Self-Efficacy	Turnover	Absenteeism	Resilience
34. My experience with an adverse patient event or error has resulted in positive changes in procedure or care on our unit.									0.51
35. I have grown as a professional as a result of an adverse patient event or error.									0.79

Second Victim Support Desirability survey. The SVEST-R includes an optional survey of Second Victim Support Desirability which was also administered to participants. This survey allowed participants to indicate their desire for types of institutional interventions. Respondents rated these statements on a 5-point Likert scale (1 = Not Strongly Desired, 5 = Strongly Desired). The responses were dichotomized for analysis with scores 3 through 5 indicating the intervention was desired, and scores 1 and 2 indicating the intervention is not desired. The seven support options included:

1. The ability to immediately take time away from my unit for a little while.
2. A specified peaceful location that is available to recover and re- compose after one of these types of events.
3. A respected peer to discuss the details of what happened.
4. An employee assistance program that can provide free counseling to employees outside of work.
5. A discussion with my manager or supervisor about the incident.
6. The opportunity to schedule a time with a counselor at my hospital to discuss the event.
7. A confidential way to get in touch with someone 24 hours a day to discuss how my experience may be affecting me.

An additional seven questions were added by this researcher to determine if these same support options were available or offered at the time of the participants' traumatic events. Participants could indicate that the interventions were either offered and/or available, not offered/available, or unsure if offered/available.

Demographics. In addition, demographic information was collected on all survey participants including age, gender, race, ethnicity, level of education, number of years working

as a registered nurse, number of years working as a labor and delivery nurse, current employment status, current specialty area of nursing (if still employed), number of traumatic patient events experienced, and type of institution worked at during labor and delivery experiences.

Data Management and Analysis

Data management and cleaning. Data was downloaded from Qualtrics at the conclusion of data collection. All participant identifiers were removed, and a participant ID number was assigned to the data. If a participant indicated a willingness to participate in a qualitative interview, their contact information was retained in a separate file with their corresponding participant ID number to link demographic information to the interview data once completed. Data linking the participant names and email addresses were stored on a password-encrypted computer separate from the study data.

Missing survey data. Alerts were programmed in Qualtrics to notify participants of missing item responses which would reduce potential for user error throughout the survey. Data were examined for missingness and evaluated for patterns among items and participants. Decisions were then made to delete survey responses if the participant did not complete at least one response in each of the subscales of the SVEST-R. Survey responses were not deleted for missing demographic data.

Survey scale calculations. After reverse-scoring selected items (11, 14, 15, 17-19, 32-35), mean scores were calculated for all 9 factors included in the SVEST-R: Psychological Distress, Physical Distress, Colleague Support, Supervisor Support, Institutional Support, Professional Self-Efficacy, Turnover Intentions, Absenteeism, and Resilience. Higher mean scores represent more second victim responses (e.g., more psychological distress, less resilience),

greater perceptions of inadequate support, and more second victim-related negative employment outcomes. Percentages were calculated for each of the factors, representing the degree to which respondents agreed with survey items (i.e., agreement = factor mean greater than or equal to 4.0). This scoring method allows one to determine the magnitude of negative second victim-related experiences. These scoring methods are consistent with the instructions provided by the instrument developers.

Preliminary data analyses. Descriptive analyses and data management were conducted using the SPSS statistical platform. I examined distributions and frequencies for non-normality and transformations were attempted. I reported internal consistency (Cronbach α) for all sub-scales to determine how items within each subscale match each other and are measuring what is intended. Mean inter-item correlations were computed to determine if items in each subscale are measuring the same construct yet are not so related that items are redundant (Cohen & Swerdlik, 2005). Confirmatory factor analysis (CFA) was conducted to examine construct validation and whether measures in this instrument are unchanged for use with a population of L&D nurses who have experienced workplace trauma (Harrington, 2009). Based on results of the CFA, no changes were made to the survey instrument; however, an overall distress component was created to include both psychological distress and physical distress subscales, because results of the CFA showed that some psychological distress items cross-loaded into the physical distress component (see Chapter IV for detailed CFA results). Additionally, I conducted exploratory analyses to identify potential covariates such as age, race, ethnicity, number of years worked as RN/labor RN, level of education, or type of institution, and controlled statistically as needed in regression analyses.

RQ1 Analyses. The Support Option Desirability tool examined which support mechanisms participants reported as being desired by them in a time of crisis. Means, percentages (desired and not desired/available and not available) and standard deviations for each of the seven items were computed for the overall sample. In addition, participants were asked if those same options were available and/or offered to them following the traumatic event at their institution. Both responses to the seven support options were dichotomized as described previously and compared to examine differences between desired supports and available supports. Correlational analyses between demographic variables and each of the seven items were completed to determine if there are any relationships between demographic characteristics and support option desirability among L&D nurses in this sample.

RQ2 analyses. Multiple linear regression was used to investigate how psychological distress and/or institutional support affects L&D nurse turnover intention, absenteeism, and resilience. Specifically, three regression models were conducted to investigate the scores for psychological distress or institutional support effects on the three outcomes measures (dependent variables) of turnover, absenteeism, and resilience (Brink & Wood, 1998). Multiple regression was chosen to include both independent variables of psychological distress and institutional support in the same model and provide a way of adjusting for potentially confounding variables. In the three regression models, Y represented the dependent variables of absenteeism, intent to leave, and resilience in each of the three models, respectively. X_1 is an independent variable (psychological distress), and X_2 is an independent variable (institutional support). Additional variables were included in the model for demographic factors as indicated above. The multiple regression equation $E(Y) = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + \ldots b_nX_n$ represents the relationship of the predictor variable with the dependent variable adjusted for the potentially confounding factors.

Correlational analyses found that demographic factors were not significantly associated with any of the independent or dependent variables, and thus, were not controlled for in the final regression models.

Qualitative Methods

Design

A qualitative description approach was used to guide the qualitative portion of the study. The aim of qualitative description differs from other qualitative methods in that is strives to present a rich, straight description of an experience or an event. The researcher stays close to the data during the analysis step to describe experiences (Neergaard et al., 2009). While other qualitative methods seek an interpretative analysis of the experiences in relation to existing theory or theory creation, qualitative description seeks to describe these experiences in the words and language of those in the experience. The researcher's task is to allow the reader to "hear" the views and experiences of the subjects in their own words (Sandelowski, 1998). Qualitative descriptive studies can use a variety of methodological techniques including interviews, focus groups, documents, and observation. Interview guides are more structured than in other types of qualitative studies, although still modifiable based on participant responses (Neergaard et al., 2009). The researcher is interested in the "Who", "What", "Where", and "Why" of the participant experience and presents the data to the reader in a format as close to the original data as possible.

To answer RQ3, RQ4, and RQ5, semi-structured interviews were conducted with L&D nurses to gather data on their personal traumatic experiences as carers in the workplace. The participants were guided by the researcher to describe the types of workplace experiences that

have felt traumatic to them. The interview guide was based on the Core Beliefs Model (RQ3 and 4) and Second Victim Recovery Trajectory Model (RQ5).

Sample and Setting

Participants for the qualitative portion of this study were selected through purposive sampling methods. Purposive sampling is a strategy used to obtain evidence-rich cases to inform understanding of the phenomenon of interest (Palinkas et al., 2015). This involves selecting participants with the knowledge and interest required to gain insight into the phenomenon under investigation (Creswell & Plano Clark, 2011). Specifically, I sought registered nurses (RNs) who have experienced at least one event in the L&D setting that they felt was challenging, emotionally difficult, or traumatic during their careers. Different purposive sampling techniques can be used for a variety of purposes (Patton, 1990). For example, critical case sampling is used in exploratory research to explain a phenomenon of interest with few cases. Homogeneous sampling is a technique to explore characteristics or experiences of a very similar group of people. In this study, maximum variation sampling was utilized to obtain a wide variety of perspectives related to the experience of workplace trauma for L&D nurses. To gain a comprehensive picture of traumatic experiences with labor nurses, there were no exclusion criteria for length of time worked in this setting, number of years as an RN, or being currently employed in this setting. As described in previous research (Jung et al., 2020; Kelly et al., 2015; Seys et al., 2013), experiences of traumatic events can promote nurses to leave their positions; therefore, capturing voices of nurses no longer working in this specialty helped gain a rich understanding of this topic.

A sample of 15 – 20 participants was projected for recruitment, to obtain a depth of understanding of this topic (Patton, 2014). Two qualitative studies exploring second victim

experiences similar to this proposed research indicated that samples of 21 and 14 participants respectively were sufficient to achieve saturation of data (Cauldwell et al., 2015; Ullström et al., 2014). Sample size insufficiency is a threat to the credibility of study results and, as such, is important to recognize as a key component of this research (Vasileiou et al., 2018). In qualitative research, data saturation is one of the most used methods for determining sample size sufficiency. Saturation of data occurs when interviews are no longer providing unique data elements. As this research used a primarily deductive approach, saturation occurred when predetermined codes and themes were adequately reflected in the data (Saunders et al., 2018). Participant recruitment was halted once data saturation was evident and a final sample of 13 participants was included in this study.

Study Procedures

The procedures for completing the qualitative research included piloting the interview guide, obtaining IRB approval, recruitment of the study sample, performing interviews, transcribing the data, and analyzing/coding data. Each of the steps are outlined in more detail below.

Piloting interview guide. A description of the interview guide is provided in the *Instruments* section, below. The interview guide was first piloted with a small sample (n=3) of L&D nurses for clarity. The guide was revised based on feedback from pilot testers. The final interview guide was used as a starting point for conversations with the participant. The researcher allowed the participant to speak as necessary to explore the research questions and formulated follow-up questions as necessary (Kallio et al., 2016).

Recruitment of the study sample. Participants were recruited initially for the quantitative survey. Recruitment occurred by sending emails to members of AWHONN (see

Study Procedures under *Quantitative Methods*, for additional details about recruitment). At the conclusion of the survey, respondents were offered the opportunity to participate in a 1-hour interview with the primary researcher via Zoom. Participants who indicated that they were interested provided their contact information (email address). The primary researcher contacted interested participants to set up an appointment for the interview.

Interview protocol. Interested participants were contacted to arrange an interview time via email. The study aims and privacy protections for informed consent were reviewed with interested participants. The participant indicated consent to participate by agreeing to the interview and providing verbal consent at the beginning of the interview. Participants were made aware that they could withdraw their consent at any time and could refuse to answer any questions that made them feel uncomfortable in any way. The participant could elect to end the interview at any time.

Interviews were conducted via Zoom videoconferencing from February 1 – March 2, 2021. Interviews were recorded for transcription later. Notes were taken by the interviewer as needed for clarity during the analysis stage. Interviews took approximately 60 minutes per participant. At the conclusion of the interview, participants were provided a list of national counseling services for assistance with any emotional needs. At no time during the interview did a participant became emotionally unable to continue. Compensation was in the form of a $20 Amazon gift card that was emailed to study participants following interview completion.

After each interview, the researcher wrote detailed memos and reflections regarding the thoughts and feelings from the interview. As the primary researcher is a previous L&D nurse with personal experiences of trauma in the workplace, these memos were a way to recognize

potential bias as well as contain thoughts about where the data is leading in an "in the moment" way (Dejonckheere & Vaughn, 2019).

Instruments

A semi-structured interview guide developed by the primary researcher was used based on the Core Beliefs Model and the Second Victim Recovery Trajectory model. The interview consisted of open-ended questions to gain insight into the experiences that each participant perceives as most traumatic in their work life. Follow up questions/probes were driven by participant responses. A copy of the interview guide is included in Appendix B.

The interview guide was divided into two sections. The first section included six questions based on the principles of the core beliefs model. The first two questions asked for general information about why the participant wanted to become a labor and delivery nurse and expectations about the role. The next four questions focused on how participants described events that they found to be traumatic to them in the L&D setting and the impact of traumatic events experiences on their core beliefs surrounding L&D nursing. The second section had eight questions to gain a deeper understanding of the experiences during, immediately after, and over time after the traumatic event, and how this personal experience did or did not compare with the Second Victim Recovery Trajectory Model.

Demographic information was extracted from the quantitative survey completed by the participant. This data included participant's age, gender, race, ethnicity, level of education, number of years working as a registered nurse, number of years working as a labor and delivery nurse, current employment status, current specialty area of nursing (if still employed), number of traumatic patient events experienced, and type of institution worked at during labor and delivery experiences.

Data Management

Interviews were transcribed by a paid transcription service. Interviews were sent for transcription on a rolling basis (3-5 at a time). This allowed for iterative data analysis procedures and checking for data saturation. Transcription of all interviews were completed by March 14, 2021. To ensure completeness and accuracy of the transcription process, a random selection of 10% of all transcriptions were double-checked by the primary researcher. No substantial errors were found, so all remaining transcripts were spot-checked for accuracy. Researcher notes taken during the interview process were used for any clarification of data and to provide non-verbal details that may be important during the analysis of data.

Data Analysis

Directed content analysis using the Core Beliefs Model and Second Victim Recovery Trajectory model were used to analyze interview data. Directed content analysis is indicated when there is existing theory for a phenomenon that is incomplete or needs further clarification (Hsieh & Shannon, 2005). Existing theory was used to inform questions to guide interviews and to provide a format for coding categories during the analysis stage. The use of directed content analysis helped provide depth to the existing theoretical underpinnings for this research. Directed content analysis allowed for a more complete understanding of how L&D nurses' experiences and recoveries compared with those postulated by the Core Beliefs Model and Second Victim Recovery Trajectory model. All participant data was analyzed and categorized in an Excel document and was de-identified. A process of deductive analysis was used with the collected interview data. Deductive analysis using a framework approach allowed the researcher to approach the data with a particular theory in mind (Pope, 2000). Five stages of deductive data

analysis were utilized including familiarization, identification of a thematic framework, indexing, charting, and mapping and interpretation (Pope, 2000).

Familiarization. The first step of the analysis process involved becoming intimately connected to the data by listening to the recorded interviews, reading the transcripts, and reviewing any memos associated with each interview. During this process a list of recurrent themes and key ideas were developed.

Identification of a thematic framework. This research has already identified two theoretical models towards which the data was directly analyzed. The Core Beliefs Model identifies five main categories including religious and spiritual beliefs, human nature, relationships with other people, meaning of life, and personal strengths and weaknesses. A stressful event is one that may cause a reexamining of one or more of these core beliefs (Cann et al., 2010). The Second Victim Recovery Trajectory Model defines six stages that delineate the experience of a second victim. These include (1) chaos and accident response, (2) intrusive reflections, (3) restoring personal integrity, (4) enduring the inquisition, (5) obtaining emotional first aid, and (6) moving on. Using the aims of this study as well as deriving themes generated from these two theoretical models, a list of thematic codes along with an operational definition of each code was developed. This process was checked for completeness by an expert qualitative researcher and dissertation committee member (NVR) as a second coder prior to beginning and during data analysis.

Indexing, charting, and mapping/interpretation. The interview data was chunked into manageable pieces of data. The data was then indexed into concepts from the theoretical frameworks. Single chunks of data at times fell into multiple themes. The data was then organized by charting or rearranging the data to fit into the various parts of the thematic

framework. This process relied on creating summaries of views and experiences, necessitating a great deal of abstraction of the data and synthesis (Pope, 2000). Finally, the concepts from the charts were mapped and interpreted to determine any new themes or connections that arose from the data.

To limit the effect of researcher bias, a process of interrater reliability was utilized. A faculty member of the dissertation committee who is well-respected in qualitative research techniques (NVR) coded the first two interviews independent of the primary researcher. The independently coded interviews were compared and discussed for accuracy and determination of new themes that arose from the data. Once there was agreement among coders, the remaining interviews were coded by the primary researcher. The second researcher remained available for clarification and assistance as needed by the primary researcher.

Role of the Researcher

All interviews were conducted by the primary researcher and transcribed by a data transcription service. Throughout the interview process and analysis, the primary researcher kept a reflective journal. The journal allowed the researcher to describe feelings and consider personal involvement in the subject matter while conducting the research and be aware of how subjectivity might influence the progression of the research (Morrow & Smith, 2000). Reflective journaling adds rigor to qualitative inquiry as one can record reactions, assumptions, expectations, and biases about the research process. As the primary researcher for this research study has had experience in the labor and delivery workplace and experiences with traumatic events, it is important to check for bias throughout data collection and interpretation. This study is bound to bring up feelings and emotions that are personal to the primary researcher and using

reflective journaling allowed member checks and decreased the potential for confirmation bias (Guba & Lincoln, 1989; Morse, 2015).

Integration of Findings

For this multimethod study, results for the qualitative and quantitative portions were independently reported. Integration of these findings occurred in the discussion chapter (Chapter V). Data is not "mixed" as in a traditional mixed-methods study, but rather used in the discussion chapter to help deepen our understanding of the overall experiences of L&D nurses. Hearing the voices of participants in the qualitative portion of the study may help explain any results that are seen in the quantitative measures. In addition, seeing an overall picture of the reported experiences of a large group of nurses in the quantitative portion may help guide the researcher to see data in the interviews that may have been overlooked. As such, each arm of the study can help support and enlighten findings from the other.

Ethical Considerations

IRB approval was obtained prior to initiation of all research activities. Once IRB approval was received, participant recruitment commenced. As there was a great potential to bring up issues for subjects that were personal, emotional, and triggering, procedures were put into place to protect the safety and confidentiality of all participants.

Quantitative ethical considerations. For the quantitative study, the risk for emotional distress during completion of the survey was a potential problem for participants. The survey tool took approximately 10 minutes to complete, which may have caused some emotional or physical fatigue. No identifying information was collected at the time of the survey, and only email addresses of participants were retained to distribute any potential incentives for

participation. At the conclusion of the survey, a list of printable emotional support organizations was provided to the participants.

In terms of providing informed consent, the participant received a link for the SVEST-R tool and demographic survey to complete. Consent for this was included at the beginning of the survey tool, and completion of the survey tool indicated consent by the participant.

Qualitative ethical considerations. For the qualitative study, potential risks to the participants completing the interview included experiencing emotional distress from answering questions about traumatic events and emotional and physical fatigue from taking part in a 60-minute interview. Also, there existed a potential risk for loss of privacy or confidentiality, however these risks were minimized by procedures put into place by the primary researcher. Since no identifying information was retained with the interview recording, notes or memos, there is no risk of privacy issues surrounding this aspect of the data collection. As mentioned previously, email addresses were obtained from participants for the purposes of incentive distribution, but this information was not linked with interview data. To mitigate risks of emotional or physical distress, several processes were put into place: (1) participants could ask for breaks as needed; (2) participants could elect to not answer any questions that may be distressing; (3) the interviewer would pause the interview if any distress was noted in the interviewee; and (4) a list of support service resources were supplied to participants.

When participants indicated interest in participation in the qualitative portion of the study, the primary researcher described the purpose and aims of the study via email to the potential participant. If the participant was interested in continuing with the study, an information sheet was verbally provided to the interested participant indicating the purpose and aims of the study and the procedure that would be followed. The consent form was verbally

reviewed, participant questions answered, and the participant provided verbal consent for participation.

Overarching ethical considerations. In addition, risks for loss of confidentiality were possible with both the qualitative and quantitative portions of the study. Unanticipated disclosure of confidential information may be an additional source of trauma and stress for an individual. To avoid this occurrence, procedures were put in place to protect participant data. Information was stored on an encrypted computer. Any physical paperwork was stored in a locked file cabinet within a locked office of the PI. Study consent specifically spelled out how sensitive data was stored and kept confidential. Interviews were recorded with permission from the participants and were stored on a password protected, encrypted computer only accessible by the primary researcher. In addition, no participant identification was stored with the collected data. Only email addresses of participants who completed the interview and online survey were collected to disburse incentives for participation. A listing of email addresses was maintained separately from study data and only used for the purposes of incentive distribution.

Assumptions

There are several assumptions to consider when undertaking this research. For both arms of the study, a basic assumption is that participants were truthful in their responses. It is also assumed that the participants responding to the invitation to join the study have had experience in L&D and have had the experiences of trauma that are part of the inclusion criteria Also, the assumption is that the inclusion criteria have captured the participants most desired to answer the research questions. Also, it is assumed that participants have participated without the expectation of getting anything in return for this participation. To preserve the quality of this study, it was made explicitly clear to the participants how their information was kept confidential

and stored safely, which provided reassurance to be truthful in responses. In addition, it was made clear that there was no compensation for participation outside of study incentives, and that no communication between the researcher and the participant's supervisor or employer would occur.

CHAPTER IV: RESULTS

Quantitative Results

Demographic Data

Study information and a link to the survey were sent to 1,458 individuals through the AWHONN member listserv. The survey was closed after 214 people initiated the survey. Participants completed two initial screening questions to verify that they were current or previous labor and delivery nurses, and had at least one traumatic, emotionally difficult, or challenging experience while working in the labor and delivery area. All individuals met the inclusion criteria. Forty-three responses were excluded due to missing data (i.e., participant did not provide at least some response in each of the nine subscales of the SVEST-R). A final sample of 171 participants was included for this study. Of these, 168 participants provided demographic information.

Demographic information is displayed in Table 4. The sample was mostly female (*n* = 165, 95.8%), white (*n* = 153, 89.5%), and non-Hispanic (*n* = 161, 95.8%). Most participants indicated experiencing between two and five traumatic experiences in the labor and delivery setting (*n* = 93, 55.4%) over the course of their career. The average age of respondents was 47.1 years (SD = 13.3, range 23 – 77 years) with an average length of time working in labor and delivery of 17.3 years (SD = 12.4, range 1 – 45 years), and an average length of time working as a registered nurse of 20.8 years (SD = 14.1, range 1 – 55). Participants reported their highest nursing degree as associates or diploma (*n* = 7, 4.2%), bachelors (*n* = 87, 51.8%), masters (*n* = 65, 38.7%) or doctorate (*n* = 9, 5.4%).

Table 4

Demographic Information (N = 168)

	M	*SD*
Age	47.1	13.3
Number of years working in L&D	17.3	12.4
Number of years working as a registered nurse	20.8	14.1
	n	%*
Gender		
Male	3	1.8
Female	165	98.2
Race**		
American Indian	3	1.8
Asian	4	2.3
Black/African American	12	7.0
White	153	89.5
Native Hawaiian/Pacific Islander	0	0
Ethnicity		
Hispanic	7	4.2
Non-Hispanic	161	95.8
Highest nursing degree		
Associates or Diploma	7	4.2
Bachelors	87	51.8
Masters	65	38.7
Doctorate	9	5.4
Type of facility**		
Birth center	7	4.2
Community hospital/low-risk unit/critical access hospital	75	44.6
Teaching hospital/high-risk unit	115	68.5
Type of traumatic event experienced**		
Medical error	50	29.2
Maternal death	59	34.5
Newborn death	116	67.8
Workplace violence	56	32.7
Delivery complication	142	83.0
Overcrowding/Understaffing/Feeling unsafe	2	1.2
Assisting with pregnancy termination	1	0.6
MD communication issues or disagreement with plan/ethics issues	4	2.3
Caring for sex trafficking victims	1	0.6
Caring for critically ill patient	1	0.6

M = mean; SD = standard deviation; L&D = labor and delivery; MD = medical doctor

*Percentages calculated for participants who completed demographic information (*n* = 168). **Total percentages for race and type of facility and type of traumatic event experienced may be greater than 100 percent as participants were able to select more than one option response.

Almost 29% (n = 48) indicated that they no longer worked as a labor and delivery nurse. Of these nurses, six (12.5%) indicated that they left this area primarily due to a traumatic event, and five (10.4%) indicated that they possibly left due to a traumatic event. In addition, participants indicated the types of facilities at which they have worked during their careers. A majority indicated that they have worked in a high-risk or tertiary care/teaching hospital (n = 115, 68%).

The most frequent types of events described as traumatic included delivery complications (n=142, 83%) and newborn death (n=116, 67.8%). Respondents indicated that traumatic events included those that involve birthing emergencies (i.e., maternal death and delivery complications), witnessing or being present for neonatal deaths, experiencing workplace violence, unsafe surroundings (i.e., working understaffed, handling high acuity patients) and experiencing inter-personal conflict (i.e., bullying, incivility, unprofessional behavior). Some respondents also provided free text responses indicating that participating in pregnancy terminations and having disagreements with the physician over clinical decision-making was found to be traumatic to them.

Confirmatory Factor Analysis

The 35-items of the Second Victim Experience and Support Tool – Revised (SVEST-R) were subjected to principal components analysis (PCA) using IBM SPSS Statistics version 26. Prior to performing PCA, data was analyzed for suitability for factor analysis. Inspection of the correlation matrix revealed many coefficients of .3 and above. The Kaiser-Meyer-Olkin value was 0.862, exceeding the recommended value of 0.6 (Kaiser 1970, 1974). Bartlett's (1954) Test of Sphericity reached statistical significance, supporting the factorability of the correlation matrix.

PCA was used to intentionally seek nine components as found during the psychometric development of this instrument (Winning et al., 2020). Results of the current PCA found only eight components with an eigenvalue exceeding 1, which explained 30.4%, 9.4%, 6.6%, 5.8%, 4.4%, 4.2%, 3.7% and 3.4% of the variance, respectively. The ninth component had an eigenvalue of .942 and explained 2.7% of the variance. Inspection of the scree plot revealed a clear break after the fifth component with an additional break after the ninth component.

The nine-component solution explained 66.7% of the variance. Oblimin rotation was performed revealing the presence of many strong item loadings and some items loading moderately on more than one component. A Structure Matrix of item loadings is displayed in Table 5. A Pattern Matrix of item loadings is displayed in Table 6. Factor loadings of all items ranged from 0.33 to 0.93. Given that the results of the current PCA were similar to those in the original instrument development, subsequent analyses were conducted using the scoring instructions provided by the instrument developers. The psychological distress factor differed the most from the original instrument; rationale and implications of this are presented in Chapter V.

Some of the difficulty with proper analysis of this confirmatory factor analysis may like in the small sample size of this study. Some statisticians recommend a sample of at least 300 cases for factor analysis (Tabachnick & Fidell, 2013) unless solutions have several high loading marker variables above .80. Smaller sample sizes may be sufficient if there are at least a 10:1 ratio of cases to items (Nunnally, 1978). For this 35-item survey, the 171 cases may be insufficient to adequately obtain powerful results. All items loaded together onto components as suggested in previous published factor analyses with the exception of items for psychological distress. In both the structure and pattern matrices, items in the psychological distress only loaded weakly on one item (Q3 – “My experiences have made me feel miserable”) and failed to

load with a score of 0.5 or above on any of the other 3 items for this subscale. These results may show that the wording of items as perceived by labor and delivery nurses who have experienced traumatic events may be different than those who have previously used this instrument. A previous confirmatory factor analysis of this instrument was completed with neonatal intensive care providers who had experienced a medical error or adverse event (Winning et al., 2020).

Table 5

Structure Matrix for the 9-factor SVEST-R Model with 35 Items

Variable	Psychological Distress	Physical Distress	Colleague Support	Supervisor Support	Organizational Support	Professional Self-Efficacy	Turnover	Absenteeism	Resilience
1.I have experienced embarrassment from these instances.	-0.33								
2.My involvement in these types of instances has made me fearful of future occurrences.	0.41								
3.My experiences have made me feel miserable.	0.79								
4.I feel deep remorse for my past involvements in these types of events.	-0.35								
5.The mental weight of my experience is exhausting.		0.67							
6.My experience with these occurrences can make it hard to sleep regularly.		0.69							
7.The stress from these situations has made me feel queasy or nauseous.		0.81							
8.Thinking about these situations can make it difficult to have an appetite.		0.75							
9.I have had bad dreams as a result of these situations		0.67							
10.My colleagues can be indifferent to the impact these situations have had on me.			0.54						
11.My colleagues help me feel that I am still a good healthcare provider despite any mistakes I have made.			0.32						

Variable	Psychological Distress	Physical Distress	Colleague Support	Supervisor Support	Organizational Support	Professional Self-Efficacy	Turnover	Absenteeism	Resilience
12.My colleagues no longer trust me.			0.79						
13.My professional reputation has been damaged because of these situations.			0.88						
14.I feel that my supervisor treats me appropriately after these occasions.				0.82					
15.My supervisor's responses are fair.				0.91					
16.My supervisor blames individuals.				0.76					
17.I feel that my supervisor evaluates these situations in a manner that considers the complexity of patient care practices.				0.82					
18.My organization understands that those involved may need help to process and resolve any effects they may have on care providers.					0.88				
19.My organization offers a variety of resources to help me get over the effects of involvement with these instances.					0.87				
20.Concern for the well-being of those involved in these situations is not strong at my organization.					0.80				
21.Following my involvement, I experienced feelings of inadequacy regarding my patient care abilities.						0.87			

Variable	Psychological Distress	Physical Distress	Colleague Support	Supervisor Support	Organizational Support	Professional Self-Efficacy	Turnover	Absenteeism	Resilience
22.My experience makes me wonder if I am not really a good healthcare provider.						0.90			
23.After my experience, I became afraid to attempt difficult or high-risk procedures.						0.83			
24.These situations negatively impacted my performance at work.						0.65			
25.My experience with these events has led to a desire to take a position outside of patient care.							0.88		
26.Sometimes the stress from being involved with these situations makes me want to quit my job.							0.80		
27.I have started to ask around about other job opportunities.							0.88		
28.I plan to leave my job in the next 6 months because of my experience with these events.							0.82		
29.My experience with an adverse patient event or error has resulted in me taking a mental health day.								-0.93	
30. I have taken time off after one of these instances occurs.								-0.92	
31.When I am at work, I am distracted and not 100% present because of my involvement in these situations.								-0.52	

Variable	Psychological Distress	Physical Distress	Colleague Support	Supervisor Support	Organizational Support	Professional Self-Efficacy	Turnover	Absenteeism	Resilience
32.Because of these situations, I have become more attentive to my work.									0.82
33.The situations have caused me to improve the quality of my care.									0.87
34.My experience with an adverse patient event or error has resulted in positive changes in procedure or care on our unit.									0.58
35.I have grown as a professional as a result of an adverse patient event or error.									0.73

Table 6

Pattern Matrix for the 9-factor SVEST-R Model with 35 Items

Variable	Psychological Distress	Physical Distress	Colleague Support	Supervisor Support	Organizational Support	Professional Self-Efficacy	Turnover	Absenteeism	Resilience
1.I have experienced embarrassment from these instances.			0.60						
2.My involvement in these types of instances has made me fearful of future occurrences.	-0.35						0.39		
3.My experiences have made me feel miserable.	-0.59	0.40							
4.I feel deep remorse for my past involvements in these types of events.		0.41				0.41			
5.The mental weight of my experience is exhausting.		0.54							
6.My experience with these occurrences can make it hard to sleep regularly.		0.54							
7.The stress from these situations has made me feel queasy or nauseous.		0.75`							
8.Thinking about these situations can make it difficult to have an appetite.		0.65							
9.I have had bad dreams as a result of these situations		0.58							
10.My colleagues can be indifferent to the impact these situations have had on me.			0.40						
11.My colleagues help me feel that I am still a good healthcare provider despite any mistakes I have made.	-0.58								

Variable	Psychological Distress	Physical Distress	Colleague Support	Supervisor Support	Organizational Support	Professional Self-Efficacy	Turnover	Absenteeism	Resilience
12.My colleagues no longer trust me.			0.78						
13.My professional reputation has been damaged because of these situations.			0.85						
14.I feel that my supervisor treats me appropriately after these occasions.				0.79					
15.My supervisor's responses are fair.				0.86					
16.My supervisor blames individuals.				0.70					
17.I feel that my supervisor evaluates these situations in a manner that considers the complexity of patient care practices.				0.70					
18.My organization understands that those involved may need help to process and resolve any effects they may have on care providers.					0.84				
19.My organization offers a variety of resources to help me get over the effects of involvement with these instances.					0.86				
20.Concern for the well-being of those involved in these situations is not strong at my organization.					0.80				
21.Following my involvement, I experienced feelings of inadequacy regarding my patient care abilities.						0.85			

Variable	Psychological Distress	Physical Distress	Colleague Support	Supervisor Support	Organizational Support	Professional Self-Efficacy	Turnover	Absenteeism	Resilience
22.My experience makes me wonder if I am not really a good healthcare provider						0.86			
23.After my experience, I became afraid to attempt difficult or high-risk procedures.						0.74			
24.These situations negatively impacted my performance at work.						0.52			
25.My experience with these events has led to a desire to take a position outside of patient care.							0.77		
26.Sometimes the stress from being involved with these situations makes me want to quit my job.							0.68		
27.I have started to ask around about other job opportunities.							0.83		
28.I plan to leave my job in the next 6 months because of my experience with these events.							0.71		
29.My experience with an adverse patient event or error has resulted in me taking a mental health day.								-0.92	
30. I have taken time off after one of these instances occurs.								-0.95	
31.When I am at work, I am distracted and not 100% present because of my involvement in these situations.								-0.36	

Variable	Psychological Distress	Physical Distress	Colleague Support	Supervisor Support	Organizational Support	Professional Self-Efficacy	Turnover	Absenteeism	Resilience
32.Because of these situations, I have become more attentive to my work.									0.81
33.The situations have caused me to improve the quality of my care.									0.86
34.My experience with an adverse patient event or error has resulted in positive changes in procedure or care on our unit.									0.53
35.I have grown as a professional as a result of an adverse patient event or error.									0.73

Descriptive Statistics and Internal Consistencies

Descriptive statistics and internal consistencies for the nine SVEST-R subscales are provided in Table 7. Cronbach α, one of the most used indicators of internal consistency, were greater than 0.70 for all subscales, except colleague support (0.65). A value of Cronbach α above 0.7 is desirable (DeVellis, 2017). This result is consistent with one recent study using this instrument (Winning et al., 2020). Mean scores for all subscales ranged from 1.92 to 3.22, with lowest scores for colleague support (1.92) and resilience (2.0) and highest scores for physical distress (3.07) and psychological distress (3.22).

Mean inter-item correlations for each subscale are presented in Table 7. Mean inter-item correlations values ranged from .36 to .77 in this study. An optimal range for inter-item correlation is .2 to .4 (Cohen & Swerdlik, 2005). Values above .4 may indicate item redundancy and suggest that items may not be measuring the full spectrum of the construct (Cohen & Swerdlik, 2005).

Table 7

Means, SDs, Cronbach α Reliability Scores, Mean Inter-item Correlations for SVEST-R Factors

Variable	M	SD	α	Mean inter-item correlation	Items, *n*
Psychological Distress	3.22	0.92	0.72	0.40	4
Physical Distress	3.07	0.92	0.84	0.51	5
Colleague Support	1.92	0.64	0.65	0.36	4
Supervisor Support	2.33	1.03	0.87	0.63	4
Institutional Support	2.77	1.07	0.82	0.61	3
Professional self-efficacy	2.65	1.10	0.88	0.64	4
Resilience	2.00	0.70	0.75	0.70	4
Turnover intentions	2.62	1.15	0.90	0.77	4
Absenteeism	2.35	1.03	0.77	0.51	3

Preliminary analyses indicated non-normal distributions of all variables. Transformation of variables was conducted including logarithmic, square root, inverse, reflect and square root,

reflect and logarithm, and reflect and inverse. None of these transformations produced a normal distribution. Therefore, the decision was made to use nonparametric analyses for this study.

The relationship between all subscales of the SVEST-R was investigated using Spearman's rank correlation coefficient (Spearman σ). Results showed that both physical distress and psychological distress positively correlated with all subscales except resilience. Colleague support, institutional support supervisor support, turnover intent, and absenteeism had positive correlations with all variables. All Spearman's σ values are displayed in Table 8.

Table 8

Spearman's Rank Correlations Between SVEST-R Subscales

Scale	1	2	3	4	5	6	7	8	9
1. Psychological distress	-								
2. Physical distress	.60**	-							
3. Colleague support	.50**	.41**	-						
4. Supervisor support	.29**	.41**	.48**	-					
5. Institutional support	.37**	.38**	.33**	.51**	-				
6. Professional self-efficacy	.53**	.47**	.42**	.25**	.26**	-			
7. Resilience	.02	.08	.18*	.26**	.20**	.05	-		
8. Turnover intentions	.50**	.62**	.47**	.44**	.42**	.47**	.26**	-	
9. Absenteeism	.30**	.45**	.30**	.35**	.30**	.24**	.17*	.42**	-

**Correlation is significant at the 0.01 level (2-tailed)
*Correlation is significant at the 0.05 level (2-tailed)

Relationships between demographic variables of age, number of years worked in L&D, number of years worked as a registered nurse and each SVEST-R subscale yielded no significant correlations. Examination of partial correlations between any two subscales controlling for each of the demographic variables showed no statistical difference in Spearman's σ.

Desired Forms of Support

Descriptive statistics for support desirability and availability are presented in Table 9. Desirability was defined as a participant choosing "3 – desired" or higher for each support option. A total of 171 participants completed the Desired/Available portion of the survey and were included to calculate percentages of those desiring each support option.

Table 9

Desirability, Availability, Means and SDs for the Second Victim Support Options

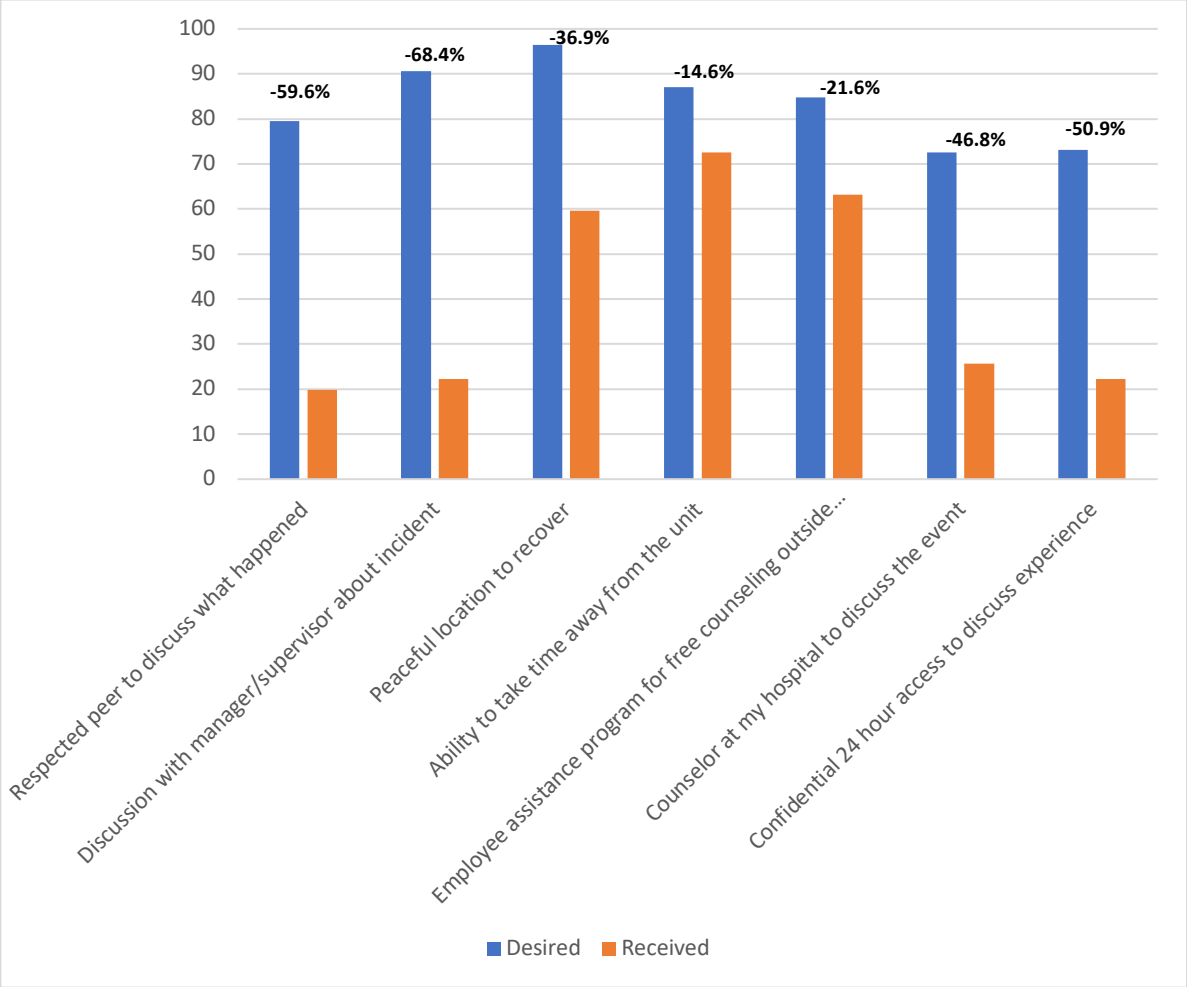
Support Option	Desired, %	Not Desired %	M	SD	Available, %	Not Available %	M	SD
1. A respected peer to discuss the details of what happened	79.5	20.5	3.50	1.38	19.9	77.8	1.50	0.81
2. A discussion with my manager or supervisor about the incident	90.6	9.4	3.87	1.15	22.2	75.4	1.56	0.84
3. A specified peaceful location to recover	96.5	3.5	4.20	0.99	59.6	38.0	2.32	0.90
4. The ability to immediately take time away from the unit	87.1	12.9	3.71	1.19	72.5	25.1	2.61	0.71
5. An employee assistance program that can provide free counseling to employees outside of work	84.8	15.2	3.70	1.22	63.2	33.3	2.38	0.89
6. The opportunity to schedule a time with a counselor at my hospital to discuss the event	72.5	27.5	3.33	1.31	25.7	71.3	1.69	0.87
7. A confidential way to get in touch with someone 24 hours a day to discuss how my experience may be affecting me	73.1	26.3	3.45	1.37	22.2	74.9	1.69	0.82

Each support option was identified as desired by over 70% of the sample. Options endorsed by the highest number of participants included having a specified peaceful location to recover (96.5%) and having a discussion with a manager or supervisor about the incident (90.6%). The following options were reported by over 70% of participants as not being available or offered at the time of the event: having a peer to discuss the event with (77.8%), having a discussion with a manager or supervisor (75.4%), having the ability to schedule time with a counselor outside of work (71.3%) and having 24-hour a day access to someone to discuss the impact of the event (74.9%). For all support options, a greater percentage of participants endorsed desiring the support than having those supports available, offered or being aware that those supports were available in their institution. For example, 79.5% of survey participants endorsed desiring a respected peer to discuss the details of the event while only 19.9% of participants indicated having those supports in their organization or knowing if these supports

were available. Differences between desired and available support options is included in Figure 1. The greatest percent differences between desired and available supports for the overall sample were option 1 ("A respected peer to discuss the details of what happened," 59.6%) and option 2 ("A discussion with my manager or supervisor about the incident," 68.4%).

Figure 1

Percent Desired versus Available Support Options



Association between Psychological Distress and Institutional Support on Turnover Intention, Absenteeism, and Resilience

Multiple linear regression was used to answer research question 2, "Is psychological distress and institutional support following a traumatic workplace event associated with L&D

nurse turnover intention, absenteeism, and resilience, controlling for socio-demographic factors?" Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity, and homoscedasticity which included inspecting the normal probability plot of the regression standardized residual (P-P), the scatterplot of the standardized residuals, checking for outliers in the scatterplot of residuals, checking the Mahalanobis distances, and ensuring that there were not two variables with a bivariate correlation of .7 or more in this analysis. In addition, the tolerance was less than 0.10 and the variance inflation factor (VIF) was below 10, both indicating that multicollinearity is not a concern. Three separate regression models were used to assess the ability of psychological distress and institutional support to predict levels of turnover intention, absenteeism, and resilience, respectively. Demographic variables (i.e., age, number of years worked as an RN, number of years working in labor and delivery) were entered into the model but were found to not affect any change and so were excluded as controls from the model.

Turnover intentions. In the first model, a multiple linear regression equation examined the ability of levels of psychological distress and institutional support to predict levels of turnover intention ($R^2 = 0.326$, $p<0.0005$) and demonstrated that 32.6% of the variance in turnover intentions is explained by this model. Both psychological distress ($\beta = .41$, $p < .001$) and institutional support ($\beta = .28$, $p <.001$) made a statistically significant unique contribution to the equation. The semi-partial correlation coefficients for psychological distress and institutional support (0.14, 0.064 respectively) indicate that 14% of the variance in turnover intention is explained by psychological distress and 6.4% of the variance is explained by institutional support.

Absenteeism. An additional multiple linear regression equation examined the ability of levels of both psychological distress and institutional support to predict levels of absenteeism among labor and delivery nurses. In this model, the $R^2 = 0.144$ ($p < .01$), indicating that 14.4% of the variance in absenteeism is predicted by these two variables. Again, both variables added statistically significant unique contributions to the model, with psychological distress ($\beta = .20$, $p = .009$) predicting 3.5% and institutional support ($\beta = .25$, $p = .001$) predicting 5.4% of the variance in absenteeism.

Resilience. In the final regression model, the level of resilience affected by the independent variables of psychological distress and institutional support were examined. This model, although statistically significant (p=0.043), had a small R^2 (0.037). Additionally, psychological distress ($\beta = -.08$, $p = .33$) did not make a statistically significant unique contribution to this model. However, institutional support ($\beta = .21$, p=.01) did make a statistically significant unique contribution to the model predicting 3.7% of the total variance in resilience. All results for multiple regression are summarized in Table 10.

Table 10

Multiple Regression Analyses Summary Predicting Turnover Intention, Absenteeism, and Resilience with Psychological Distress and Institutional Support

	Turnover Intention				Absenteeism				Resilience			
Independent Variables	B	SE	ß	p-value	B	SE	ß	p-value	B	SE	ß	p-value
Psychological Distress	.51	.09	.41	<0.001	.23	.09	.20	0.009	-.06	.06	-.08	0.33
Institutional Support	.29	.08	.28	<0.001	.24	.08	.25	0.001	.14	.05	.21	0.01
Intercept	.16	.28		0.578	.94	.29		0.001	1.82	.21		<0.001
R^2	.326				.144				.037			
F	40.61**				14.09**				3.2*			

**p<0.01
*p<0.05

Effects of Overall Distress on Turnover intention, Absenteeism, and Resilience

As determined by the factor analysis performed at the beginning of data analysis, it was clear that there was some overlap between psychological distress and physical distress items and how they loaded onto factors. As physical distress symptoms are often intermingled with psychological distress following the experience of traumatic events, these two variables were combined to form a new variable, Overall Distress. The regression analysis was run a second time to determine if overall distress and organizational support had an increased ability to predict scores of all three outcome variables. In this model, the R^2 for Model 1 increased to 0.43 ($p<0.01$), the R^2 for Model 2 increased to 0.25 ($p<0.01$), and the R^2 for Model 3 decreased to 0.032 (non-significant at $p=0.07$). Results are displayed in Table 11. The semi-partial correlations were examined for each model. In Model 1, both overall distress ($\beta = .54$, $p < .001$) and institutional support ($\beta = .16$, $p = .001$) added statistically significant contributions to the model with overall distress predicting 24.2% and institutional support predicting 3.9% of the variance in turnover intention. In Model 2, both overall distress ($\beta = .41$, $p < .001$) and institutional support ($\beta = .17$, $p = .02$) added statistically significant contributions to the model with overall distress predicting 13.8% and institutional support predicting 2.4% of the variance in absenteeism. Finally, although overall distress and institutional support together were not able to predict resilience with statistical significance, institutional support ($\beta = .17$, $p = .045$) was found to significantly predict 2.3% of the variance in resilience in the model.

Table 11

Multiple Regression Analyses Summary Predicting Turnover Intention, Absenteeism and Resilience with Overall Distress and Institutional Support

	Turnover Intention				Absenteeism				Resilience			
Independent Variables	B	SE B	ß	p-value	B	SE B	ß	p-value	B	SE B	ß	p-value
Overall Distress	.63	.07	.54	<0.001	.43	.08	.41	<0.001	.02	.06	.02	0.772
Institutional Support	.23	.07	.21	0.001	.16	.07	.17	0.02	.11	.06	.17	0.045
Intercept	.08	.24		0.74	.61	.25		0.015	1.64	.19		<0.001
R^2			.43				.25				.03	
F			62.42**				27.49**				2.76	

**p<0.01
*p<0.05

Qualitative Results

Demographic Data

At the conclusion of the survey, participants were asked to provide contact information (email address) denoting interest in completing an interview about their experiences. Of the 171 participants who completed the survey, 88 indicated interest in completing an interview. Potential interview participants were contacted via email. A total of 34 participants were emailed to schedule an interview and of those, 13 responded and scheduled an interview time. Participants were selected to maximize the variation among participants including age, race, years worked as an RN and years worked in the labor and delivery area. Attempts were made to recruit male participants without success. Interviews were scheduled and a link for a Zoom videoconference was sent to the participant. Overall, 13 participants completed an interview. Interview recordings were transcribed, proof-read, and analyzed on a rolling basis. When participant responses were no longer yielding unique themes related to their experiences, data saturation was determined to be evident and subject recruitment was halted at that time.

Participants were between 30 and 77 years old (M = 56.6, SD = 15.0). The average number of years worked as an L&D nurse ranged from 2 – 44 years (M = 19.5, SD = 13.5) and

the average number of years worked as a registered nurse ranged from 6 – 55 years (*M* = 30.1, SD = 16.7). All participants were female and 54% reported still working as a labor and delivery nurse. Of those who left this specialty area, one participant endorsed leaving their job because of their traumatic event experience. Additional demographic table are displayed in Table 12.

Table 12

Demographic and Work-related Characteristics of L&D Nurses

	N	%
Race		
White (non-Hispanic)	10	76.9
African American/Black (non-Hispanic)	1	7.7
Asian	2	15.4
Highest Nursing Degree		
Bachelor's (BSN)	6	46.2
Master's degree (MSN)	6	46.2
Doctoral degree	1	7.6
Currently working as L&D RN		
Yes	7	53.8
No	6	46.2
Type of hospital worked at during L&D career		
High-Risk/Tertiary Care	6	46.2
Low-Risk/Community hospital	4	30.8
Both	3	23.0
Number of traumatic events experienced on L&D		
2 – 5	6	46.2
5-10	3	23.0
>10	4	30.8
Types of traumatic events experienced*		
Neonatal demise/fetal demise/stillbirth	5	38.4
Verbal abuse by physician	3	23.0
Maternal death	2	15.4
Traumatic delivery/delivery complication	2	15.4
Communication failure/disagreement with plan of care	2	15.4
Taking care of aggressive patient	1	7.6
Nurse-on-nurse bullying	1	7.6

*Percentages greater than 100% due to some participants retelling more than one story

Comparisons between the participant samples in the quantitative and qualitative portions of the study revealed that the average age of qualitative participants was higher than those who completed the survey (56.6 vs. 47.1 years old). In addition, number of years worked as a registered nurse and number of years worked in L&D were both higher in the qualitative sample compared to the quantitative sample (*M qualitative* = 30.1 years RN and 19.5 years L&D versus

M quantitative = 20.8 years RN and 17.3 years L&D, respectively). The qualitative sample was 100% female while the quantitative sample included three male participants (1.8%). The qualitative sample also had no participants who identified as Hispanic while 4.2% of the quantitative sample identified as Hispanic. In terms of highest level of education completed, the qualitative sample did not include any nurses with an associate degree or diploma and had a higher percentage of nurses who had completed either a master's degree or doctoral degree than those in the quantitative sample.

During the guided interview, participants reflected on their overall L&D experiences and their specific experiences of traumatic events. The participants described why they chose to work in the L&D area, and what their expectations of L&D nursing were before working there. Participants also spoke in detail about their traumatic experiences and described how these events had shaken their core beliefs related to L&D nursing. In addition, the participant experiences were compared to the Second Victim Recovery Trajectory model and a revised model for the theory was developed for use in this population of nurses. Results from this study are presented in three main sections: (1) *motivations for working in labor and delivery, (2) shaken beliefs and comparison to the Core Beliefs model, and (3) comparison of L&D nurses' experiences to the Second Victim Recovery Trajectory model.*

Motivations and Expectations for Working in Labor and Delivery

Participants were first asked about the reasons they chose the labor and delivery specialty and if they had any preconceptions prior to working in this area. Nurses reported being drawn to the specialty area for several reasons including enjoying their clinical experiences on L&D when they were in nursing school, experiencing their own good or bad personal birthing experiences, having the potential for better scheduling options, escaping a more emotional area of nursing

with poor outcomes such as emergency nursing or pediatric oncology, enjoying the autonomy of the role, and being drawn to the joy of birth. One participant explained:

> *We're drawn to being part of somebody's life-changing experience. We're drawn to the autonomy of labor and delivery. . . I think it's because it's multi-disciplinary. We have a lot more collaboration with midwives and physicians. . . I think 100% of people will think that it's always wonderful. . . I knew that that was mostly what I was going to get into* (maternal death).

However, participants recounted ways that their beliefs about the L&D nursing experience at times were different than what they anticipated. Many nurses found that an expectation of uncomplicated births was challenged once working in this area. Nurses reported feeling that things were sometimes much more complex than expected.

Shaken Beliefs and Comparison to the Core Beliefs Model

Participants were asked to describe traumatic experiences that they have experienced while working as an L&D nurse. In retelling these stories, nurses described ways that their fundamental beliefs or assumptions about the world were shaken by their experiences. Participants were not explicitly asked about their experiences using the Core Beliefs Inventory, but rather, several common core beliefs emerged from the data. Figure 2 depicts those core beliefs that participants described as disrupted following traumatic events. Comparisons related to constructs in the core beliefs model and participant recollections of experiences are described below.

Figure 2

Core Beliefs Reported Disrupted by Labor & Delivery Nurses

Core belief: Things that happen to people are fair. Participants described finding what happened to their patients or to themselves was not fair or just. When relating feelings about the death of a mother on L&D, one nurse remarked on the unfairness of being alive when the patient is dead stating, *"It just makes it hard. . .Because they are just having a baby. They're just having a baby."* The death or poor outcome was compared to what one expects of patients outside of L&D and how it impacts one differently:

> *If you're working in a med surg unit. . .you're dealing with very sick people. And if you have a bad outcome, you tried your best, but in labor and delivery, it's not like that at all. You shouldn't have bad outcomes in my mind, with healthy women* (maternal death, neonatal demise).

Core belief: Things that happen to people are controllable. Participants recounted periods during their traumatic events when they realized events were not able to be controlled by them or others around them. They described feeling helpless or that events felt chaotic. Some nurses recounted events in which they felt that medical providers were not listening to their

concerns and feeling traumatized when poor outcomes for the patient happened afterwards. Also, being unable to identify what was happening to a patient in a timely way contributed to the loss of control.

> *I think I've heard people say that we have such a controlled life, that we're not used to things that go out of order, and so that's why we need to practice it so much more, because we're so used to things going smoothly* (neonatal demise, workplace violence).

Core belief: People will think and behave predictably. Participants who described traumatic experiences involving incivility or bullying often reported feeling that their core belief of how others will think and behave was shaken by these events. Violent or unpredictable behavior by colleagues were described by two participants. Threatening confrontations by providers both verbally and physically had long-lasting impacts on these nurses. These interactions were described as unprofessional and unexpected.

> *And he was at the door, blocking my exit from this room that I was about two feet away from him. And . . . there was nowhere for me to go. And he was totally enraged and wouldn't let me speak in any form. . . And I felt so threatened. . .And I really thought he was going to punch me. . . So, for me, it was violent. This is definitely the first time that anyone ever treated me in this way or spoke to me like that. I didn't anticipate that. . .I was traumatized. I really thought I was so at risk. I thought he was going to punch me right in the stomach. . .I was very, very traumatized"* (workplace violence).

Not having people respond or react as one was accustomed to was also a catalyst of feeling traumatized as one participant explained:

> *"I was used to being so . . .looked up to. And my other hospital where I was the manager, they really looked at me as an expert in what I do. And I consider myself an expert. And here I wasn't given that . . . I wasn't listened to and my strength was always that people would listen to me because they looked up to me. And here that did not happen - and this woman died because of that"* (maternal death, neonatal demise).

And having an unexpected behavior happen in front of a patient made it even more distressing for this one nurse:

> *[The physician] threw [an instrument] towards the patient and it hit her in the chest. And I gasped. And of course, you know, I don't think it caused her any permanent injury, but*

> *it was the most shocking thing, most unexpected experience from my perspective as a nurse* (workplace violence).

Core belief: Knowing one's own abilities, strengths, and weaknesses. One common thread was how the traumatic event made the nurse feel about a perceived lack of skill or knowledge to handle the event. They reported feeling guilt or blame, or feeling that others were questioning their skills and abilities. Many years after the events happened, several nurses question whether they did all they could do and asked "what it" questions surrounding details of the event.

> *I've been crying, and I don't know how to come back to work and not be afraid. . . Even when you tell us that we did everything that we did was standard of care and . . .we did things in a timely manner. It doesn't necessarily mean that we felt like we did that* (maternal death, neonatal demise).

Core belief: Knowing what to expect in the future. Nurses also related how the traumatic event made them question expectations about how events would unfold or how such events would play out again in the future. They reported often feeling unsure or afraid when later confronted with similar patients or scenarios. Nurses also reported that the traumatic experiences made them fear for their own well-being when experiencing their own pregnancies. One nurse described a colleague's traumatic experience and the lingering trauma she carried about what could happen during her own labor, asking questions like, *"Is this going to happen to me?"*

Core belief: Beliefs about one's own life and value. The traumatic nature of these events often made nurses question their worth or value as a nurse. They talked about being more aware of having to stand up for oneself and to teach newer nurses to do the same. Some nurses used this experience to leave bedside nursing in order to make a difference for others following

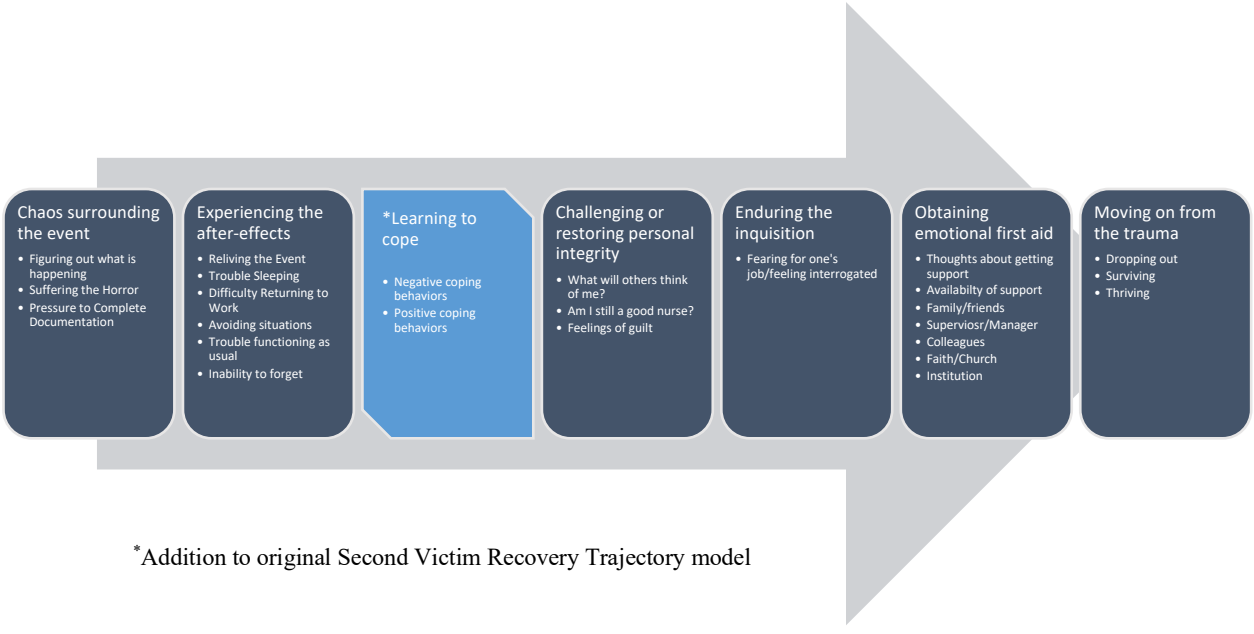
these experiences such as becoming a manager, working in nursing staff education, teaching in nursing school programs, and caring for children suffering birth trauma.

Comparison of L&D Nurses' Experiences to the Second Victim Recovery Trajectory Model

Using directed content analysis, nurses' stories were compared to the expected recovery trajectory theorized by Susan Scott's (2009) Second Victim Recovery Trajectory model. Codes were developed from the original model and additional codes were added as they emerged from the data. Due to the unique nature of experiences specific to L&D, themes and sub-themes derived from the interviews differ from those in the original model. A representation of the revised model's themes and sub-themes are depicted in Figure 3. Changes to the original model are highlighted in Figure 3.

Figure 3

Second Victim Recovery Trajectory Model – Revised for Labor and Delivery Experiences



*Addition to original Second Victim Recovery Trajectory model

Seven themes of second victim recovery trajectory for L&D nurses' following traumatic events emerged from the data: (1) *chaos surrounding the event*; (2) e*xperiencing the after-effects;* (3) *learning to cope*, (4) *challenging or restoring personal integrity*; (5) *enduring the*

inquisition, (6) *obtaining emotional first aid*, and (7) *moving on from the trauma*. Each theme and related sub-themes are described in detail below.

Chaos surrounding the event. During traumatic events, nurses described scenes that involved responses by many people and feeling overwhelmed by the events as they unfolded. Sometimes the participant described struggling to process what was going on in the moment. No matter the type of trauma experience, nurses used their resources for support such as charge nurses, physicians and midwives, coworkers, and managers when possible. Even though events at times happened many years prior, nurses were able to remember a lot of detail about their feelings during the event even if specific recollection about exactly who helped them or what happened immediately after were less clear. The unexpectedness of the event was at times singled out as something that made the event most traumatic. During the event, nurses often described feelings of terror or described things that were challenging to experience as they happened.

> *We rushed her as quickly as possible to the OR. The baby came out, was not doing so well. We had to call the transport team to transport the baby. And later on, we heard that the baby didn't make it. . .I just pressed the call bell. And I said, "I need help now." And everyone came running pretty quickly. It felt chaotic* (delivery complication).

During the chaos of the event, nurses described that they had to process events as they occurred and complete requirements that were necessary for their job at the same time. Subthemes that arose include (1) *figuring out what is happening*, (2) *suffering the horror*, and (3) *pressure to complete documentation*.

Figuring out what is happening. Often as events unfolded, nurses described trying to react to the unfolding traumatic event while not always being clear on what is happening at the time. The act of processing events during this time was described as confusing. At the same

time, nurses recalled trying to reassure the patient and family by putting on an appearance of calm. The stressful nature of this experience is recounted as challenging.

> *I feel like I probably heard the last heartbeat of that baby, and I didn't know it. And I thought it was a lack of skill, and so I called in another nurse and asked for help to find the heart rate, and she didn't find it, but she also didn't tell me what she even thought. Like, I didn't even know what was going on at the time, because I was so new* (fetal demise).

Suffering the horror. Nurses often described feeling horrified or terrified by the events as they unfolded. Disturbing images, sounds, or the emotions and actions of others were difficult to forget for these victims.

> *Being in the moment, in that situation was one of the more terrifying moments that I had. Just because I didn't know if she was going to make it. I've never seen anybody with a postpartum hemorrhage that was that sick* (delivery complication).

Pressure to complete documentation. After these experiences, nurses found that they sometimes had the additional pressure of making sure to document what had happened and to complete incident reports that were required by their institutions. They reported having to delay their emotional response or stay late at work to get these requirements met and felt pressured by their managers or supervisors to complete them even if it meant coming back in to work.

> *So . . . that also meant writing up all the charting that needed to happen that hadn't happened because everything had happened so fast . . . I think I wrote an incident report on the mom, but I didn't write it on the baby, so I did end up getting a phone call that I needed to come back in . . .* (neonatal demise).

Experiencing the after-effects. In the original model, this stage of recovery was referred to as "Intrusive reflections", however in this study participants experienced a variety of symptoms following their traumatic events. Several distinct subthemes emerged as they recounted their experiences including (1) *reliving the event*, (2) *trouble sleeping*, (3) *difficulty returning to work*, (4) *avoiding situations*, (5) *trouble functioning as usual*, and (6) *inability to forget*.

Reliving the event. When describing their experiences, nurses indicated that they would think about the situation over and over in days and months following the event. Some participants indicated that they thought about details of the event or about the family repeatedly. One nurse stated:

> *For months after that event, I realized I was spending way more time praying for that family than even for my own. It was still haunting me. . . that first day was definitely the worst. That was my most emotional day. And then I'd have just little flashbacks of those emotions mostly* (neonatal demise*).*

One nurse experienced a maternal death and was plagued by this event and thought about it for years afterwards:

> *And it was my birthday. And I think that was the most traumatic thing because here I…I'm sorry [crying] . . . I didn't celebrate my birthday for 16 years* (maternal death).

Trouble sleeping. Additional psychological effects described by participants included those that impacted their sleep. Participants recalled that they had trouble falling asleep and experienced nightmares after their experiences. One participant explained:

> *Definitely had some dreams that I'm sleeping but I'm not. I'm like at work and something terrible is happening...Or just trouble sleeping the night before going back to work, and stuff* (delivery complication).

In most cases participants described this as transitory, lasting for anywhere from a few weeks to a few months after their traumatic event.

Difficulty returning to work. Many found it difficult to return to work, thought about calling out sick, or started to look for other job opportunities following these experiences. One nurse indicated that she left L&D nursing to take a job elsewhere for several years before deciding to return to this specialty. Some nurses moved into different roles while remaining in the perinatal or L&D specialty such as staff education or university teaching positions.

> *And I remember the trauma coming back to work . . . It would – it literally took me a month to get to a point where I wasn't crying every time I was walking into work* (maternal death).

Another participant explained:

> *It was nine months of just anxiety of going to work . . . Yes. I actually did take a couple mental health days, as I like to call them, because I had plenty of sick time, . . . and absolutely I found myself often looking for somewhere else to go . . .* (verbal abuse by physician).

Avoiding situations. Many nurses discussed a fear or aversion to being involved in similar situations again. For those whose experienced emotionally challenging or violent events with medical providers, participants mentioned not wanting to work with these providers again in the future or avoiding situations similar to what had led to the conflict. Nurses who had a patient experience that was traumatic often noted feeling nervous or afraid to work with similar patients and found ways to avoid these patients as much as possible.

> *I was definitely more afraid to take care of certain patients. [If] they assigned me a baby that was 29 weeks, I would get that fear again. It's like, "Give me 28, give me 30, don't give me 29." Just nothing rational about that whatsoever, but it would just – it would haunt me again* (neonatal demise).

Trouble functioning as usual. A common theme with participants was having difficulty with their usual tasks or routines following these traumatic events. Nurses reported feeling unable to do household tasks or function well at home. One remarked on how difficult it was to even walk to her car after her shift or feel comfortable driving home. Some reported feeling like they were in a "blur" trying to do some their normal activities.

> *I remember just driving home and being in a daze because it was a night shift. I can't function. I can't take care of my kids . . .I can't go to work and not cry . . . I don't know how I got home that day* (maternal death).

Unable to forget. Long after these experiences, participants recounted being able to remember very specific details about the events. The retelling of stories brought up raw emotions

for several interviewees. Although some of the details might become blurry (i.e., exactly who responded to help the victim, what happened immediately following), some details remained with the nurse, in some cases, for many years.

> *I'm just never going to forget. I won't forget the name of the baby, I won't forget the name of the parents, I won't forget the date or the time the baby was born . . . I still think of her on her baby's birthday. I still usually take that day off . . . I know how old her baby would be right now. [T]hat family will always be part of my life whether they ever remember my name or not* (neonatal demise).

Learning to cope. The original Second Victim Recovery Trajectory model did not include this as a step in the recovery process, however many participants recounted the struggles they had determining how to cope following their events and described a distinct phase that occurred after the post-trauma symptoms described previously. Second victims often utilized different ways to cope following their traumatic events. These coping behaviors were sometimes healthy or positive and at other times unhealthy or negative. All participants mentioned using some coping mechanisms to help move through their experiences. In one situation, a nurse described measures she took to reach out to a physician colleague after traumatic interactions that impacted the nurse. This participant also described utilizing the chain of command to help clarify expectations of behavior from this physician to help her cope with the event. Some nurses used negative coping mechanisms such as using sick time to avoid work and avoiding certain situations. In all instances, the nurse needed to work through this to continue functioning in their role as an L&D nurse or choose to move on from this role.

In some instances, nurses found that to cope with the event, they needed some type of closure with those involved with their trauma. For example, with one nurse, closure with the husband of a patient who died during labor was what helped her move on from her traumatic event:

> *And we talked for a little while. And he said, "Thank you . . . I can tell that this has been as hard for you as it's been for me" . . . We literally grieved together on that phone call . . . I think there has to be closure with the family at least. I think it's the guilt that nurses have to live with* (maternal death).

Challenging or restoring personal integrity. Like the original second victim recovery trajectory model, participants in this study reflected that the traumatic experience often made them question their competence or skill and spoke of how they worked their way back from that event. Describing their experiences of how the traumatic event impacted their confidence at work and relationships with colleagues, four subthemes emerged from the data including (1) *seeking support from colleagues*, (2) *What do others think?* (3) *Am I still a good nurse?* and (4) *feeling guilt or shame*.

Seeking support from colleagues. To cope with the event as it unfolded and during the recovery period, participants indicated reaching out for support or help from their colleagues, including nursing and medical providers. The participants indicated reaching out for help from others but experienced both supportive and unsupportive responses. At times, the traumatic event impacted not just the nurse but others on the unit as they suffered after-effects together.

> *The whole unit was down, very down, and sad for a few weeks. And it was just hard on everyone* (newborn death, delivery complication).

Several nurses reported reaching out to colleagues yet still feeling unsupported following these events.

> *To me, . . . that was the most frustrating. That's where I felt most unsupported . . . I still had that other patient. I was still responsible for that other patient* (neonatal demise).

However, regardless of the support received, nurses indicated that this was a natural step to help handle difficult events as they unfolded and often found support from at least one person among their colleagues.

What will others think? Participants often expressed feeling concerned about the perceptions of their colleagues regarding their competence or skill following the traumatic event. They wondered if others would still trust them, or their colleagues thought less of their abilities afterwards. The reactions of staff members at times made the nurse question her approach to a situation:

> *And so, I remember that the nurse . . . had these wide eyes, how are you talking to her like this? . . . But I did feel judged in that moment where I felt like they have never had to have this kind of interaction with a patient, and I've had to have it so much* (fetal demise).

Or as one participant stated:

> *I guess the way that the doctor was kind of making me feel, he made me feel as if I had done something wrong* (delivery complication).

Am I still a good nurse? The concern over their colleagues' perceptions of them at times led the nurse to question her own skills and abilities as well. They struggled with confidence especially when dealing with situations similar in the future. This at times led to the nurse avoiding situations as mentioned previously. Participants made statements such as, *"Maybe I never felt like I was the best nurse in the room after that"* (neonatal demise) and:

> *It was my notes that they went over. With the physician saying, ". . . this is what happened. Is this what happened? Did this happen? And I – it's panic. And then it's – and it's a feeling of inadequacy. . . I definitely remember saying…just holding my breath. Saying please, don't let it be me that caused something to make her die"* (maternal death).

Feelings of guilt. The nurse at times reported feelings of guilt or shame about what happened to the patient. For many of the events that were found to be traumatic, the nurse wondered if there was something that they had done wrong or could have done differently to make the situation have a better outcome. Even if others in their work environment refuted this, some still harbored these feelings of guilt about their role in the incident.

> *. . . then you feel guilty, what if I had been faster? Could they have done a C-section and save[d] that baby? And I – you know, I don't know. I don't think we could have [saved the baby], I don't think it would've been possible. But you know you still always think, "What if?"* (fetal demise).

Enduring the inquisition. When events do not go as planned in the hospital environment and patient outcomes are impacted negatively, a legal or regulatory review is completed. This is done to perform a root-cause analysis and determine areas for improvement at the unit or hospital level to avoid repeat events. Sometimes these reviews are done to prepare for potential or impending legal challenges. In the development of the original second victim recovery trajectory model, this stage was evident because participants in this prior research were involved in traumatic events that were due to medical error or involved adverse patient events. In this study, not all participants recounted traumatic events that led to this type of review, but for some, this was an important part of their recovery trajectory.

Fearing for one's job/feeling interrogated. These legal meetings were distressing to most as they had to review their documentation and explain their actions during the event. This brought up difficult emotions as they had to relive the event and felt pressure to disprove fault. One participant did note that the review felt helpful to her as she was glad to speak about the event to others. Others described feeling interrogated and being made to feel that they had blame in the situation.

> *And they will sit down with risk management and kind of talk through what happened. . . You hope that you dodge the bullet. Right? And I think that was probably the most difficult thing is sitting down there with everybody who's involved in the case* (maternal death).

Obtaining emotional first aid. Participants spoke in depth about the types of support they received after the traumatic events, their feelings about different support options and how available support was for them at the time. They reported a wide variety of responses to the

supports that were provided. Subthemes that arose included: (1) *reactions towards support*, (2) *availability of support*, (3) *support from family and friends*, (4) *support from managers/supervisors*, (5) *support from colleagues*, (6) *support from faith and church family*, and (7) *support from the institution*.

Reactions towards support. Participants spoke at great length on their feelings about the support they received and their desires for support options. Some expressed negative reactions on what was available for them at the time and described the emotional support as inadequate or unhelpful. Many participants also stated that support was likely available at their institution but they either were not referred to these programs or chose not to utilize them. Some expressed wishes for particular options to be offered in the future, and others who had experiences long ago stated that they believe their institutions are better at providing support now than they were when their traumatic events occurred. Some expressed that some support options were inadequate because they just didn't understand the impact on the L&D nurse experience.

> *And there wasn't any follow-up . . . I don't think anybody even understood the impact that had on me to not only be there for probably the presence of that baby's death* (fetal demise).

Availability of support. The nurses in this study reported that they often did not know what support options were available at their institution or did not think that the hospital had anything that would be useful to them. One nurse stated that she was sure that there was something available to her, but that no-one reached out to let her know how to access those resources. One nurse spoke about how her experience in the emergency department following traumatic events differed to what occurred following a tragic event on labor and delivery:

> *We had . . . something happened . . . in the ED . . . that we had the company therapist come in and speak to the ED. And I went to HR . . . and I said, "We need them to come here [to L&D] . . . Human Resources was not [supportive] until I actually explained exactly what happened. And then they were like, "Oh, my God, of course, you need that*

> *support." So, we did get the – therapist came in. And I want to say probably half the staff went and spoke with these people, which was good* (maternal death).

Support from family and friends. Participants recounted having spouses and other family members who were supportive after their experiences. However, the effectiveness of this support was tempered by the inability of family and friends to truly understand their experience, the inability to share all information with family due to HIPAA regulations, and the need to spare family members from tragic events that they felt might be traumatic to them in turn. As one nurse stated:

> *And I didn't want to talk too much about it, because I didn't want to upset them. They just had a baby. And I don't want to talk about somebody dying from having a baby. So, it was a rough time. I had some friends that I could talk to, but I tried not to talk about it to the family too much because of the new baby. It was a rough time* (maternal death).

Several participants spoke about friends or family members who were also nurses and that they provided much needed support as they were more able to understand the impact of their traumatic events:

> *I don't want to continually burden my friends, and my significant other, and my family with all of these huge emotional things that I feel. . . talking to my mom is another thing I do often; my mom is also a nurse, she doesn't work in a clinical format anymore, but she's just my trusted confidante that I often call and talk to* (taking care of aggressive patient).

Support from supervisor/manager. Participants reported receiving both adequate and inadequate support from their supervisors and managers following traumatic events. Nurses felt positively towards being offered time away from the unit, being able to take a break from patient care or receiving a day off to recover. Many nurses however reported having a manager who did not understand the impact on the worker and did not try to reach out to the employee. One nurse who worked mainly night shifts explained the disconnect with their manager in this way:

> *It's that special manager who does the follow-up and just – and really does say: Are you doing okay? Is there something I can do to help you through this? I think they try to do*

> *that. But it – if they don't have a rapport with – and they don't know who you are, or you work on a night shift. And you don't have that rapport. It just makes it hard for it to feel genuine* (maternal death).

One participant expressed appreciation for the follow-up by a supervisor and what it meant to her recovery:

> *I think my assistant manager asked me again later about it, and I think the next day just asked me . . . how it went. Which was nice - you know it's nice to know that they, of course, care about your well-being* (taking care of aggressive patient).

Support from colleagues. Many participants spoke highly about the support they received from colleagues, especially the other L&D nurses on their unit. They reported having nurses who repeatedly reached out to ask how they were doing, offering to cover patients to provide respite for the nurse, and giving the nurse a chance to speak about the event with someone who understands what they are going through. They also reported supportive actions by midwives and obstetricians who worked alongside them.

> *And everybody was, "What can we do? How can we support you?" I know they were giving me the easiest…the easiest patients* (maternal death).

In instances where the traumatic event involved bullying or incivility by a shared colleague however, support was often difficult to obtain with unit staff appearing to take sides and withholding support from the traumatized nurse. The lack of support added to the trauma experienced by the nurse in these instances:

> *It came to where no one would help me, even in the dangerous situations. I would go into a med room and I'd be followed in by seasoned nurses just tormenting me, "Well, you got what you deserved"* (physician violence).

Support from faith/church family. Participants also reported reaching out for support from their faith community or using prayer. As one participant stated, she found this type of support more effective than what she had received at her institution:

> *I mean, it was more helpful for me to go to my pastor than it was for me to go to employee services . . . I went to church a lot more. Asked God: Why? Why? Why? [I] had my parents pray for me and had my pastors pray for me. I think for me I think everybody figures out a different way to cope. For me, it was just, okay God, you've got to help me with this* (maternal death).

Support from the institution. All participants reflected on ways the institution they worked in provided support to them. There were many instances in which the nurse was unsure what options were available to them or how to access those services and expressed that it would have been better for someone to have reached out to them directly. Some nurses tried to use services such as employee assistance programs (EAP) but felt that the resource was not helpful to their recovery. One nurse described a positive experience with the EAP counselor once she finally used their services:

> *Nobody said anything about EAP at that time . . . I made an appointment to go see an EAP counselor. And the first time I saw the counselor, I don't think I let the counselor say a single word. I just wept. I just talked and wept and talked and wept and talked and wept. And this is four months after the event . . .* (neonatal demise).

A recurrent theme when discussing institutional support is that once utilized, it was often found helpful, but nurses now wish that someone had reached out to them to offer the support that was needed. One nurse spoke of some advances made in their institution that is hard-hit by COVID-19 in which emotional support is more readily available to all staff:

> *Well, since COVID, we've been very, very hit. . . So, we actually have these people that come twice a week now . . . and people do take advantage of their presence. So, I think that they're very aware of things can happen, that aren't necessarily good all the time. And then they're trying to support the staff. So, I think that's great* (maternal death).

Moving on. Following traumatic events, nurses reported how these events impacted them both personally and professionally. Although the original model of Second Victim Recovery Trajectory indicated that impacted workers follow one of three paths (*Dropping out, Surviving, or Thriving*), in some ways participants talked about ways that they followed several

paths simultaneously or over time. Dropping out refers to the healthcare worker leaving the profession or moving on to another position. Surviving indicates that the healthcare worker continues on but is continually haunted by the event. Thriving refers to the trajectory of using the experience to change practice or grow personally from the event. Participants in this study described scenarios in which they may be thriving in some ways, yet still surviving in others. Others chose to drop out of the profession but used that experience to grow in other areas or returned to L&D afterwards with renewed purpose. In this way, it appears that these nurses follow a split trajectory in which there is not just one road taken in their recovery trajectory but can experience more than one concurrently. For example, one nurse expressed that she had *dropped out*:

> *. . . and I actually did leave the bedside for a little while. I left the bedside for about nine months and took another job because of it* (physician verbal violence).

but then consequentially described that she is *Surviving* from this event:

> *And then also that the only choice that you have, and the only control you have is you either rise above, learn and be, thrive and be a survivor or give up, run away and find something else that you're happy with. And through a lot of prayer and a lot of self-reflection, I've stayed. I mean, I'm still working it. It's what I love. It's what I do. But I can tell you, I'll never go to midwife school, I never want to go as far as a thought I would go* (physician verbal violence).

In addition, this same participant described ways in which she is *Thriving* following the event and putting her experience to use to improve the experiences of others:

> *So, as a victim I don't see myself as a victim anymore. I see myself as a survivor. But I just really feel like I can support the newer nurses. If that's all I can take from it, I can at least be a shoulder, and be like, "While everybody else is telling you the first year in L and D is hard because you got to prove yourself, there's a right way to treat someone, and I'm here for you if you're not being treated well. If anything, you can come talk to me." . . . So, while I'm informally doing that for my newer peers . . . it's the way I feel I can help* (verbal abuse by physician).

CHAPTER V: DISCUSSION

The purpose of this study was to describe how labor and delivery (L&D) nurses define traumatic experiences in the workplace and to uncover how best to support their recovery following traumatic event exposure. This multimethod study utilized both quantitative and qualitative methods to gain a deeper understanding of events found to be traumatic in labor and delivery as well as explore the recovery trajectory for nurses following these events. This chapter will discuss the quantitative and qualitative findings separately, summarize key findings from the two arms of the study, explore implications for practice, policy, and future research, and discuss limitations of this study.

Quantitative Findings

Desired and Actual Institutional Support After Traumatic Events (Research Question 1)

In this study, all support options were desired by over 70% of participants, indicating that labor and delivery nurses want a variety of support options to aid in recovery after traumatic events. The most desired option was having a specified peaceful location to recover (96.5%), followed by having a discussion with one's manager about the incident (90.6%), and having the ability to take time away from the unit (87.1%). A smaller percentage of L&D nurses desired having a confidential way to get in touch with someone 24-hours a day (73.1%) and having the opportunity to schedule time with a counselor (72.5%). These findings are consistent with prior research (Burlison et al., 2017; Finney et al., 2020; Mok et al., 2020; Winning et al., 2020). Findings from this study also support previous research indicating that receiving emotional support from one's peers (Burlison et al., 2016; Carvello et al., 2019; Finney et al., 2020; Mok et

al., 2020; Seys et al., 2013; Winning et al., 2020) and one's manager (Fukui et al., 2019; Takase, 2010) play an important role in decreasing turnover for healthcare staff. In those who have experienced occupational violence, workplace environment and supervisor support have been shown to increase the incidence of receiving post-incident support (Shea et al., 2018). In this study, having the opportunity to take time away from one's unit was highly desired, however there has been limited research on the specific benefits of taking time away from the healthcare work environment. In one previous study involving emergency pre-hospital workers, it has been suggested that working in high pressure environments with little down-time has been shown to impact mental health, with a lack of supervisor support increasing that level of stress (Smith et al., 2019). Based on this and previous research, evidence indicates that healthcare organizations should ensure that a variety of support options are available including managerial support, peer support and other forms of desired support to those in need.

This study is the first to compare desired support options of L&D nurses with what has been offered or available at the time of a traumatic event using the Second Victim Support Desirability Survey. In this study, there are great disparities found between the most highly desired support options and the available forms of support for L&D nurses, indicating that the emotional needs of L&D nurses are not being met. For example, speaking with one's manager was desired by 90.6% of the study sample, yet was only available for 22.2% of these nurses. In addition to being able to take time away from the unit, only one support option, having an employee assistance program (EAP) that provides counseling services, which was desired by 84.8% of respondents and available for 63.2%, demonstrated an area in which healthcare institutions may be partially meeting the desired needs of L&D nursing staff. EAPs have been instituted in healthcare institutions to aid in preventing clinical, administrative and disciplinary

issues by identifying and resolving immediate and long-term needs of employees and assist employees in dealing with experiences of patient death (Rotarius et al., 2000), Traditional EAP programs are offered to assist employees with a myriad of issues including free or low-cost counseling services, debriefing after events, assistance with legal or family issues, wellness discounts, shopping, travel and leisure discounts, to name a few. A higher percentage of L&D nurses in this survey however indicated that other support options are desired, such as a discussion with one's manager (90.6%) or taking time away from the unit (96.5%), which are not ones that are often supplied by EAP programs. Findings from this study suggest that EAPs might support trauma-exposed nurses better by providing additional resources such as facilitating discussions with managers about traumatic events, advocating for nurses to find time away from patient care activities, or providing serenity rooms in which one could recover after an event.

Another highly desired support option that was not readily available for L&D nurses is having a respected peer with whom to discuss the event (79.5% versus 19.9%). Peer support programs have been developed in some institutions to help with this unmet need and have been integrated into some EAPs. There are reports of successful deployment of peer support programs, such as "YOU Matter" at Nationwide Children's Hospital and the "forYOU" Team at Missouri Health Care, in the literature (Merandi et al., 2017; Scott et al., 2010). These programs demonstrate improved emotional well-being and return-to-work metrics for healthcare staff. However, EAP and peer support programs are often initiated in healthcare institutions with insufficient evaluative processes in place (Edrees et al., 2017). Further research is needed to determine the effectiveness of these programs and determine if provided supports are assisting the labor and delivery nurse's recovery following traumatic event experiences and meeting the desired needs of the staff.

Impact of Traumatic Event Distress on Employee Outcomes (Research Question 2)

Results from this study link traumatic event exposure with psychological and physical distress symptoms, absenteeism, turnover intentions, and resilience for traumatized L&D nurses. In this study, psychological distress, overall distress, and lack of institutional support were positively associated with absenteeism and turnover intention among traumatized L&D nurses. In addition, institutional support was positively associated with resilience for these nurses, although psychological distress and overall distress were not significant factors in nurses' resilience. In this study, of those L&D nurses who had left their positions, a striking 22.9% revealed that they had left, at least in part, because of their traumatic event experiences.

These results support previous studies that also demonstrate the existence of poor outcomes for healthcare staff following traumatic event exposure including burnout, compassion fatigue, and secondary traumatic stress (Balch et al., 2009; Beck, 2011; Burlison et al., 2016; Goldbort et al., 2011; Missouridou, 2017; Sheen et al., 2016b) and that a perceived lack of supervisory and/or institutional support is associated with increased intent to leave one's position and taking time off from work (Edrees et al., 2017; Fukui et al., 2019; Gray et al., 2019; Shea et al., 2018; Takase, 2010). A variety of measurement tools have been utilized in previous research to examine issues related to these detrimental impacts on all healthcare workers (Adams et al., 2008; Bride et al., 2004; Maslach et al., 1986). The Second Victim Experience and Support Tool - Revised (SVEST-R) was developed to gain a deeper understanding about the impact of second victim events on all healthcare workers; however, it has had minimal use since its development. One previous study using the SVEST tool found that second victim experiences (including psychological distress, physical distress, and professional self-efficacy) were significantly associated with absenteeism and turnover intention (Burlison et al., 2016). This prior study

combined all subscales related to support (institutional support, supervisor support, and colleague support) to form a composite organizational support dimension and found that organizational support fully mediated the relationship between distress and both absenteeism and turnover intention.

Experiencing psychological distress, burnout, compassion fatigue, secondary traumatic stress and receiving poor support from their institutions can cause employees to call out of work or quit their positions (Adriaenssens et al., 2015; Austin et al., 2017; Wells-English et al., 2019). This is challenging for the healthcare organization as it may lead to other employees having to work short-staffed, which in turn increases the risk for errors, burnout, and increased costs (Baxter et al., 2015; Carlton & Blegen, 2006; Hämmig, 2018). This study and prior research demonstrate the negative effects of traumatic experiences on staff and workplace outcomes. This study also highlights the desired supports of L&D nurses. Future research is needed to develop interventions targeting these desired outcomes to improve workplace outcomes.

Qualitative Findings

Interviews conducted with nurses who have experienced at least one traumatic event in the L&D setting helped answer questions about how they define these experiences, how they describe the recovery following traumatic events, and how these second victim experiences compare with the Second Victim Recovery Trajectory (Scott et al., 2009).

How Do L&D Nurses define and experience traumatic events? (Research Question 3)

L&D nurses described a variety of event types that they determined to be most traumatic to them, echoing findings in the quantitative portion of the study. These events included those commonly focused on in the literature (e.g., maternal death, newborn death, fetal demise, delivery complications) as well as less recognized traumas (e.g., workplace violence, caring for

victims of human trafficking, participating in pregnancy terminations). Often these events were described as traumatic in nature due to being different from what they had expected, finding themselves in situations more complex than they had envisioned, or involving situations that were emotionally difficult to endure. Although the variety of experiences may have been different for each nurse, the emotional impact of the event was often long-lasting. In talking about how traumatic events unfolded, nurses expressed sentiments of disruption to core beliefs that they held about themselves, their work, and the world around them.

Core Beliefs. In this study, many nurses reported that their basic assumptions about the world were shaken because of their traumatic events in the workplace. In the retelling of their stories, nurses in this study spoke about disruptions to the core beliefs that they hold regarding their role as an L&D nurse. Individuals in this study spoke of ways in which their assumptive views of the world were dramatically disrupted and how these events impacted their view of L&D nursing moving forward in their careers. Unlike patients in other hospital units, there is an expectation of wellness and good outcomes for laboring women and participants indicated that support services provided to other hospital units such as the emergency department after traumatic events were not quickly offered in L&D. Nurses also reported strong beliefs related to caring for patients in the L&D setting and report having autonomy in their practice, in that they work very closely with their patient, form close bonds with the families under their care, and make decisions minute by minute that affect the course of the patient. Deliveries that do not follow an expected trajectory often shatter the core beliefs for the nurses caring for them. In addition, there is an expectation of behavior from others around them as the L&D nurses, physicians and midwives work closely as a team. Disruptions in what to expect from these

interactions can often lead to severe trauma for the L&D nurse. Incivility or bullying behavior is not expected, and when that occurs, the nurse's core beliefs are disrupted.

This is the only known study to use qualitative methods to examine the traumatic experiences of L&D nurses through the lens of the Core Beliefs Model. Highlighting the disruption in core beliefs for these nurses is important as these disruptions contribute to distress experiences but can also be a facilitator of post-traumatic growth in individuals who have experienced trauma (Cann et al., 2010; Tedeschi & Calhoun, 1995). As described in previous literature, these shaken core beliefs along with cognitive rebuilding can lead to positive changes in how the individual views the world and makes sense of their experience (Cann et al., 2010). Only one study has examined the posttraumatic growth of labor and delivery nurses following traumatic event exposure (Beck et al., 2016). Researchers using measures of the Core Beliefs Inventory (CBI), the Posttraumatic Growth Inventory (PTGI), and open-ended questions regarding positive changes to their life found that L&D nurses reported a moderate disruption in their assumptive world following their experiences, and moderate levels of posttraumatic growth.

Despite prior research showing that posttraumatic growth can occur following the shaking of one's core beliefs, this was not observed in the current study. A possible reason for this is the lack of supports available to participants after the traumatic experience. Often participants described that the support offered following their experiences was lacking and indicated that education regarding how best to deal emotionally with these events was not provided. Quantitative findings of this study demonstrate a correlation between institutional support and resilience further endorsing the critical need for improved support services for trauma-affected L&D nurses to assist in the progression towards posttraumatic growth. Further research is needed in this area to determine the presence or absence of posttraumatic growth for

L&D nurses following traumatic event experiences and how best to support positive growth for these nurses.

L&D Nurses Experiences of Recovery Following Traumatic Events (Research Question 4)

Participants in this study described specific detail about their traumatic events and how they experienced recovery. Similar to previous research, nurses described symptoms of burnout, compassion fatigue, and secondary traumatic stress (Balch et al., 2009; Beck, 2011; Figley, 1995; Missouridou, 2017). In this study, many nurses indicated that the support of colleagues helped aid their recovery, similar to previous studies (Merandi et al., 2017; Scott et al., 2010). Unfortunately, in this study, nurses reported that often their manager was not supportive following their events, and often failed to meet the expectations of traumatized L&D nurses. Several participants indicated that they felt their manager was ill-equipped to provide the emotional support needed or might not have the proper training for this support role. Additional themes that emerged around the recovery process are discussed under *Research Question* 5. A discussion of these findings related to improved practice are discussed in the *Implications for Practice* section below.

Comparison of Experiences to the Second Victim Recovery Trajectory (Research Question 5)

Like the original model of the Second Victim Recovery Trajectory, nurses described moving through distinct stages after their experiences. The original model proposes that people experience the first several stages (i.e., *Chaos and accident response, Intrusive reflections, and Restoring personal integrity*) concurrently, however nurses in this study described a more linear movement through the model. Nurses also spoke at length about learning how to cope with what had happened, and this was added as an additional step in the trajectory, as these coping behaviors helped nurses restore their personal integrity and seems to be integral to reach this step

of recovery. A significant difference in the model however appears in the *Moving On* stage of the recovery trajectory for L&D nurses. In the original version of this model, the experience of nurses is described as moving to one of three final paths (i.e., *dropping out, surviving, or thriving*). Based on this study, the model was revised to account for the potential to simultaneously follow any number of these paths. For example, a nurse may decide to leave his or her position following the event (*dropping out),* but also taking on an educator role to help guide future nurses because of this event (*thriving*). In several interviews, nurses spoke of experiencing more than one outcome in their second victim recovery trajectory.

In speaking of their experiences, participants indicated that they received and sought out support from multiple sources. Previous research indicates specific needs of individuals who have experienced traumatic event include (1) talking to someone about the incident, (2) validation of their decision-making process, (3) re-affirmation of their professional competence, and (4) personal reassurance (Newman, 1996). Meeting these needs is an important part of the coping process (Nydoo et al., 2020). For L&D nurses, these specific needs can be met by having support from colleagues, managers, and the institution. Participants in this study often reported strong support from nursing colleagues after their experiences, but frequently cited that the support from their managers and institution was lacking. These findings have implications for further training at the organizational and/or unit level to better support nursing staff traumatized by these events.

As referenced earlier, the massive disruption to one's core beliefs can lead to posttraumatic growth for some but is best facilitated by support interventions to aid in cognitive rebuilding (Calhoun & Tedeschi, 2013). The nurses in this study described gaps in support received which may have led to missed opportunities for growth following their events. Calhoun

and Tedeschi (2013) developed a theory-driven posttraumatic growth intervention recommended for use with healthcare workers. These interventions include education for involved workers on the psychological impact these events may have on them, emotional regulation training, constructive self-disclosure, creation of new narratives with posttraumatic growth themes, and exploration of new life principles. Providing education to L&D nurses following events on how their emotional well-being and psychological health may be impacted could be beneficial. In addition, nurses should receive continuing education on secondary traumatic stress to help prepare for future events as suggested in previous literature (Beck et al., 2016). The other three interventions suggested by Calhoun and Tedeschi (2013) involve interventions between the nurse and another individual as a guide. Constructive self-disclosure can be accomplished by allowing the individual to share their experiences in a safe space, such as a supportive group of colleagues or a non-punitive staff debriefing. Helping the L&D nurse create new narratives or explore new life principles can be the role of a supportive nurse manager or a structured peer support program.

A concerning finding was the revelation that institutional supports were likely present in many cases, but that the L&D nurse was not directed towards these support offerings or chose not to use them. Nurses perceived that what was offered would not benefit them, and that some institutional support personnel were waiting for affected staff to ask for what they needed, when those staff have no idea at the time what that might be. Following traumatic events, employees have certain expectations of their employers, and it is likely that employees will become more traumatized if the institution does not meet those expectations (Silver, 1986). In addition, after these events, intrusive memories and disordered arousal can lead affected workers to avoid people, situations, or places that remind them of the incident (Tehrani, 2004). The natural

inclination for avoidance for one who is suffering symptoms of STS may make it harder to reach out to available supports, suggesting that proactively providing support to affected employees is a more effective solution. In the aftermath of events, the L&D nurses in this study were often not provided any respite from care delivery to others. The processing of their trauma is often put aside to continue patient care. L&D nurses report that there is initially overwhelming support from those around them that then quickly subsides, leaving the nurse to handle alone. There is more work to be done in this area to determine better structures to support nurses over the entire course of their recovery trajectory.

The recovery trajectory for L&D nurses after experiencing traumatic events had similar elements to those in previous studies (Scott et al., 2009; Sheen et al., 2016a). Trauma experiences in L&D can have a profound impact on the psychological and physical well-being of nurses (Shorey et al., 2017) and the recovery trajectory following events is still not well understood. Comparing the stories of nurses in this study to the Second Victim Recovery Trajectory model was one step in understanding these experiences better and suggest improvements in support structures to aid improved outcomes for nurses.

Summary of Key Findings from Quantitative and Qualitative Results

Findings from the quantitative and qualitative portions of the study supported each other in several areas. Findings related to gaps between desired vs. available support offerings experienced by L&D staff in the quantitative portion of the study were echoed by participants in qualitative interviews. Survey participants, for example, reported strong colleague support following their experiences which was also indicated by participants during interviews. Participants also reported a high amount of psychological distress in the quantitative survey and described symptoms of secondary traumatic stress in the qualitative interviews.

The Second Victim Recovery Trajectory by nature supports the nature of the traumatic event experience for L&D nurses as an experience over time. The recovery for nurses is not immediate and can evolve over varying lengths of time dependent on the type of event and the individuals' prior experiences. Nurses often reported participating in debriefing sessions following the event but received poor follow-up support in the ensuing weeks and months. L&D nurses have reported being told to "reach out" to the institutional supports if needed. However, it is evident by the SVEST-R results that absenteeism and turnover intent are associated with a lack of institutional support experienced. This indicates that promoting stronger institutional support over the course of the recovery trajectory may aid in lessening the desire of nurses to call out of work or leave their positions following these events, consistent with other work in this area (Liu et al., 2018; Yang et al., 2020).

Survey participants indicated a strong desire for the support of their manager or supervisor and having a peer with whom to discuss the event, which was also echoed by interviewees who felt that the support offered to them was inadequate at the time. However, many of the participants described events in the remote past, and as such, may not reflect current support offerings in their institution. One participant recognized an improvement in her current institution in response to staff needs during the recent COVID pandemic.

A plethora of research is emerging on how best to support the emotional health of staff dealing with issues related to the pandemic (Luo et al., 2020; Manzano García & Ayala Calvo, 2021; Walton et al., 2020; Xiao et al., 2020). Strong, empathetic leadership with clear communication has been shown to assist staff ability to cope with workplace stressors in the COVID environment, a finding which is applicable to the care of staff affected by other types of trauma. In the literature, instituting a peer support model has been effective in improving support

utilization and decreasing burnout, compassion fatigue, and resilience of staff members (Busch et al., 2021; Keyser et al., 2021; Michael & Jenkins, 2001). L&D nurses dealing with traumatic events can benefit from interactions from leaders and institutional supports that recognize and understand the impact of these events on the individual and provide ongoing services to support throughout the recovery trajectory.

Implications for Practice

As indicated earlier, there are gaps related to the support experienced by L&D nurses at both the unit and institutional level. L&D nurses experience the after-effects of traumatic events over a period of time and providing emotional and psychological support throughout the course of their experience would be beneficial to decrease not only absenteeism and turnover intent, but other known poor outcomes such as burnout, compassion fatigue, secondary traumatic stress, and medical error.

Evidence from this study demonstrates that managerial support does not always meet the needs of L&D nurses, indicating a need for further training for nurse managers in this area. The role of a unit manager is multi-faceted, requiring education in many areas including budgeting, finance, hiring practices, among others. Emotional intelligence (EI) may be an important element of effective manager support; however, evaluation of and training for EI of nursing management is not well described in the literature. EI is the ability to perceive, understand, manage, and use emotions in oneself and others (Fernández-Berrocal et al., 2014) and is not yet well integrated into the education for healthcare professionals (Flowers et al., 2014). EI consists of four dimensions: self-awareness, self-management, social awareness, and relationship management (Codier & Codier, 2017) and is described in more detail in Table 13. Evidence supports the association between EI and leadership, communication, and teamwork and has been incorporated

into the development of healthcare leaders (Cox, 2018; Flowers et al., 2014). A few nurses in this study described positive interactions with nurse managers after their traumatic events that were described as supportive, but others indicated that their manager did not understand the impact on them or didn't make an effort to reach out to them to see how they were doing. Evident from this study is the need for further EI education, training, and support around social competencies for managerial and supervisory staff so they, in turn, can support the emotional needs of nurses under their care.

Table 13

Emotional Intelligence Competencies (Cox, 2018)

Personal Competencies	**Social Competencies**
Self-awareness *ability to understand one's emotions* Emotional self-awareness Accurate self-assessment Self-confidence	**Social Awareness** *ability to understand other's emotions* Empathy Organizational awareness Service
Self-management *ability to use one's emotions for reasoning and problem solving* Emotional self-control Transparency Adaptability Achievement Initiative Optimism	**Relationship management** *ability to effectively manage emotions in self and others* Inspirational leadership Influence Developing others Change catalyst Conflict management Building bonds Teamwork and collaboration

At the institutional level, there is evidence that peer support programs may influence the recovery trajectory of L&D nurses more effectively than other types of EAP programs such as providing counseling services or performing group debriefings. Although EAP programs and activities are helpful and desired by some, most L&D nurses indicated that having a respected peer to talk with about their experiences is highly desired. Informal peer support is often used in both the L&D area as described by nurses in this study, as well as nurses in other areas of

nursing (Jahner et al., 2020). Few institutions have implemented a more structured peer support program. L&D nurses in this study often spoke about institutional support staff not understanding the unique experiences of L&D traumatic events, and therefore identify another gap in provided care. Institutional support programs may underestimate the emotional distress of nurses working in an area that is often looked at as being a "happy" place and miss opportunities to adequately provide for L&D staff. Implementing a structured peer support program with members that share common experiences may be a better way to emotionally support the recovery trajectory for L&D nurses. Further research is needed in this area to determine specific ways to develop and implement programs that will meet the needs of L&D nurses who experience traumatic events.

Further Research

This research study examined the second victim experience of L&D nurses utilizing a survey instrument with limited use prior to this study. Based on the limited confirmatory analysis completed, some items may need to be adjusted, reworded or removed for adequate use in this population of nurses. A validation study for this instrument is warranted to confirm its use going forward with both L&D nurses as for nurses whose traumatic experiences involve more than medical error or unexpected events. It is clear from this study that L&D nurses' experiences of trauma include a much broader range of experiences, and as such, this instrument may need further development to adequately capture the experiences of these nurses.

This study has demonstrated that more needs to be done at the unit and institutional level to support emotional needs of L&D nurses. Further research into how best to improve and develop the emotional intelligence of nurse managers is warranted so that they can be more prepared to emotionally support their staff. Additionally, further research into the development

of peer support programs across institutions is needed to ensure that programs are supporting staff effectively.

The National Partnership for Maternal Safety recently published a safety bundle for support after a severe maternal event, recommending that a multidisciplinary approach is needed to adequately respond during and after these events (Morton et al., 2021). The bundle provides evidence-based resources for supporting both primary victims (patients and families) as well as second victims (maternity care providers). Recommendations for supportive care are organized into four domains including *Readiness, Recognition, Response, and Reporting and System Learning.* The consensus bundle has drawn on literature from psychology, social work, social sciences, nursing, midwifery, and medicine to assist institutions in quality improvement efforts to best support trauma-exposed clinicians. This safety bundle is a tool that can be used by institutions to develop and provide better support structures for L&D nurse second victims.

Limitations of this Study

A limitation of this research relied on participant recall of past events. Many of the traumatic events happened in the remote past, and there was a potential for an inability to accurately remember events as they actually happened. Participants were encouraged to report was they remembered as best as they could recall and not guess about details that were less clear. There is a however, a possibility of recall bias in the retelling of participants' stories.

Limitations of the study may have also arisen if participants were not comfortable sharing everything about their experiences, especially if these are very traumatic, cause distress, or make the participant feel embarrassed or guilty. Processes related to storing and non-disclosure of personal information was clearly reviewed with participants before beginning the interview to ease potential fears related to sharing of personal information.

In addition, a limitation of the study is that the primary researcher is a labor and delivery nurse with a history of traumatic event experiences. The potential for researcher bias is high, and therefore the primary researcher was vigilant in creating memos and reflections during the qualitative portion of the research to recognize researcher bias. This occurred after each interview and then continuously during the coding and analysis of data.

Finally, the sampling strategy chosen for the quantitative methods may present an additional limitation. The use of a convenience sample of labor and delivery nurses recruited from a large, national organization enabled adequate recruitment of the study sample. However, the use of a convenience sample might not have yielded results that are as easily generalizable to the general population of L&D nurses (Setia, 2016). All participants were recruited from the AWHONN national organization, a group dedicated to clinical education and support for obstetric and neonatal nurses. Even though 3.6% of the sample reported leaving L&D nursing due to a traumatic event, it is likely that nurses who have completely left the L&D nursing profession are less likely to remain members of this organization, therefore underrepresenting the true magnitude of this problem. By recruiting solely through this one organization, the voices of nurses who have left this area of nursing due to their traumatic event experiences are less likely to be captured via this method. Further work utilizing different recruitment strategies is needed to understand more about the scope of the problem related to turnover intention for L&D nurses following traumatic events.

Conclusion

This study highlighted the needs of L&D nurses following traumatic event experiences. The nurses reported many different types of experiences that they found to be traumatic and described how they experienced recovery following these events. L&D nurses desire supportive

elements in the workplace including support from colleagues, managers, and the institution, but often found the delivery of these support interventions lacking. Managers may not have the training to help with the difficult task of providing the emotional support that L&D nurses need. Also, L&D nurses face traumatic experiences that are unique to this area, and mention that EAP programs often do not understand how these events impact their core beliefs. L&D nurses often experience psychological and physical distress because of these events, which have a potential to lead to absenteeism and turnover intentions for the employee. Indications for workplace improvements include Emotional Intelligence training for managerial and supervisory staff members, and the development of peer support programs to provide support options that are often desired by L&D nurses and decrease these negative workplace outcomes.

L&D nurses follow a recovery trajectory following second victim experiences similar to that of other healthcare workers. Revisions to the Second Victim Recovery Trajectory model (Scott et al., 2009) included how L&D nurses cope and move on following events. Additional research is needed to understand more about the scope of the problem and to investigate best practices to assist L&D nurses following traumatic events.

APPENDIX A. SECOND VICTIM EXPERIENCE AND SUPPORT TOOL-REVISED (SVEST-R) AND SECOND VICTIM SUPPORT OPTION DESIRABILITY

Labor and Delivery Second Victim Experience Survey

Introduction Screen

Thank you for your interest in the Labor and Delivery Nurses' Experiences of Traumatic Events study. This survey is the first part of a PhD dissertation project at the University of North Carolina at Chapel Hill School of Nursing.

This study involves asking personal questions about your past experiences of events that have felt challenging, emotionally difficult or traumatic while working as a labor and delivery nurse. For your privacy, please make sure that you are in a private location before completing the survey. If you are not, you may close this webpage and come back at a later time to complete the survey.

Select the button at the bottom of the screen to answer a few questions to determine if you are eligible to participate in this study.

Thank you again for your willingness to improve knowledge of this important topic.

Eligibility Screening Questions

Have you ever worked as a labor and delivery nurse?

- ○ Yes
- ○ No

Have you ever experienced anything while caring for patients as a labor and delivery nurse which you felt was challenging, emotionally difficult, or traumatic?

- ○ Yes
- ○ No

(If no for either screening question, skip to ineligibility screen.)

What type of traumatic experience(s) was this? Check all that apply.

- ☐ Medical error
- ☐ Maternal death
- ☐ Newborn death
- ☐ Workplace violence
- ☐ Delivery complication
- ☐ Other _____

Ineligibility Screen

Thank you for your interest in the Labor and Delivery Nurses' Experiences of Traumatic Events study. Unfortunately, based on your responses, you do not meet the criteria for participation. If you know of others who may be interested in this study, please pass the link for the study on to them. If you or someone you know needs help with traumatic or emotionally difficult experiences, please reach out to the resources listed below.

Support Resources

Mental Health America https://www.mhanational.org/find-support-groups
MHA's work is driven by its commitment to promote mental health as a critical part of overall wellness, including prevention services for all; early identification and intervention for those at risk; integrated care, services, and supports for those who need them; with recovery as the goal.

Crisis Text Line https://www.crisistextline.org/
Crisis Text Line is free, 24/7 support for those in crisis. Text 741741 from anywhere in the US to text with a trained Crisis Counselor.

National Suicide Prevention Lifeline https://suicidepreventionlifeline.org/
The Lifeline provides 24/7, free and confidential support for people in distress, prevention and crisis resources for you or your loved ones, and best practices for professionals.

Eligibility Screen

Thank you for answering our initial questions. You are eligible to participate in this study. Before we begin, I would like to share some additional information about the study with you.

University of North Carolina at Chapel Hill
IRB Study #: 20-2902
Study Title: Labor and Delivery Nurses' Experiences of Traumatic Events
Principal Investigator: Catherine Crawford, RNC-OB, MSN

This research study seeks to understand more about the traumatic experiences of labor and delivery nurses in the workplace and identify ways organizations can provide support following these experiences. You qualify to take part in this research because you have worked as a labor and delivery nurse and have had experiences which you describe as challenging, emotionally difficult, or traumatic.

Being in a research project is completely voluntary. You can choose not to be in this research study. You can also say yes now and change your mind later. Deciding not to be in this research study or changing your mind later will not be held against you in any way.

If you agree to take part in this research study, you will complete a confidential online survey. The survey will ask questions about your demographics, your experiences during and following traumatic events and your desires related to different types of organizational support. This survey will take approximately 10-15 minutes to complete. You will have an opportunity to provide information at the end of the survey to be entered into a drawing for a $100 Amazon gift card. I expect approximately 165 people to take part in this research study.

You can choose not to answer any question you do not wish to answer. You can also choose to stop taking the survey at any time.

The possible risks to you in taking part in this study include:

- You will be asked questions about situations that may have been upsetting in the past and can lead to emotional distress. If this happens, we recommend seeking assistance from a trained mental health professional or crisis support resource. A list of support services is located below and will be available at the end of the survey as well. If at any time you wish to skip answering a question, or drop out of the study, that is your right.

Participation in this study will most likely not have any direct benefits for you. However, the information provided will be very useful in helping us understand the traumatic experiences of labor and delivery nurses and the organizational support options that are most desirable for them.

We will work to protect your privacy and confidentiality in several ways. We will not include information that could be used to identify you (e.g., email address) in our databases where the information you provide during the survey will be stored. All of the information you provide will be stored on a secure, encrypted website and password protected computer that can only be accessed by members of the research team. We will not share information about you or other

participants with people who are not part of the research team. If results of this study are published or presented, we will not include your name or other information that could be used to identify you.

Although every effort will be made to keep research records private, there may be times when federal or state law requires the disclosure of such records, including personal information. This is very unlikely, but if disclosure is ever required, UNC-Chapel Hill will take steps allowable by law to protect the privacy of personal information. In some cases, your information in this research study could be reviewed by representatives of the University, research sponsors, or government agencies (for example, the FDA) for purposes such as quality control or safety.

If you have any questions about this research, please contact Cathy Crawford RNC-OB, MSN by emailing cmcrawfo@email.unc.edu. If you have questions or concerns about your rights as a research subject, you may contact the UNC Institutional Review Board at 919-966-3113 or by email to IRB_subjects@unc.edu.

If you are still interested in participating in this study, please click on the button at the bottom of the screen to move on to the survey. Moving on to the survey indicates that you understand your role as a research participant and agree to participate in this study.

Support Resources

Mental Health America https://www.mhanational.org/find-support-groups
MHA's work is driven by its commitment to promote mental health as a critical part of overall wellness, including prevention services for all; early identification and intervention for those at risk; integrated care, services, and supports for those who need them; with recovery as the goal.

Crisis Text Line https://www.crisistextline.org/
Crisis Text Line is free, 24/7 support for those in crisis. Text 741741 from anywhere in the US to text with a trained Crisis Counselor.

National Suicide Prevention Lifeline https://suicidepreventionlifeline.org/
The Lifeline provides 24/7, free and confidential support for people in distress, prevention and crisis resources for you or your loved ones, and best practices for professionals.

Instructions for respondents: The following survey seeks to understand more about your experiences of traumatic events as a labor and delivery nurse. These incidents may include any experience that you have felt to be challenging, emotionally difficult, or traumatic. They may or may not be due to medical error. They also may or may not include circumstances that resulted in patient harm.

Please answer the questions below as they relate to your experiences following traumatic events while working as a labor and delivery nurse. For example, if you no longer work in the labor and delivery setting, answer questions based on when you were working in the labor and delivery setting and experienced the traumatic event(s).

Using a 5-point scale (**1 = Strongly Disagree, 5 = Strongly Agree**), please indicate how much you agree with the following statements as they pertain to **physical distress** following traumatic event exposure on labor and delivery.

	1 - Strongly disagree	2 - Disagree	3 - Neither agree nor disagree	4 - Agree	5 - Strongly Agree
1. I have experienced embarrassment from these instances.	○	○	○	○	○
2. My involvement in these types of instances has made me fearful of future occurrences.	○	○	○	○	○
3. My experiences have made me feel miserable.	○	○	○	○	○
4. I feel deep remorse/guilt for my past involvements in these types of events.	○	○	○	○	○

Using a 5-point scale (1 = Strongly Disagree, 5 = Strongly Agree), please indicate how much you agree with the following statements as they pertain to **psychological distress** following traumatic event exposure on labor and delivery.

	1 - Strongly disagree	2 - Disagree	3 - Neither agree nor disagree	4 - Agree	5 - Strongly Agree
5. The mental weight of my experience is exhausting.	○	○	○	○	○
6. My experience with these occurrences can make it hard to sleep regularly	○	○	○	○	○
7. The stress from these situations has made me feel queasy or nauseous.	○	○	○	○	○
8. Thinking about these situations can make it difficult to have an appetite.	○	○	○	○	○
9. I have had bad dreams as a result of these situations.	○	○	○	○	○

Using a 5-point scale (1 = Strongly Disagree, 5 = Strongly Agree), please indicate how much you agree with the following statements as they pertain to **colleague support** following traumatic event exposure on labor and delivery.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
10. My colleagues can be indifferent to the impact these situations have had on me.	○	○	○	○	○
11. My colleagues help me feel that I am still a good healthcare provider despite any mistakes I have made.	○	○	○	○	○
12. My colleagues no longer trust me.	○	○	○	○	○
13. My professional reputation has been damaged because of these situations	○	○	○	○	○

Using a 5-point scale (**1 = Strongly Disagree, 5 = Strongly Agree),** please indicate how much you agree with the following statements as they pertain to **supervisor support** following traumatic event exposure on labor and delivery.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
14. I feel that my supervisor treats me appropriately after these occasions.	○	○	○	○	○
15. My supervisor's responses are fair.	○	○	○	○	○
16. My supervisor blames individuals.	○	○	○	○	○
17. I feel that my supervisor evaluates these situations in a manner that considers the complexity of patient care practices.	○	○	○	○	○

Using a 5-point scale **(1 = Strongly Disagree, 5 = Strongly Agree),** please indicate how much you agree with the following statements as they pertain to **organizational support** following traumatic event exposure on labor and delivery.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
18. My organization understands that those involved may need help to process and resolve any effects they may have on care providers.	○	○	○	○	○
19. My organization offers a variety of resources to help get me over the effects of involvement with these instances.	○	○	○	○	○
20. Concern for the well-being of those involved in these situations is not strong at my organization.	○	○	○	○	○

Using a 5-point scale **(1 = Strongly Disagree, 5 = Strongly Agree),** please indicate how much you agree with the following statements as they pertain to feelings of **professional self-efficacy** following traumatic event exposure on labor and delivery.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
21. Following my involvement I experienced feelings of inadequacy regarding my patient care abilities.	○	○	○	○	○
22. My experience makes me wonder if I am not really a good healthcare provider.	○	○	○	○	○
23. After my experience, I became afraid to attempt difficult or high-risk procedures.	○	○	○	○	○
24. These situations have negatively affected my performance at work.	○	○	○	○	○

Using a 5-point scale (**1 = Strongly Disagree, 5 = Strongly Agree**), please indicate how much you agree with the following statements as they pertain to **thoughts about leaving your position/organization** following traumatic event exposure on labor and delivery.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
25. My experience with these events has led to a desire to take a position outside of patient care.	○	○	○	○	○
26. Sometimes the stress from being involved with these situations makes me want to quit my job.	○	○	○	○	○
27. I have started to ask around about other job opportunities	○	○	○	○	○
28. I plan to leave my job in the next 6 months because of my experience with these events.	○	○	○	○	○

Using a 5-point scale **(1 = Strongly Disagree, 5 = Strongly Agree**), please indicate how much you agree with the following statements as they pertain to **work attendance/absenteeism** following traumatic event exposure on labor and delivery.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
29. My experience with an adverse patient event or error has resulted in me taking a mental health day.	○	○	○	○	○
30. I have taken time off after one of these instances occurs.	○	○	○	○	○
31. When I am at work, I am distracted and not 100% present because of my involvement in these situations.	○	○	○	○	○

Using a 5-point scale **(1 = Strongly Disagree, 5 = Strongly Agree**), please indicate how much you agree with the following statements as they pertain to **resilience** following traumatic event exposure on labor and delivery.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
32. Because of these situations, I have become more attentive to my work	○	○	○	○	○
33. These situations have caused me to improve the quality of my care	○	○	○	○	○
34. My experience with an adverse patient event or error has resulted in positive changes in procedures or care on our unit.	○	○	○	○	○
35. I have grown as a professional as a result of an adverse patient event or error	○	○	○	○	○

Using a 5-point Likert scale **(1 = Not Desired, 5 = Strongly Desired)**, please indicate your level of desirability for the following types of support that could be offered by your organization for those who have been negatively affected by their involvement with a traumatic event on labor and delivery. These incidents may or may not have been due to error. They also may or may not include circumstances that resulted in patient harm or even reached the patient (i.e., *near-miss* patient safety events).

	1 - Not desired	2	3 - Desired	4	5 - Strongly desired
36.The ability to immediately take time away from my unit for a little while.	○	○	○	○	○
37. A specified peaceful location that is available to recover and re-compose after one of these types of events.	○	○	○	○	○
38.A respected peer to discuss the details of what happened.	○	○	○	○	○
39. An employee assistance program that can provide free counseling to employees outside of work.	○	○	○	○	○
40.A discussion with my manager or supervisor about the incident	○	○	○	○	○
41. The opportunity to schedule a time with a counselor at my hospital to discuss the event.	○	○	○	○	○
42. A confidential way to get in touch with someone 24 hours a day to discuss how my experience may be affecting me.	○	○	○	○	○
Other _____	○	○	○	○	○

Which of the following supports were available or offered to you following traumatic event exposure on labor and delivery?

	1 - Not available/ offered	2 - Unsure	3 – Available/ offered
43.The ability to immediately take time away from my unit for a little while.	○	○	○
44. A specified peaceful location that is available to recover and re-compose after one of these types of events.	○	○	○
45.A respected peer to discuss the details of what happened.	○	○	○
46. An employee assistance program that can provide free counseling to employees outside of work.	○	○	○
47.A discussion with my manager or supervisor about the incident	○	○	○
48. The opportunity to schedule a time with a counselor at my hospital to discuss the event.	○	○	○
49. A confidential way to get in touch with someone 24 hours a day to discuss how my experience may be affecting me.	○	○	○
Other _____	○	○	○

50. How many years have you worked as a labor and delivery nurse? _____

51. How long have you worked as a registered nurse?

_____

52. Are you currently working as a labor and delivery nurse?

- ○ Yes
- ○ No

(If "yes", skip to question 56)

53. If no longer working as a labor and delivery nurse, did you leave the specialty primarily due to the experience of a traumatic patient event?

- ○ Yes
- ○ Maybe
- ○ No

54. Are you currently working as a registered nurse?

- ○ Yes
- ○ No

(If "no", skip to question 56)

55. If you are currently working as a nurse in another specialty, in which area of nursing are you now employed?

_____

56. In what type of organization are you now working, or did you previously work as a labor and delivery nurse? Select all that apply.

- ☐ Birthing center (low risk)
- ☐ Community hospital or low risk unit
- ☐ Teaching hospital or high-risk unit
- ☐ Other _____

57. Over the course of your career, how many patient events have you experienced that you would describe as traumatic to you?

- ○ None
- ○ 1
- ○ 2 - 5
- ○ 5 - 10
- ○ More than 10

58. What is your gender?

- ○ Male
- ○ Female
- ○ Non-binary
- ○ Other _____
- ○ Prefer not to answer

59. What is your age?

_____

60. What is your race? Select all that apply.

- ☐ American Indian
- ☐ Asian
- ☐ Black/African American
- ☐ White
- ☐ Native Hawaiian/other Pacific Islander

61. What is your ethnicity?

- ○ Hispanic
- ○ Non-Hispanic

62. What is the highest nursing degree that you have completed?

- ○ Associates degree
- ○ Bachelor's degree
- ○ Master's degree
- ○ Doctoral degree

63. Completion of this survey will qualify you for entry into a drawing for a $100 Amazon Gift Card. If you would like to be included in the drawing, please enter your email address below.

_____

Qualitative Interview Interest Screen

We will be conducting interviews with labor and delivery nurses to learn more about their traumatic experiences in the workplace. The interview will be conducted virtually and will take approximately 60 minutes. Participants will receive a $20 Amazon gift card after completing an interview. If you are interested in participating in an interview, please enter your email address below. You will be contacted by the primary researcher with additional information.

Or to learn more about this interview opportunity contact **Cathy Crawford at cmcrawfo@email.unc.edu.**

Email: _____

Closing Screen

Thank you so much for participating in this survey. Your responses will aid in understanding more about experiences of traumatic events for labor and delivery nurses. Your time in completing this survey is appreciated!

Sometimes answering questions related to previous traumatic or emotionally difficult experiences can bring up unanticipated emotional responses. Some resources that may be helpful are included here. Please reach out to these organizations if you feel you might benefit from their support services.

Again, thank you so much for your assistance with this survey.

Support Resources

Mental Health America https://www.mhanational.org/find-support-groups
MHA's work is driven by its commitment to promote mental health as a critical part of overall wellness, including prevention services for all; early identification and intervention for those at risk; integrated care, services, and supports for those who need them; with recovery as the goal.

Crisis Text Line https://www.crisistextline.org/
Crisis Text Line is free, 24/7 support for those in crisis. Text 741741 from anywhere in the US to text with a trained Crisis Counselor.

National Suicide Prevention Lifeline https://suicidepreventionlifeline.org/
The Lifeline provides 24/7, free and confidential support for people in distress, prevention and crisis resources for you or your loved ones, and best practices for professionals.

APPENDIX B. SEMI-STRUCTURED INTERVIEW GUIDE

Traumatic Experiences of Labor and Delivery Nurses

Interview Guide

Ground rules for the interview

A. This interview is meant to understand more about what constitutes traumatic experiences for nurses who work on labor and delivery and the after-effects of those experiences. Your opinion and perspectives are necessary for this interview. You have knowledge that will help us understand these experiences better and how best to support nurses who experience these types of events. Your complete honesty is needed when responding to my questions. If at any time you do not completely understand my question, please let me know and I will rephrase or clarify. This will be helpful so I can perform these interviews better. If there are any questions that you are uncomfortable answering, that is perfectly ok. You don't have to answer any questions that you don't want to, and you are free to end the interview at any time.
B. Anything you tell me in this interview is completely confidential. The only people that I will discuss this interview with are members of my dissertation committee, and in those discussions no names will be shared. Reporting of any information from this interview (for my dissertation defense or in publications) will only be shared in general terms with no names attached. When telling me about your experiences, please do not share any names. We will only have one hour in which to complete the interview, so I will make sure to keep us on track today. If I need to move along to another question or redirect you, please do not take this personally. Realize that I am trying make sure that we don't go over time. I appreciate your willingness to participate in this interview today and share your experiences and want to be respectful of your time.
C. My role is to guide the interview. You will be doing most of the talking. The experiences that you are sharing today are important to help understand more about the experiences of labor and delivery nurses and the recovery after trauma for these nurses.

Script: I'd like to start the interview getting to know a little more about you.

Part One. Core Beliefs

Script: We all have ways of looking at the world and have assumptions about how the world works around us. I have a few questions about your perceptions or thoughts surrounding being a labor and delivery nurse.

1. What made you want to become a labor and delivery nurse?

2. What were your expectations about the kinds of experiences that you would have with patients?

3. I would like to learn more about experiences you had in the labor and delivery setting you felt were traumatic or emotionally difficult. Can you tell me about one of these experiences?
   Probing question: Who was involved in the situation? Where were you when this happened? What about this event made it feel traumatic to you?
4. Are there any other traumatic experiences have you witnessed or experienced on labor and delivery during your time as a labor nurse that you would like to share with me?

(Thank the participant for sharing those experiences. Ask if they need a break if necessary.)

5. Going back to the traumatic event(s) that you described above, how did this event(s) compare to your preconceived notions on what labor and delivery nursing was?
6. How did the experience of this traumatic event impact future experiences? How did you incorporate this into your worldview of labor nursing?
   Probing question: Did this experience change how you thought about being a labor and delivery nurse?

Part Two: Second Victim Recovery Trajectory

7. I want to talk a little bit now about the time period after the traumatic event. Immediately following your experience, can you describe the events that you experienced (referring specifically to what they have told me – e.g. When you came out of the room, etc.)? If you can, describe what you were feeling, what your thoughts were, etc.
8. What was the environment like? What was happening on the unit – describe that scene.
9. Thinking about when you went home, can you describe your experience? How did this change (or did it?) over the next days, or weeks?
10. What kinds of support mechanisms were available to you? Did your organization have any support offerings? What types of coping mechanisms did you use following this event?

11. Based on the type of event – Was there any type of hospital inquiry procedure related to this event? Tell me about that experience.
12. Did you seek out any institutional support services on your own? Can you tell me about your experience with that? Did your organization reach out to you to offer support and if so, can you talk more about that?

    Probe: Is there anything you wish your employer had done that wasn't done for you?
13. What other sources of support did you lean on during this time?
14. How did this event impact your career as a labor and delivery nurse? How did this experience effect the care you gave your subsequent patients?

Script: Thank you so much for agreeing to share your experiences with me. Your opinions will help the understanding of what it is like to experience traumatic events as a labor and delivery nurse and how best to support nurses after these events. It is understandable if recalling and talking about these experiences has made you think about things that have happened a long time ago and may be emotionally distressing. I am going to place a document in the chat session with some support resources. Do you see where that is located? You can click on that link for more information. Again, thank you for your time. You will receive a gift card in the email you used to sign up for this study in the next few days. Do you have any questions for me?
Please feel free to contact me if you think of something that was important to add to this conversation after the fact or if you have any other questions about this study.

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