UNDERSTANDING CHIEF RESIDENTS' LIVED EXPERIENCE OF STRESS

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ABSTRACT

High rates of physician stress, burnout, and suicide have prompted a reinvigorated focus on research related to understanding the causes and potential interventions. Despite widespread efforts to improve physician and medical trainee well-being, little has changed. The goal of this study was to explore how chief residents (CRs) understand and experience stress to provide a better understanding of the true impact it has on their relationships with self and others. Using a phenomenological study design approach, I conducted in-depth interviews with four CRs from four different specialty disciplines at a single general teaching hospital. A conversational interview format allowed participants to share stories in their own ways without steering them in specific directions. As a result of the interviews, three primary themes emerged relating CR stressful experiences to a high need for autonomy, strong feelings of inadequacy and guilt, and feeling the need to keep personal struggles hidden. The ways the themes characterized the CR experiences supported some well-established theories about adult learners (need for autonomy) and learners' experiences in clinical environments (culture of silence about expressing emotions). In other ways, my study findings complicated existing literature and pointed toward a need for future studies in new directions. Although there may be ways to reduce some stressors experienced by physicians, the themes from my study highlighted a broader truth about the nature of the profession. Taking care of the sickest in society is emotionally-laden work that does not fit neatly into defined hours or days. There is no way to make the nature of health care work less stressful. When combined with the rapid pace of technological change, evolving consumerism of healthcare, and increased administrative burden on physicians, what is being expected is at odds. The best we can do is honor doctors, listen, acknowledge their gift to society's well-being, and support their individual needs along the way.

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CHAPTER 1: INTRODUCTION

For physicians, high levels of sustained professional and personal stressors, the high stakes nature of health care, and system-level changes complicating clinical practice contribute to overall high levels of stress, in turn leading to burnout and suicide rates that exceed those of other professions (Jardine, 2018; Schernhammer, 2005; Shanafelt et al., 2012; Shanafelt et al., 2015). Researchers suggest stress leading to burnout negatively impacts the job performance as well as the mental well-being of the physician. Absenteeism, attrition, low self-efficacy, medical errors, and incidences of malpractice are all associated with job-related outcomes of physician stress (Bingemann, et al., 2017; Privitera, Plessow, & Rosenstein, 2015; Stodel & Stewart-Smith, 2011). Burnout, an extreme symptom of sustained chronic emotional and interpersonal stressors on the job, also affects the mental well-being of physicians and can contribute to substance abuse, anxiety, and suicidal ideation (Hariharan & Griffin, 2019; Takayesu, et al., 2014).

The problems of stress and burnout are not unique to practicing physicians. Studies have shown high stress is evident in early career resident doctors and students at the medical school level (Dyrbye, et al., 2008; Dyrbye, Thomas, et al., 2010; Dyrbye & Shanafelt, 2016). A growing body of literature is focused on examining the causes and symptoms of stress and burnout during residency training (IsHak, et al., 2009; Mata, et al., 2015; Takayesu, et al., 2014; West, Shanafelt, & Kolars, 2011). The effects of resident physician stress on patient care outcomes are also becoming clear and include increased error rates, missed diagnoses, and poor communication (Dewa, et al., 2017; West, et al., 2009). Less well understood is how individual residents experience and respond to stressful experiences at the residency level, particularly chief residents (CRs), those nearing the end of training and beginning of independent practice.

While research is becoming more available on the stressors affecting residents, the majority of the work is survey-based. Qualitative research concerning resident experience of stress in the clinical learning environment is lacking. The focus of this study is to explore experiences CRs consider most stressful in the clinical learning environment and ways they deal with them. This chapter begins with an overview of the problem of physician stress and burnout, followed by a brief introduction to the physician education process and where residency training fits in. Next, the roles and responsibilities of the CR are discussed and rationale for this choice as my study population. The chapter ends with a description of the theoretical framework used to approach the research, a summary of my research questions, and rationale for the importance of this study.

Physician Stress & Burnout

According to data collected from the National Occupational Mortality Surveillance (NOMS) database for suicide rates by occupation and analyzed in a recent study, physicians suicide rates have remained significantly higher than the general population and continued to trend upward (Bokhari, et al., 2019). In their analysis, physician suicide rates were found to be higher than those of other high stress occupations including nursing, military professions, and law enforcement.

Reasons physician suicide rates are noticeably higher than those of other professions are unclear, yet research suggests as many as 40-50% of practicing physicians cite an extremely stressful medical practice as a significant problem contributing to personal distress and burnout (Bittner, Khan, Babu, & Hamed, 2011; Shanafelt, Sloan, & Habermann, 2003). Burnout is a well-known term in medicine and is commonly defined as, “long-term, unresolvable job stress that leads to exhaustion and feeling overwhelmed, cynical, detached from the job, and lacking a sense of personal accomplishment” (Kane, 2019, p. 2; Maslach, Jackson, & Leiter, 1996).

Burnout among physicians negatively impacts the quality and safety of patient care, and can have lasting effects on physician colleagues and learners, including residents and students. A recently published call to action suggests that the way physicians deal with stress and burnout and their coping habits may become tacitly learned behaviors inherited by residents, with potentially career-long effects (Ripp, et al., 2017).

Physician Training: Residency Education And CRs

Physicians undergo extensive education and clinical training prior to being able to practice independently. The educational phase of a physician's career usually lasts a minimum of eleven years after high school. All U.S. physicians must complete a four-year undergraduate degree program, followed by an additional four years of medical school. Graduation from a medical school granting an M.D. or D.O. degree provides eligibility for the next step in a traditional physician career progression; residency training, also commonly known as Graduate Medical Education (GME). The purpose of the additional three to seven years of residency training, most often hospital-based, is to specialize and become board certified in a particular discipline such as surgery, family medicine, or dermatology. The CR is a resident leadership position, traditionally the senior resident or an additional year immediately following the completion of residency. There can be one or multiple CRs, depending on the size of the program and scope of CR responsibilities.

Most, if not all residency training programs designate one or more resident(s) each year to serve as chief resident(s) (CR) for a one-year term. CRs have a unique leadership role in the residency program. They primarily serve as a critical liaison between residents and the program directors to help meet the programmatic, academic, and clinical needs of running a residency program (Blumenthal, Bernard, Bohnen, & Bohmer, 2012; Rakowsky et al., 2020). CRs are

placed in a leadership role and asked to perform leader functions yet, still may not have ownership over aspects of clinical care policies, control over their workflow, or guidance needed to help other residents understand and manage stressful experiences, let alone their own. Although stress impacts resident physicians at all training levels, CRs may be acutely vulnerable to the effects of stress on job performance, their dealings with junior peer residents in the program, and their overall career outlook. A better understanding of the ways CRs experience and think about stressful situations, and how those experiences impact other areas of their lives, is a critical first step to understanding how effective targeted wellness interventions at the graduate medical education (GME) stage are likely to be. Improved understanding of CR experiences and how they make meaning of them may also indicate a need for changes in the clinical learning environment to better support resident learning and well-being.

Study Purpose & Research Questions

The clinical learning environment and early training years are a time of heightened stress for medical learners. Lived experiences that bring feelings of stress and burnout are personal, and individuals naturally understand, give meaning to, and respond to those experiences in different ways. Some learners may have more effective ways of mitigating the effects of stressful emotions and combating burnout. Within GME, a work-based adult learning context, leaders have a responsibility to facilitate healthy learning environments (Accreditation Council for Graduate Medical Education, 2022; Ripp, et al., 2017). This responsibility includes fostering the development of physician habits of well-being in addition to medical knowledge at all stages of training. The purpose of my study is to explore how CRs experience stressful situations and events, the meanings they ascribe to them, and the ways these experiences have shaped them, their world view, and their relationships. A deeper understanding of their lived experiences will

inform the development of individual, institutional, and curricular interventions designed to help CRs improve self-understanding and, as role-models and teachers, their capacity to help others be successful navigating stress in the clinical learning environment.

My research questions are:

1. How is the phenomenon of stress manifested in the lifeworld experiences of CRs?
2. How do they deal with stressful experiences?
3. What is the impact of their stressful experiences, how do the experiences shape them?

One framework that may help guide a deeper exploration of this aspect of CR experience is social and emotional learning theory (SEL), with its emphasis on emotional awareness, regulation, and learning within a relational context. Although more frequently associated with conceptualizations of teaching and learning in primary and secondary education contexts, the constructs have also been applied to studies involving adult learning and behavior (Conley, Durlak, & Dickson, 2013; Socas, 2017).

SEL Framework: Exploring CR Experiences Through Relationships And Emotions

As a shared human phenomenon, stress is typically thought of as an emotionally laden experience that often includes a relational component. When people encounter differences, misunderstandings, or conflicts they commonly experience stress in some way. Social and emotional learning (SEL) is a theoretical framework that characterizes the process of learning positive behaviors that help individuals navigate challenging social and emotional situations (Durlak, Domitrovich, Weissberg, & Gullotta, 2015). Originally conceptualized as a framework guiding development of primary and secondary school curricular programs, SEL is also a useful model in adult learning contexts. Educating students to be, “knowledgeable, responsible, socially skilled, healthy, caring, and contributing citizens” applies equally well to higher education and

adult learning settings (Greenberg, et al., 2003, p. 466). I chose SEL as the theoretical framework to inform my study of how CRs experience and respond to stressful situations because it provides a foundation for asking my research questions across the multiple dimensions of emotions (self-understanding and self-regulation), relationships with others, and the learning environment to better understand the nature of the CRs' experience. SEL may offer deeper insight into the ways CRs process emotions associated with their lived experiences and how it shapes their relationships, such as when working in health care teams or in teaching contexts. The SEL framework constructs may also provide a better understanding of how CRs perceive themselves in relationships with colleagues, supervising attendings, and other healthcare team members.

Statement of Significance

Research is lacking in understanding how CRs experience their role and learn to manage extra tasks beyond their normal learning and working assignments. CRs take on added responsibilities for leading teams, managing schedules, teaching and coaching junior peers, often with little training or preparation for these roles (Blumenthal et al., 2012; Gisondi et al., 2017). A deeper understanding of the experiences CRs associate with stressful emotions and how they interact with those experiences has significant implications for GME and the profession of medicine in general. Physician suicide rates are too high. Educators and administrators involved in preparing the next generation of physicians have a responsibility to ensure they develop skills to successfully navigate the heavy emotional demands of the profession in addition to acquiring expert medical knowledge. Governing bodies of U.S. medical education programs require social and emotional skill acquisition for physicians in training, outlined via the Accreditation Council for Graduate Medical Education (ACGME) six core competencies (Accreditation Council for

Graduate Medical Education, 2022). Yet educators frequently lack understanding of how resident physicians poised to begin independent practice interpret and manage personal emotions. As a result it is difficult to know how to support individualized knowledge and skill acquisition beyond teamwork and communication training.

The ACGME is the national accrediting body for all GME programs training and graduating residents for practice in the U.S. The ACGME takes a firm position that equipping doctors for independent practice requires teaching more than medical knowledge and patient care principles (Accreditation Council for Graduate Medical Education, 2022). While some studies have emerged exploring the impact of stress on those in the medical profession and resident learners, educators lack knowledge about how ready residents, especially CRs, are to enter independent practice with the skills to manage a highly complex and emotionally stressful career while avoiding burnout. It is also unclear whether current curricular interventions at the residency level are adequately addressing key sources of stress and burnout consistent with the ACGME's position on how best to ensure resident well-being (Weiss, Bagian, Wagner, & Nasca, 2014). It is well known that educators influence the way early career physicians will practice medicine far into the future (Asch, et al., 2009; Chen, et al., 2014; Sirovich, et al., 2014). ACGME leaders suggest the preparation of physicians entering independent practice must include the development of an ability to manage the high-stress nature of the medical profession (Ripp, et al., 2017). Learning more about the ways stress manifests in the lifeworld experiences of CRs, the way they interpret those experiences, and their strategies for dealing with stressful experiences can inform the development of curricular interventions to better prepare and support CRs before they enter independent medical practice.

Summary

Physicians, medical students, and residents are all impacted by the stress of working and learning in a clinical environment that is naturally replete with difficult emotional and social complexities. What is not well understood is how CRs understand, shape, and are shaped by their stressful experiences. The outcomes of my study will deepen knowledge of the ways CRs identify, give meaning to, and deal with their experiences, and may influence the development of institutional or curricular solutions to better prepare physician learners to deal with the emotions and situational stress that are increasingly synonymous with being in medical practice.

CHAPTER 2: LITERATURE REVIEW

A thorough understanding of the existing literature on resident experiences of stress and burnout is critical to a clear description of the knowledge gaps. This chapter begins with a discussion of current research on the impacts of stress in general, as well as the problem of chronic physician stress leading to disproportionately high incidences of burnout and suicide when compared to other professions. Following, an outline of the process of medical education in the U.S. is presented to provide a picture of the educational progression doctors undergo in preparation for a career in medicine and the role CRs play. Next, I describe how self-reported states of stress and burnout at the residency level are characterized in current literature, largely focused on studies of causes, effects, and symptoms to date. This chapter concludes with a definition of the theoretical lens, Social and Emotional Learning (SEL), chosen to frame this study and why it is useful to inform the development of the design and methodology.

Impacts of Being Stressed And Burned Out

Being in minimal states of stress can be considered beneficial to individuals and are even thought to facilitate higher motivation, and effort (Gibbons, 2010; Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002; Hariharan & Griffin, 2019). Experiencing successive stressful events over a long period of time or chronically feeling stressed without relief or support is considered harmful to personal well-being (Bakker, Demerouti, & Sanz-Vergel, 2014; National Academies of Sciences, Engineering, and Medicine, 2019; Watson et al., 2008). While a person's individual experiences of stressful events are uniquely personal to them, and can have many different causes, being stressed can also be characterized as a shared human phenomenon that we all understand on some level. Scholars describe stress as emotional distress manifested through symptoms including depression, anxiety, low self-efficacy, low sense of control, low optimism,

low resilience, generally decreased well-being (Conley, 2015; Rothenberger, 2017; Hariharan & Griffin, 2019). Long term exposure to stressful experiences is believed to lead to chronic mental and emotional exhaustion, negative or depersonalized feelings toward work, and diminished cognitive ability, characterized as burnout (Demerouti, Bakker, Peeters, & Breevaart, 2021). No clear consensus has emerged on a precise conceptualization of burnout, although most definitions include a primacy of cognitive and emotional exhaustion as well as some type of negative impact on decision-making ability (Canu, et al., 2021; Deligkaris, Panagopoulou, Montgomery, & Masoura, 2014; Demerouti, Bakker, Peeters, & Breevaart, 2021).

Demerouti and colleagues proposed that individuals begin to experience symptoms of burnout when job demands exceed available personal resources, the JD-R model (2001). Job demands refer to the contextual components of the job, including social interactions/conflict, difficult work tasks, or poor working conditions, that require the individual to give mental or physical effort and involve physiological or psychological costs (Schaufeli & Taris, 2014). Job resources are the job elements provided to support individuals in achieving goals and reducing the demands of the job, and include things like social support, well-developed teamwork, or workplace trust.

A growing body of scholarship across multiple disciplines has been focused on examining the causes of stress and burnout since their effects on the health of individuals and organizations can be devastating (Deligkaris, Panagopoulou, Montgomery, & Masoura, 2014; Demerouti, Bakker, Peeters, & Breevaart, 2021; West, et al., 2020). Research on stress experienced by firefighters found that although regarding the work as meaningful was associated with small, mitigating effects, there were other aspects that made the job overwhelmingly stressful. The time-sensitive, emotionally-laden nature of the work, anticipation of exposure to possible

traumatic situations, and heavy physical work were all associated with emotional exhaustion and burnout (Lourel, et al., 2008; Rosca, Mateizer, Dan, & Demerouti, 2021; Sawhney, Jennings, Britt, & Sliter, 2017). A study of United States Air Force (USAF) remotely piloted aircraft (RPA) operators cited long, irregular work hours and constant multi-source sensory stimulation as causes of mental and psychological fatigue contributing to chronic stress and burnout, resulting in high turnover (Martinez, et al., 2023). A preponderance of research has been conducted in the health professions, where rates of stress, burnout, and suicide are significantly higher than the general population with no clear rationale (Hariharan & Griffin, 2019; West, et al., 2020).

Two assumptions inherent in much of the current literature I examined point to gaps in the understanding of human experiences related to stress. First, most studies assume a group of human beings within the same profession and experience level perceive stressful experiences the same way, or consider the same types of experiences and interactions to be stressful, and also derive the same meanings from those situations. However, since feelings of stress and burnout are self-reported, a reliable way to measure and compare individuals' relative degrees of stressfulness associated with certain experiences does not exist. The threshold at which someone becomes burned out could also reasonably be assumed to be variable. Naturally, different individuals would find different types of experiences more or less stressful based on a number of factors, such as past experience, social cues, cultural or religious beliefs, or prior knowledge. The limited success of current interventions aimed at addressing the causes and symptoms of workplace stress and burnout suggest organizational efforts are not effective (Vercio, et al., 2021; West, Dyrbye, Erwin, & Shanafelt, 2016). Reasons reported rates have remained high suggest

that the ways stressful experiences shape a person's lifeworld and vice versa are far more complex.

Secondly, although scholars acknowledge that work-related causes of stress also involve conflicts with time and attention that would otherwise be devoted to personal and family commitments outside work, most studies have been based on the assumption that burnout is primarily a work-centered phenomenon. While burnout was a term coined to explain a phenomenon made visible in the workplace, few have questioned the origin of the stressful feelings. Alternatively, I did not find studies exploring the experiences of people already feeling burned out from non-work lifeworld experiences for whom the workplace may have served as the place where the effects of burnout and stress simply became manifested. Existing research on ways to ameliorate professionals' stress and burnout or support recovery from burnout have been focused on exploring individual skill-based or organizational systems-based interventions situated in the workplace context (Panagioti, et al., 2017; National Academies of Sciences, Engineering, & Medicine, 2019; West, Dyrbye, Erwin, & Shanafelt, 2016). Research is lacking in ways to address feelings of stress and burnout in professions when the nature of the work, or the content of the job, cannot be made mentally or emotionally less demanding, such as in the case of the emergency responder firefighters or potentially health care workers. The focus of my study is on gaining a better understanding of what physicians, specifically CRs, experience as stressful. My goal is to learn how CRs conceptualize stress, how they interact and are changed by stressful experiences, and how they connect to these experiences and are shaped by them.

Physician Stress And Burnout

42% of physicians reported experiencing symptoms of burnout, according to Medscape's National Physician Burnout and Depression Report (2018). A 2015 longitudinal study revealed

the incidence of burnout among U.S. physicians increased 9% over a three-year period (Shanafelt, et al., 2015). Another study found that 44% of U.S. physicians experienced symptoms of burnout at least weekly (Shanafelt, et al., 2019). The personal consequences of burnout can be devastating and include decreasing professional efficiency, depression, substance abuse, failed relationships, and even physician suicide which has been reported at rates more than twice that of the general population (Patel, et al., 2018; Rotenstein, et al., 2018). The effects of physician burnout on patients and health care systems are equally adverse. Physicians experiencing high levels of self-reported stress and burnout are associated with poorer quality patient care outcomes, patient satisfaction, work effort, as well as higher attrition from the profession (Dyrbye, et al., 2014; Halbesleben & Rathert, 2008; Humphries, et al., 2014; Shanafelt, et al., 2016; Dyrbye, Boone, Satele, Sloan, & Shanafelt, 2013). Some say evidence of stress leading to burnout starts as early as medical school (Fares, Al Tabosh, Saadeddin, El Mouhayyar, & Aridi, 2016; Brenneisen Mayer, et al., 2016).

The Educational Progression of Physicians

Medical education begins after an individual has achieved a Bachelor's degree and begins medical school. Getting into medical school is an extremely competitive process, generally viewed as highly stressful. Michigan State University College of Osteopathic Medicine typically receives approximately 6,000 – 7,000 applications annually, for 200 positions in each entering class (K. Ruger, personal communication, October 18, 2018).

Medical School

Medical school training is a four-year rigorous educational experience, with the first two years devoted to classroom and lab study in the sciences. The second two years are considered clerkship years, and are spent rotating in a variety of clinical settings and specialties. The goal of

clerkship rotations is to expose students to a variety of specialty options they may choose to pursue for residency, and to provide them with initial clinical skills such as how to perform a history and physical exam and understand basic medical diagnostic tests.

A growing body of literature is focused on studying the contributing factors, symptoms, and outcomes of burnout in medical students (Rotenstein, et al., 2016; Woloschuk, McLaughlin, & Wright, 2010). Stress and burnout experienced by medical students has been shown to lead to desires to drop out, reduced empathy, and higher incidences of unprofessional behaviors (Brazeau, Schroeder, Rovi, & Boyd, 2010; Dyrbye, et al., 2010). Observations are similar in other clinical health professions. In a recent study of nursing students, unmanaged stress was thought to contribute to students experiencing negative emotional states such as sadness, apprehension, anger, worry, grief, and guilt (Labrague, 2014).

The academically competitive nature of medical school admissions, combined with the rigors of the early science curriculum create an environment of stress that builds as students prepare to enter residency training. Specialty choices are also considered high stakes decisions, since the choice made at the end of the two clerkship years determines the course of their entire future medical careers. After graduation from medical school, the individual is a physician with an educational limited license to practice medicine. The next step in a physician's career is matching into a residency program to become trained in a specialty focus area.

Residency And Fellowship Training

Since residency program training takes place within a clinical learning environment, most often a hospital, residents are employed on an annual contractual basis by the hospital. Residency programs vary in length, depending on the specialty, from three years for primary care disciplines such as Internal Medicine or Family Medicine to seven years for Neurosurgery, after

which the graduate is eligible to sit for a board exam to become certified in the specialty. Following successful completion of a residency program and board certification, graduates can seek employment as a practicing physician or elect to pursue an optional subspecialty fellowship with additional years of clinical training and a subspecialty board certification exam requirement. Fellowship training programs generally range from one to three years in length, depending on the subspecialty.

Stress And Burnout During The Residency Years

Additional mental and emotional demands of learning combined with little control over schedule or workload take an even greater toll on resident physicians, who must provide safe, effective patient care while still completing the educational phase of their careers. Although widely variable because of specialty differences and due to being a self-reported measure, rates of burnout among residents are reported at 18% - 80% (Dyrbye, et al., 2021; Monrouxe, Bullock, Tseng, & Wells, 2017; Prins et al., 2007).

Following completion of medical school, the residency educational years are considered among the most challenging and competitive of a doctor's early career. Residents are adult learners now faced with the demands of delivering patient care as provisionally licensed physicians under the supervision of a fully-licensed attending physician (Bittner, Khan, Babu, & Hamed, 2011).

In addition to medical knowledge and clinical skills, residents must acquire cognitive skills in leadership, decision-making and communication, also referred to as nontechnical skills (NTS) (Kwakye et al., 2015; Moore, Wininger, & Martin, 2016). The ACGME, the U.S. accrediting body for all medical residency training programs, requires achievement of six core competencies before a resident can be deemed ready for independent practice, and only two pertain to medical

knowledge and patient care (Accreditation Council of Graduate Medical Education, 2022). The remaining four focus on NTS cognitive competencies: professionalism, interpersonal and communication skills, systems-based practice, and practice-based learning and improvement. Skill development towards competency in these dimensions includes the ability to make ethical decisions when choosing among patient care options and advising patients, the ability to lead teams and resolve conflicts among members of medical teams, and the ability to maintain personal well-being and professional standards of conduct (Edgar, et al., 2020; Green, et al., 2009; Szymczak & Bosk, 2012; Nasca, Philibert, Brigham, & Flynn, 2012). The nature of learning medical and NTS during the residency years is primarily team-based, with senior level residents guiding and teaching junior residents in the program. Senior residents designated as CRs carry additional responsibilities in supervision, teaching, and program management, which may contribute to increased feelings of stress and burnout among this population.

Chief Residents (CRs)

During the final year of a residency or fellowship training program, or for a one-year term immediately following completion of a program, some individuals will serve as Chief Residents (CRs). A CR is in a learner-leader position, having reached the final phase of their formal education and nearing the beginning of their independent career as a physician. In the CR role, they take on additional management and leadership responsibilities to help the Program Director, including teaching, mentoring, scheduling, and sometimes conflict resolution. Depending on the way a program chooses to structure itself, some residents may be elected by peers or selected by program faculty to serve as CR. Resident or fellow doctors who serve as CR occupy a unique position that includes work responsibilities beyond those of their resident trainee colleagues, including managing complicated schedules of resident rotation assignments, resolving peer

conflicts, preparing lectures and teaching junior peer residents and medical students, leading and organizing teams, and managing other administrative program details (Blumenthal, Bernard, Bohnen, & Bohmer, 2012; Clark & Armit, 2010; Hinchey, 2008; Jarousse, 2011; Lim et al., 2009; Luciano, Blanchard, & Hinchey, 2013).

CR is typically a sought-after position. It is thought of as a good way for residents seeking future medical or administrative leadership positions to get early experience as a leader, manager, and educator (Hinchey, 2008). CRs are an important subgroup because they are at a pivotal point in their medical career as either senior residents still in training or a first year junior faculty member on the edge of moving into independent practice. CRs will soon graduate and take with them their skills, knowledge, and experience, including their stressful experiences and connected meanings, as well as their ways of interacting with and responding to stressful experiences. Understanding their stressful experiences and interpreted meanings are critical factors in gaining a better understanding of how some are able to effectively manage stress and avoid burnout.

The dual nature of a CR as both leader and learner adds complexity to interactions with faculty, students, and patients. Difficulties in communication or performance through the exercise of various roles can arise if the CR does not possess appropriate skills, knowledge, or abilities to carry out the role (Gisondi et al., 2017). Poor CR leadership can have a negative influence on junior residents in a program, increasing conflicts across care teams as well as the possibility of adverse patient outcomes due to miscommunication and poor care coordination (Pettit & Wilson, 2014). CRs take on responsibilities for leading teams, teaching, and coaching junior peers, often with little training or preparation for these roles. Multiple responsibilities and expectations of CRs beyond learning and planning their next career phase may lead to higher

levels of stress. Little is known about how CRs characterize, experience, and ascribe meaning to the stress or burnout feelings experienced in the clinical learning environment.

Social And Emotional Learning (SEL)

Dealing with high levels of stress and risking burnout in a profession necessitates individuals having emotional self-awareness and self-management, in addition to the ability to navigate complex teamwork and stressful situations with others. Scholars have indicated the development of emotional, social, and behavioral skills is as important as well-developed cognitive and academic ability (Deming, 2017; Durlak, et al., 2015; Swartz, 2017). Recent research in the field of education demonstrates a renewed focus on studying the definition, teaching, and outcomes of social and emotional learning skills (SEL) and how these skills influence individuals' abilities to succeed in life, education, career, and relationships (Durlak, Domitrovich, Weissberg, & Gullotta, 2015).

SEL is often cited as a framework to support the creation of primary and secondary school programs designed to help students cope with stressful situations and develop the social and behavioral strategies to navigate challenges (Durlak, Domitrovich, Weissberg, & Gullotta, 2015). SEL is thought to include concepts such as resilience, growth mindset, empathy, and social skills, and has been defined as the "process through which individuals learn to apply a set of social, emotional, behavioral, and character skills required to succeed in schooling, the workplace, relationships, and citizenship" (Jones, Barnes, Bailey & Doolittle, 2017, p. 12). Although terms such as "noncognitive skills" or "soft skills" have often been used interchangeably when referring to SEL skills in the domain of adult learning, I have chosen to use the term SEL for my research because it is a commonly recognized term among educators that also emphasizes the

process of personal growth and learning within a social context (Jones & Doolittle, 2017; Loeb, Tipton, & Wagner, 2016).

SEL in Higher Education And Adult Learning

Generally speaking, the higher education years mark a period of formative development for adult learners. The social, emotional, and academic challenges college students face place a significant strain on students' mental health, due to reduced structure around learning, greater independence, and increased academic and social pressures (Howard, Schiraldi, Pineda, & Campanella, 2006; Stallman, 2010). SEL is thought to benefit higher education students by facilitating the development of competencies to support the positive adjustment to new academic and social environments. According to Conley (2015):

> "The social and emotional skills that are most relevant to higher education students are those that can promote their personal and interpersonal awareness and competence, and therefore help them navigate new and challenging academic, social, and emotional terrain. Promoting these competencies, in turn, is likely to curb problems or maladjustment in emotional and social domains." (p. 198).

Similarities can easily be drawn between Conley's description and the stressful experiences and social challenges medical learners likely face transitioning from classroom to clinical learning environments. Therefore, the higher education SEL lens is appropriate for understanding the ways SEL helps an individual deal with stress experienced during transition from having structured schedules with oversight to having to self-manage routines, interactions, and emotions. This shift necessitates learning new self-awareness and self-management strategies (Conley, 2015). Social interactions and relationships at the higher education level also change, and college students often need to adapt to new peers and social situations. Students who lack

adequate self-awareness and strategies to help them navigate interpersonal relationships may experience greater emotional distress and difficulty adapting. Helping students strengthen their emotional and social understanding is just as important at the college level as in early childhood educational contexts.

Although SEL has distinct applications within higher education academic environments, the majority of studies I found focused on evaluating the impacts of SEL skills-oriented interventions as opposed to understanding the lived experiences unique to adult learners in the context of social and emotional learning (Conley, 2015). No studies I found explored the lived experiences of adult learners through the framework of social and emotional learning. Evidence suggests SEL is a conceptual framework that offers an opportunity to improve our understanding of how individuals make sense of their emotions and relationships within their experience of stress, yet research is lacking on how SEL has been applied in other educational settings such as work-based or clinical learning environments.

SEL Theoretical Lens. Scholars in the fields of education, social work, and other disciplines suggest that conceptualizations of the SEL framework may be explained using multiple conceptual models, each referring to different knowledge domains and skills (Durlak et al., 2015; Jones & Doolittle, 2017). There are two primary SEL models often cited in contemporary literature. The first is the Collaborative for Academic, Social, and Emotional Learning (CASEL) model and the second was developed by Jones & Bouffard, referred to as the Jones model. CASEL is an organization promoting development of policies, guidelines, and outcome measures for schools wishing to implement SEL programs. The CASEL model includes five overarching competencies within the SEL framework: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making (CASEL, 2017). The CASEL

framework characterizes competencies such as self-awareness and self-management in terms more relevant to the earlier developmental stages of elementary students (CASEL, n.d.). This framework is more relevant to early educational contexts because it emphasizes primary learning skills that adult learners have already had significant practice with, such as how to model kindness, understand emotion, make caring decisions, and accept responsibility.

For my research, I have chosen the Jones theoretical framework (Jones & Bouffard, 2012)because it is better suited to include the complex mental and social processing that is characteristic of adult learners. The Jones framework categorizes SEL competencies across three domains: cognitive regulation, emotional processes, and social/interpersonal skills. Residents' learning to manage stress requires mastery of all three competency domains since learning and practicing to be a physician is often an emotionally laden experience requiring complex teamwork that involves frequent social interactions in a high-stakes decision-making environment that can lead to conflicts. The cognitive regulation competency includes skills such as attention control, working memory, planning, problem-solving, and cognitive flexibility. For physicians and residents, these cognitive regulation skills are critical for retrieving medical knowledge from memory, working through a differential diagnosis, and planning patient treatment plans or surgical procedures, in addition to adapting to unexpected outcomes or changes in a patient's condition.

The emotional processes competency describes emotional knowledge and expression, regulation of emotion/behavior, and empathy/perspective-taking. Empathy and emotional regulation is especially important in a medical learning environment for many situations including delivering bad news, dealing with a patient's death, or understanding and managing personal feelings such as fear, anger, and stress. The third competency, social/interpersonal skills,

includes skills such as understanding social cues, conflict resolution, and interpreting the behavior of others. In a clinical learning environment where residents work and learn, taking care of patients requires well-coordinated team interactions. Social skills for respecting differences of opinion, reading body language, and mitigating conflicts are essential to ensure safe patient care as well as the mental and emotional well-being of healthcare team members.

While the Jones model advances theoretical and practical work in SEL theory to extend it to adult learners, it may not be adequate to fully describe SEL for all adult learner populations. The model does not address learners experiencing and dealing with stress or its extreme form, burnout, or the processes by which individuals make meaning of these experiences in the context of their work and personal lives. The Jones SEL model characterizes individual learning and skill development processes with regard to emotional and social situations as well as behaviors enacted for success in social contexts. However, it falls short of addressing learning and skill development for behaviors needed for mental and emotional well-being. The cognitive regulation or emotional processes competency of the Jones model would benefit from expansion to include processes such as understanding and practicing a resilience mindset, prioritizing personal wellness, knowing when to take a break, or asking for help, sometimes requiring individuals to override pride or ego.

A thorough understanding of SEL theory and practice, the state of scholarship in medical education, and research on physician stress and burnout are essential to the design of my study. This chapter began with a discussion of what is known about the impacts of chronic stress on physicians, who have significantly higher incidences of burnout and suicide when compared to the general population. The required educational process for a career in medicine in the U.S. was then reviewed, including where the CR role fits in. This chapter then outlined the ways current

researchers have characterized stress and burnout at the residency level. I concluded the chapter by describing the choice and rationale for the theoretical model, Social and Emotional Learning (SEL) theory, chosen to inform my study. The following chapter will detail the methodology, methods, and process of data analysis used in my research study.

CHAPTER 3: RESEARCH DESIGN AND METHODS

The purpose of this study was to explore how CRs understand stressful experiences, deal with them, and how stressful feelings and experiences influence their lives and relationships. This chapter begins by summarizing the research questions and explaining the interpretive phenomenological methodology guiding my study design. Next, the rationale for use of a qualitative interview method is outlined, followed by a description of the data collection process used. Thirdly, I situate my study population within a specific type of U.S. residency training environment to provide context. I then discuss why and how the study participants were selected, including the role my own researcher positionality played. Finally, I summarize the data analysis methods used, limitations, and delimitations of the study.

Research Questions

Understanding how CRs identify, give meaning to, and deal with stressful experiences during this pivotal time in their careers can provide new insights into the greater systemic problem of physician stress and burnout. New learnings may also lead to further research to improve identification and mitigation of contributing factors.

My research questions are:

1. How is the phenomenon of stress manifested in the lifeworld experiences of CRs?
2. How do they deal with stressful experiences?
3. What is the impact of their stressful experiences, how do the experiences shape them?

By listening to their lived experiences, I wanted to understand how CRs describe and interpret stressful experiences both in and out of the clinical learning environment and how these experiences influence the way they see themselves, their careers, and their relationships. I also wanted to gain insight into how they interact with various stressful situations through the

dimensions of their lifeworld, and whether there are factors that have helped them be successful at learning and preventing worsening feelings of stress or burnout.

Hermeneutic Phenomenological Research Design

This study was conducted using a hermeneutic phenomenological approach to data collection and analysis. Hermeneutic phenomenology, also referred to as interpretive phenomenology, is "rooted in interpretation - interpreting experiences and phenomena via the individual's lifeworld" (Neubauer, Witkop, & Varpio, 2019, p. 94). Hermeneutic phenomenological research seeks to "uncover the meaning and central structures, or essences, of a participant's lived experience with a phenomenon and the contextual forces that shape it" (Bynum & Varpio, 2018, p. 252). As such, it is useful for exploring more complex phenomena that are known to have contextual, social, or environmental influences. A hermeneutic phenomenological approach was a good fit since the purpose of this study was to explore the way the phenomenon of stress was manifested through CRs' lived experiences. Stress is characterized as a phenomenon generally influenced by social and environmental factors, evoking a complex mix of cognitive, physical, and emotional responses (Conley, 2015; Rothenberger, 2017; Hariharan & Griffin, 2019).

The hermeneutic, or interpretive, phenomenological approach differs from descriptive phenomenological frameworks in that descriptive phenomenology seeks to describe a phenomena only as it is, separate and distinct from the person who is experiencing it and the context in which it is experienced (Lopez & Willis, 2004). While descriptive phenomenological research requires the researcher to bracket her subjectivity during data collection and analysis to provide an unbiased description of the phenomenon being studied, the hermeneutic phenomenological analysis approach relies on the researcher to engage in thoughtful conversation with the participant where both are oriented toward the phenomenon of focus, and

in this way co-create a shared understanding of the experience (Neubauer, Witkop, & Varpio, 2019; van Manen, 1997). This approach relies on data collection that occurs in overlapping cycles of conversation and reflection, through which the researcher and participant revisit knowledge about the phenomenon from the perspective of time, space, the physical body, the intellectual and emotional self, and through relationships with others, referred to as the lifeworld (van Manen, 1997). Iterations of data analysis occurs as the researcher repeats cycles of reflection, note taking, and thematic analysis, member checking with the participant for accuracy in the interpretation and meanings. Over time, the process allows implicit meanings to emerge and shared interpretations of the experience to become recognizable.

SEL framework supports the use of this methodological approach because it shares the goal of seeking to understand human experience. SEL theory provides an epistemological lens through which researchers and educators seek to understand and observe how humans "develop optimally for success in life" (Brackett, Elbertson, & Rivers, 2015, p. 21). A better understanding of the elements of a person's experience that make them feel stressful responses may lead to discovery of how the experience shapes a person's learning strategies, social relationships, and emotional responses. CRs are adult learners within a clinical workplace environment. The way they understand and make meaning of stressful experiences while learning and working alongside their peers has not been well studied.

Qualitative Interview Method

In hermeneutic phenomenology, human experience is best understood from the experiential reality of individuals' lifeworlds, and the meanings of those experiences influence the decisions they make as they interact with the world (Laverty, 2003; Neubauer, Witkop, & Varpio, 2019). At the same time, interpretation of the experiences are constituted actively by us through a

co-constructive, iterative, conversational process, and therefore data collection cannot easily fit into a prescribed linear method (van Manen, 1997). My decision of method was based on answering the question of how best to access the experiential reality of my CRs' lifeworlds. Choosing to use a conversational interview method meant the focus was on detailed story narratives provided by the participants that would help bring to light their own understanding of their experiences. Listening closely to their stories also allows the interviewer to check their own understanding of the participant experiences, the meanings they ascribed to them, and how these experiences shaped their decisions and lifeworld interactions (Heidegger, 1867).

Fundamental to interview-based qualitative research is the assumption that the perspective of the participant is the central focus and that it is, "meaningful, knowable, and able to be made explicit" (Patton, 2014, p. 341). My goal for the interviews was to engage in a deep investigation of the experiences that created deep feelings of stress or burnout for the CRs. Accessing knowledge about individual lived experiences through interview conversations requires the researcher to always remain in the natural attitude and oriented to the fundamental research question(s) of interest (van Manen, 1997). Although seemingly simplistic, it is easy for a researcher conducting qualitative interview research to become distracted by preconceptions, personal reflections, or speculations in their own mind. Especially when the researcher has significant and relevant subject matter knowledge in the field of interest, there may be things a participant shares during an interview that resonate with, and are meaningful to, the interviewer. While a sense of resonation with the participant's lived experience is one of the hallmarks of a phenomenon being characterized as a shared human experience, it can become easy to get distracted and pulled away by dwelling too much on the interviewer's personal thoughts and experiences. Therefore, remaining in the natural attitude and focused on the lifeworld

experiences of the participant with a firm orientation to the phenomenon of focus throughout the interview process must be carefully attended to (Smith, Flowers, & Larkin, 2009; van Manen, 1997).

As a result of my chosen study design, interviews with CRs were not expected to yield universally generalizable findings. Within the shared experience of humanity, the nature and meanings of each person's individual experience of a particular phenomenon varies. Instead, findings from my study are intended to resonate with others in medical education and to help educators re-evaluate existing ideas about the causes of, and learner reactions to, stressful situations common within the clinical learning environment. Exploring this problem from the perspective of learners who are transitioning into independent practice and potential future leadership roles offers a valuable opportunity to construct new knowledge about stress and burnout among CRs. Learning from the experiences of CRs may also provide unique insight into the reasons for physician stress, burnout, and high suicide rates since CRs are at the point of entry into independent practice. It is well known that learner perspectives are at least in part influenced by the learning context, therefore it will be important to understand a bit about how the particular type of clinical learning environment from which my study population is drawn factors into the lived experience of the CRs in this study.

U. S. Residency Training Context Influences CR Lived Experience

Residents interact with elements of their learning and work environment alongside their peers on a daily basis. Therefore, the experiences that cause the CRs to feel stress are naturally shaped by the structures, support, processes, and interactions that make up their clinical learning environment. At the same time, the CRs are also acting upon and shaping the environment. The CRs in my study were all chosen from a single medium-sized general/teaching hospital in the

Midwest. In the U.S., general/teaching hospitals and community based training institutions differ from traditional academic medical centers in several important ways. Although a number of newer types of clinical teaching institutions such as FQHCs and ambulatory care clinics have emerged in recent years, they remain less common. As a result, this section will focus on describing the context of the general/teaching hospital and community based training institution, and how this type of clinical learning environment differs for trainees from a traditional academic medical center. An understanding of the nature of the CR training environment informs my methodological choice and qualitative interview approach because of the accessibility and flexibility it affords in data collection. Typically, the general/teaching hospital and community based training environments are less homogeneous in terms of scheduling structure and less prescriptive in terms of curriculum than an academic teaching center is known to be. A conversational interview approach offers the most flexibility, and allows the participants to take the conversation to go where it needs to without constraints of time and distance providing additional limitations. Additionally, the learning and working experience of residents in community-based training institutions is vastly different from that of residents in an academic medical center setting as it includes unique challenges and opportunities that could reasonably be anticipated to contribute to stress.

Historically, medical education in the U.S. was centralized within large academic institutions, and over time expanded to meet growing community needs for greater access to care in rural and urban areas, in addition to an overall greater demand for more U.S. residency training positions overall to stave off a future projected physician shortage (AAMC, 2021).

In comparison to academic medical centers, general/teaching hospitals, also commonly referred to as community-based teaching hospitals are generally known to have fewer residents

and faculty, fewer resources, and a greater reliance on clinical productivity to generate revenue. Firstly, community-based teaching hospitals usually have smaller numbers of residents and faculty compared to academic medical centers because the ACGME requires hospitals to meet minimum faculty:resident ratios for appropriate supervision and provide minimum levels of compensated, dedicated non-clinical time for program faculty and administration.

Secondly, community-based teaching hospitals are not part of a university and therefore are focused almost exclusively on providing patient care services to meet the needs of a community. The faculty are often hospital employed physicians who are required to meet productivity goals in addition to fulfilling teaching and administrative responsibilities. The teaching physicians in community based teaching hospitals have less time and fewer, or no, supporting staff to engage in grant-funded or clinical trials research projects than faculty in an academic medical center. This means the residents in community-based teaching hospital programs spend the majority of time accompanying their supervising attending physicians in surgeries, rounding at patient bedsides, and doing procedures. As they gain experience, they assume more responsibility for direct patient care activities having a supervising attending available on site, and eventually having one available remotely by a phone call.

Conversely, academic medical centers are part of a university with a dual mission that locates medical education as a core purpose alongside the provision of patient care. Academic medical departments are primarily devoted to teaching and research, and the faculty are professorial educators. Patients are assigned on a limited basis and provide teaching examples. Resident trainees in academic medical centers generally have a more equitable balance between time spent in lectures and/or working on research projects (education/research), and clinical time engaging in patient care responsibilities (work). Academic medical centers generally have access to a

greater breadth of medical expertise for specialty and subspecialty teaching lectures, and also have research departments and staff to support resident and faculty projects that bring in funding.

The particulars of the clinical learning environments of the community-based teaching hospital are relevant to my study since my participants are all learning and working in a community-based teaching hospital, also referred to as a general/teaching hospital. Compared to their counterparts in academic medical centers, I hypothesize my participants face significantly different pressures to find time to study for board exams and participate in research activities (a required component of medical residency training) since residents in community-based teaching hospitals spend more time doing patient care work. I also understand my study participants likely have access to fewer equipment resources and/or comparatively poorer quality than their academic medical center counterparts, such as efficient eMR and simulation technology. These contextual and environmental factors could reasonably be expected to have some impact on the social and educational experiences CRs who are my study participants have and their associated feelings of stress or burnout.

National Landscape of Residency Training Contexts in The U.S.

According to the most recent data available in the ACGME Data Resource Book (2021-2022), General/teaching hospitals, also often characterized as community-based teaching hospitals, make up 346 of the 871 sponsoring institutions (43%), and 33% (4,179) of total accredited programs. Academic medical centers, also referred to as university-based teaching institutions account for 16.2% of the 871 accredited sponsoring institutions in the U.S., although the 130 academic medical centers sponsor 48% (6,124) of all accredited programs. (ACGME, 2022). According to the report, “Though a much smaller percentage of total sponsoring institutions, Academic Medical Centers/Medical Schools account for 46.5% more programs and

31.9% more residents than General/Teaching Hospitals" (ACGME, 2022, p. 119). The state of Michigan hosts only 4.7% of the 12,740 U.S. ACGME-accredited training programs. Of those, 196 are programs at general/teaching hospitals and 285 are programs at an academic medical center.

Interview Design

For my study I used a conversational interview approach. As with all phenomenological research studies, the interview format is conversational in nature because the goal of the interview is to investigate the subjective experiences of the participants. There is one primary interview question that serves as the opening prompt and sets the focus on the phenomenon under study and drives the rest of the conversation. In my study, I asked follow-up questions to prompt the participant to talk about aspects of an experience in greater depth and to get a better understanding of the participant's lifeworld experience of time, space, social relationships, and embodiment, although the initial question drew the boundaries and set the clear focus for the whole conversation.

My primary interview prompt was:

1. Tell me about a time when you became really, acutely aware you were feeling stress.

The goal of this type of interview is to fully engage in genuine conversation with the participant, co-constructing a shared understanding of the participant's authentic experience of the phenomenon through dialogue. Follow-up probing questions were entirely based on where the participant took the conversation. As examples, some or none of the following sample questions were considered and may have helped guide the conversation with some of the participants:

1. What was happening at the time? Where were you?

2. What were you feeling or noticing?
3. Who else was there? What was your relationship like? And now?
4. Did you think or talk about this later?

Capturing rich, descriptive details of participant experiences from their perspectives during interviews was important to the design of my study and fit well with the study goals of exploring CR perspectives in their own words and through their own stories. While listening to the participants talk about their most stressful experiences, I tried to remain focused on capturing as much detail as possible along each of the five dimensions of lived experience; time, space, physical body, existential realm, and social relationships, while remaining oriented to the phenomenon of focus.

Participant Selection

Participants for the study were recruited using a purposeful selection method since the goal of this study was to interview people who are members of a group (CRs) who possess a type of knowledge and experience not able to be captured through a random or convenience sampling of the general population. In a purposeful selection strategy, participants are, "selected deliberately to provide information that is particularly relevant to your questions and goals" (Maxwell, 2013, p. 97). I was hopeful to, and ultimately did, have participant volunteers from a variety of medical specialties, since each tends to emphasize the use of somewhat unique communication, problem-solving, and leadership styles based on the nature of the work. For example, some disciplines such as emergency medicine and surgery, require more snap judgments, high stakes life-and-death decision-making, and a mental ability to think and behave calmly in chaotic and complex situations. Others such as family practice require well-developed relationship building skills, critical thinking involving a greater variety of health conditions and factors, and a gentle

communication approach. CRs in different specialty disciplines are likely to have a different experience of stress and coping strategies. Other than being a senior level resident or fellow designated as a CR in the program, there were no other criteria by which participants were included or excluded.

I initially invited all 2021-2022 graduating CRs from the ten ACGME-accredited residency and fellowship programs at one community-based teaching hospital located in the upper Midwest U.S. All participants were invited by email and indicated interest in being included in the study by returning a signed participant letter of informed consent. This approach provided the best opportunity to recruit volunteer CR participants from a variety of different types of specialties, including surgical, primary care, procedural, emergency medicine, and subspecialty care. Another reason for choosing CRs is personal. Over the past few years of supporting the hospital's pandemic response, I had the opportunity to work closely with a number of CRs on various issues. I met with them at different times to get input on solutions for meeting new challenges that arose throughout the pandemic, and was also given insight into some of their concerns about the impact on their education and personal lives. I know some CRs preparing to graduate have been on difficult and unique journeys during their training years, and I was hopeful they would choose to share their lived experiences oriented to exploring the phenomenon of stress with me. Other CRs I did not know well, and wanted to create space for the unexpected, for stories and experiences I was not anticipating that needed to be heard and understood.

All interviews were conducted by me in-person in my office, since CRs are usually engaged in clinical or academic activities and are often on-site at the hospital. I offered to meet them at

times convenient to them by providing flexible availability after hours, early mornings, and weekends to accommodate their schedule preferences.

Researcher Positionality

Although not possible nor desirable to be fully objective and completely detached from the research subjects, each scholar must carefully consider the ways personal perspectives influence the lens through which new knowledge is filtered. Because most research efforts come out of a natural interest in something the researcher cares about professionally or personally, they naturally have some ideas about what might be observed before starting the research. Max van Manen described phenomenological research as, "a being-given-over-to some quest, a true task, a deep questioning of something that restores an original sense of what it means to be a thinker, a researcher, a theorist." (van Manen, 1997, p. 31). My work in graduate medical education often stimulates curiosities about the educational phenomena I observe and interact with. Most specific to this study, I have observed that different CRs interpret and respond to the same stressful situations differently, and have more or less of a positive impact on their junior colleagues. I wonder what the experiences mean to the CRs, how they situate them in the context of their other daily life experiences, what they feel emotionally, and why each might respond similarly or differently than their peers.

Data Collection And Analysis

Prior to beginning the research, IRB approval was obtained from Michigan State University as an exempt study. Participants were interviewed individually by the researcher at a time and location mutually agreed upon. At the beginning of each interview, the purpose and format of the interview was explained again and each participant was asked to choose a pseudonym. All interviews were audio recorded with permission from the participants, who were only referred to

by pseudonym throughout the interview process. After confirming the process for identifying CRs in their respective programs, the opening prompt for each participant interview was the same: "Tell me about a time when you became really, acutely aware you were feeling stress." The questions that followed were adapted as needed based on the participant's responses to gain a deeper understanding or clarity. Consistent with the phenomenological interview approach, the interview was not highly structured to allow for natural conversation so the dialogue could flow naturally in the direction it needed to go. Each interview lasted approximately 60-75 minutes.

Phenomenological Approach to Data Analysis

Since I chose a phenomenological methodological approach to collect and analyze data for my study, the analytic focus for my research was on the CRs' attempts to make sense of experiences they characterized as stressful. The goal of my analysis was to interact and engage repeatedly and reflectively with the participant's lifeworld account as they shared it with me through the interview process. Phenomenological analysis of interview data is often characterized as both iterative and inductive, employing a number of strategies to arrive at a shared interpretation of the participant's experience (Smith, 2007; Smith, Flowers, & Larkin, 2009). The analytic process is complex, the strategies used are not often employed in linear fashion, and may include any combination of the following:

- A close, line-by-line reading and re-reading of the original experiential data of the interview transcript, listening to the audio recording, and note-taking (Larkin, Watts, & Clifton, 2006).
- Identification of patterns or themes that emerge from the data, paying particular attention to aspects of commonality and differences across participant experiences (Eatough & Smith, 2008).

- Consideration of the researcher's own knowledge, connection to the data, potential interpretation influences, and what meanings might be ascribed by the participants given their particular contextual influences, moving toward an interpretive narrative (Larkin, Watts, & Clifton, 2006; Smith, 2004).
- The organization of a structure to illustrate the relationship between themes and provide a framework for a full interpretive narrative, supported by commentary and quotes (Smith, 2007). The final result is an account of the researcher's understanding of the meanings the participant ascribes to the phenomenon in focus. Therefore, it is a shared interpretation of the participant's lifeworld experience.

As is the nature of phenomenological analysis the process is complex, multi-faceted, and rigorous although the trustworthiness of the final interpretation and claims about the participant's experience remain subjective and tentative, always open to subsequent reader checking (Smith, Flowers, & Larkin, 2009). As van Manen explained, "A phenomenological description is always *one* interpretation, and no single interpretation of human experience will ever exhaust the possibility of yet another complementary, or even potentially *richer* or *deeper* description." (p. 31).

Step 1: Listening & Transcribing: Capturing a Sense of The Whole. A phenomenological interview analysis starts by seeking a broad sense of the whole interview through immersion in the original data (Smith, Flowers, & Larkin, 2009). This was best accomplished by listening to each recorded interview while reading the initial transcription and ensuring the accuracy of the transcript. I used an online transcription software, Transcribe by Wreally, for the initial transcription of the audio recorded interview files. I chose this program because it allowed the flexibility to upload audio recordings in a variety of formats, to customize features of the

transcripts such as timestamps, and to customize speaker names to preserve anonymity in the original data set. I was also able to download the files in a variety of formats for ease of use, transportability, and editing.

While listening to the interviews and following the transcription I did not initially spend time thinking about individual parts of the interviews, but instead remained focused on the overall contextual elements, the participants, as well as the time and physical space in which they were situated. This step allowed me to slow down and become re-oriented to each participant and their experience of the phenomenon as the focus of the research. Beginning the analysis by listening and reading through the whole of each interview is also important for allowing the researcher to record any personal strong or significant recollections of the interview experience or capture any initial observations (Smith, Flowers, & Larkin, 2009). This is important to do because while a researcher is a co-participant in the interpretive process of hermeneutic analysis, the focus remains on the participant's authentic lived experience of the phenomenon (Finlay, 2009). Therefore, I intentionally wanted to identify my own initial feelings, interpretations, and reactions about my own experiences of stress that came up as the participants said things resonated within me. My goal in doing this was not to exclude or bracket them, but to allow me to come back to them later to make an intentional decision about whether they should become part of the final interpretation of meaning.

As I read and listened to the interviews, I began to see ways the phenomenon of stress was being manifested through their experiences that prompted additional questions for a deeper exploration of the data. For example, multiple participants expressed feeling the need to do something "on their own" or without anyone's help, even when they knew multiple ways to get support were available. Why?

SEL was my guiding framework, therefore everything I heard about the way CRs perceived, understood, enacted, or expressed stress became part of the data analysis. As I reflected on the interviews and my notes, I coded the data to capture themes that emerged from our conversations. There were a few initial categories I started with based on my working knowledge of the CR role, what is known in the literature about stress during residency, and added categories as more data was collected.

Step 2: Reading, Re-reading, And Note-taking. This step is the beginning of entering the participant's lifeworld through the data. During the initial reading and note-taking phase, the researcher begins to get a better sense of the ways each participant talks about, understands, and thinks about the phenomenon in focus (Smith, Flowers, & Larkin, 2009).

During the initial reading, I highlighted phrases or sentences that stood out to me and that I wanted to come back to for additional reflection. I also used the comments feature within Google Docs to add notes directly next to specific lines about questions I thought of or initial thoughts that emerged related to the phenomenon and the transcript text. After the initial reading, I journaled in a separate document my initial impressions of each interview, including summary notes about emotional moments or non-verbal communication that was noted and any repetitive keywords that initially came to mind. I continued journaling memos throughout the analytic process.

Coding & Categorizing. For subsequent readings, I used the process of coding each interview using a matrix mapping strategy to organize words and phrases into theme categories, allowing patterns to become more visible (Maxwell, 2013). For the initial coding categories I started by trying to get a sense of each participant's experience of stress through their descriptions of the lifeworld elements they associated with their stories: time, physical embodiment of the senses,

interactions with others, thoughts and emotions, or other interactions with the world through the experiences they shared. Through the matrix mapping process, I was able to connect words or phrases the participants used to describe their feelings about and responses to their stressful experiences. Finally, I connected initial thoughts related to meanings the participants themselves attached to the nature of their experiences. This included anything in the words, phrases, or non-verbal cues the participants provided that pointed toward their own interpretations of their experience. These meanings were useful to help ensure I did not move too far from the participant as central to the phenomenon of focus as the analytic process progressed.

I started with seven initial coding categories: time, space, physical embodiment, social relationships, existential thoughts, emotions, and responses. Although this may seem like a large number of initial categories, working with a relatively small number of participants allowed me to spend more time analyzing the interviews for clues within each initial coding category. "Phenomenology is the study of the lifeworld - the world as we immediately experience it pre-reflectively rather than as we conceptualize, categorize, or reflect on it" (van Manen, 1997, p. 9). Since human consciousness is the vehicle by which human beings have access to and are related to the world, what we can learn about human experience is available to us through the dimensions of our consciousness that connect us to the world: time, space, physical embodiment and social relationships (van Manen, 1997). I chose to include the lifeworld elements as initial coding categories in my analysis of the participants' experiences to ensure I did not overlook any of the dimensions.

I anticipated at the conclusion of note-taking and coding, a descriptive set of patterns and themes would begin to emerge with a clear focus on the phenomenon of interest, that also closely reflected the participants' explicit meanings of their experiences (Smith, Flowers, & Larkin,

2009). I engaged in multiple cycles of note-taking and coding, revisiting the transcripts and notes while moving from a focus on descriptive, face-value words and phrases to forming more conceptual comments intended to convey possible interpretative understandings.

Step 3: Emergence of Essential Themes and Connections. The third phase of analysis involves working with the data in a way that maintains the complexity of concepts, relationships between ideas, and patterns while condensing the volume of detail into more comprehensive ideas (Smith, Flowers, & Larkin, 2009). As the analytical process progresses the original whole of each interview is dissected into parts, and then eventually reassembled into another new whole at the end of the analysis based on what has been learned through the explicit text and interpretative meanings. This portion of analysis reflects the hermeneutic circle where the parts are interpreted or considered in relation to the whole and the whole is interpreted in relation to each of its parts (Bynum & Varpio, 2018; Neubauer, Witkop, Varpio, 2019; van Manen, 1997). For this phase of the research, my goal was to attempt to develop concise expressions of the most important elements of the participant experiences. "Themes are usually expressed as phrases which speak to the psychological essence of the piece and contain enough particularity to be grounded and enough abstraction to be conceptual" (Smith, Flowers, & Larkin, 2009, p. 92). In reviewing all of the data from each participant individually and collectively, comparing each coding matrix and checking for patterns of themes across categories, I was able to determine a set of themes that characterized the CR lived experience of stress for them. Some themes were unique to each of their experiences and others shared commonalities across some or all of the CRs.

Validity

Data analysis is an iterative and multi-directional process, whereby the researcher engages with the text and the participant in cycles of reflective thinking, member checking with the participants, moving from consideration of the whole transcript, deconstructing the interview data into discrete parts, and recombining data into new whole parts as themes, expansion and recombinations of ideas, and revisions (Smith, Flowers, & Larkin, 2009; van Manen, 1997).

Validity as a standard in judging the trustworthiness or quality of outcomes in a qualitative research study is not used as a verification of the results against an "objective truth" (Maxwell, 2013). Quantitative assumptions do not fit qualitative research, such that individual human emotions or responses to events they experience cannot be judged against a particular correct or incorrect uniform standard. In qualitative research, the term validity is more commonly used to discuss "the correctness or credibility of a description, conclusion, explanation, interpretation, or other sort of account" (Maxwell, 2013, p. 122). Therefore, threats to validity would consist of alternative plausible explanations or interpretations of the interview data I collected. Two primary types of validity bias are researcher bias and reactivity bias.

Researcher bias occurs when the researcher reaches conclusions from the data by impartially choosing elements that align with the researcher's preconceived beliefs, theories or goals (Maxwell, 2013). Reactivity bias can occur when the researcher's presence influences the participants being studied. Since the views of the researcher are also part of the phenomenological research process, it is impossible and undesirable to eliminate them from the study interpretations. Therefore, I chose to guard against potential researcher bias and reactivity bias to the extent possible by disclosing any potential biases or relational influences in the

description of my researcher positionality, subject knowledge, interest in the phenomenon, and reasons for engaging in the research.

Another way to protect the validity of qualitative study outcomes is through respondent validation, commonly known as member checking (Maxwell, 2013). Through member checking, I sought feedback about my interpretations and themes from the participants themselves. This was done to be sure I understood the nature of the experiences they shared with me, both explicit and implicit, as well as the meanings their lived experiences held for them. Member checking allowed me to avoid misinterpretations, to capture participant perspectives accurately, and to check for any potential appearance of my own biases.

Delimitations

Choices made about study design, participant selection, interview protocol, and data analysis may come with certain delimitations. Since I only interviewed CRs in one community-based hospital where I work, any influence of local cultures or societal norms in other hospitals or other geographical areas of the country would not have been accessible.

All CRs interviewed were in residency or fellowship training during the Covid-19 pandemic, which certainly impacted their experience of stress in ways that would be expected to be unique.

Limitations

Limitations exist for all studies. First, since the CRs in my study self-selected to participate, it may be they all were CRs who were more acutely impacted by their lived experience of stress than their peers and had a greater interest in sharing their personal journey.

Although the results of my study were not intended to be generalizable, the timing of this research coincided with a rare event in world history. Universally, humanity began experiencing a health care crisis, the coronavirus pandemic Covid-19, in March of 2020. Extreme morbidity

and mortality rates as well as critical shortages of protective equipment likely had a significant influence on CR stress in ways that would not have occurred without the pandemic. Heightened levels of worry and fear were prevalent in every clinical learning environment, and residents were often on the front line of caring for critically ill patients. CRs were stretched in new ways as leaders to help mitigate junior resident fears, coordinate assignments, and advocate for program needs, without any additional resources or training. Significant changes such as schedules and unit assignments being adapted to meet evolving hospital needs and the disruption or cessation of didactic routines certainly would have been expected to impact participant responses in atypical ways that would not be observed without the presence of this worldwide crisis.

Summary

The problem of physician stress, burnout, and suicide is acute within the profession, and the medical education literature does a good job of describing contributing factors, symptoms, and outcomes of stress and burnout on providers at the medical school, residency, and professional practice levels. What is lacking is a better understanding of how CRs, uniquely positioned to lead junior peers while preparing themselves to enter independent practice experience, give meaning to, and deal with stressful experiences in the clinical environment. Equally important is the need for a better understanding of the ways their experiences influence their lifeworld and ways they shape their lifeworld through their interactions with the stress experiences. Using an interview approach informed by phenomenological methodology will help deepen the understanding leaders and educators have of this phenomenon.

CHAPTER 4: PARTICIPANTS & SUMMARY INTERVIEW OUTCOMES

This chapter begins with a revisiting of my research questions. I then provide profiles for each of the four CRs who participated in the interviews including their specialty disciplines, personal characteristics, and the process for selection of CRs in each of their respective programs. Next, some initial interview observations are summarized. The chapter concludes with an outline of three primary themes that emerged. The themes characterize co-constructed interpretations of the CRs' lived experience of being stressed. The themes will then be expanded upon in Chapter 6 as part of a detailed narrative description of study results.

The purpose of my study is to explore how CRs experience stressful situations and events, the meanings they ascribe to them, and the ways these experiences have shaped them, their world view, and their relationships.

My research questions are:

1. How is the phenomenon of stress manifested in the lifeworld experiences of CRs?
2. How do they deal with stressful experiences?
3. What is the impact of their stressful experiences, how do the experiences shape them?

CR Interview Participants: Summary Characteristics

Four CRs volunteered to be interviewed, all from different specialty training programs at one community based teaching hospital. Overall, all CRs were co-CRs, meaning each shared the responsibilities with at least one other co-CR in the program. Not all residency or fellowship programs have co- or team-CRs, but this structure is more common in larger programs. The CRs who volunteered to be interviewed all happened to be from programs with multiple CRs. Of the four CRs interviewed, two were female and two were male.

Ray and Joe were from a surgical program and a medicine subspecialty program, respectively, and both smaller programs in size, 15 and 6 total trainees, respectively. In both of their programs, all senior residents were designated as CRs, meaning there was no competitive selection or election process. Ray's program is a 5-year program, and he was a co-CR with 2 others (3 seniors in total). Joe's program is a 3-year program, and he was a co-CR with 1 other (2 seniors in total).

Vicki and Elsa are both from larger programs. Vicki was from the Internal Medicine program (30 total residents), and the CRs were peer-selected in this program. There are 2 CRs that are seniors (third year of three in the training program), and 1 CR that is a second year resident (3 total CRs). Elsa was from an Emergency Medicine residency program, also with 2 senior co-CRs and a junior level CR (3 total CRs). The program is 4 years long, and has a total of 24 residents (6 in each year of training).

Ray, Orthopedic Surgery CR

Ray's name is a family name from his grandfather. He is originally from the South, although I would guess he probably lived in the Midwest most of his life. There is barely a hint of Southern accent in his speech. He has a friendly, disarming smile, which is a true asset for any physician because it immediately conveys to patients a warm and effortless invitation to trust. His hair is medium blondish-brown. As he talks, he seems to convey a serious and logical perspective about relationships and approaches the stories he shares somewhat analytically.

I opened our time by asking how CRs are selected in his program, since all programs handle the process differently. In the U.S., all orthopedic surgery programs are five years in length, and in Ray's program there are 15 residents, which means each class year has three residents. It is not uncommon in smaller programs such as this, for all fifth year (senior) residents to be designated

as CRs and share the responsibilities associated with the role. Ray confirmed all three seniors in his program shared the responsibilities for scheduling junior residents, planning and leading education days, acting as liaison between residents and program attendings, and resolving any issues between residents that might arise. He noted that some CR teams might divide the responsibilities, but that his co-CRs all worked well together and shared everything, based on whoever was most interested or available to take on different tasks each month.

Vicki, Internal Medicine CR

Vicki is a CR in Internal Medicine, a three-year, primary care residency program focused on adult inpatient and outpatient medicine. She is tall with a sturdy build, dark brown shoulder-length hair pulled into a sensible bun, and glasses. She looked around, giving my office a thorough once-over before taking a seat, and she spoke efficiently and with purpose. Vicki had a heavy Irish accent, and I happen to know she was born in Ireland and only came to the U.S. as an adult during her college years. After graduation Vicki plans to stay in the local area, and has accepted a full-time position to join the teaching faculty of a neighboring community hospital's Internal Medicine program.

At this hospital internal medicine is one of the larger programs with 30 residents. There are two senior CRs and one junior CR. The junior CR usually continues into their senior year as one of the two senior CRs unless there is a problem with their performance or the person doesn't want to stay in the role. Vicki is a Senior CR, and was a junior CR last year. She told me there are typically multiple people expressing interest in being CR, and they are chosen by vote among the rest of the residents. Although she did not explicitly say, it was clearly implicit there was no application process, no set list of criteria, no academic or professional requirements, and no predetermined skill set that factored into the CR decision. I paused, waiting for details about the

requirements, process, or who else might be involved. Finally I sought clarification of whether the selection was simply peer selected and Vicki confirmed. Faculty were not known to weigh in, although I know the Program Director has the ability and responsibility to reject a selected CR if there are academic or performance concerns peers may not be aware of. The two senior CRs each have different responsibilities. One handles the didactic schedules, topics, speakers, reading, and any other related needs or issues. The other CR handles rotation scheduling, including ICU coverage, and any other issues that arise. Both CRs are liaisons between the residents and Program Director, and help residents resolve any conflicts with each other or residents in other programs. The junior CR helps both senior CRs in whatever areas needed. During this past year, Vicki was in charge of the rotation scheduling, and said it was by her choice. She said she just didn't prefer to deal with the didactics.

Joe, Cardiovascular Disease Fellowship CR

Joe is a chief in his final cardiovascular disease fellowship training year. Although Joe is technically a chief fellow, I will continue utilizing the CR term for consistency since the roles serve the same purposes in their respective programs. Joe's fellowship is a three-year program that accepts two fellows each year equaling six total fellows in the program. Fellowship programs are for doctors pursuing additional training and board certification in a subspecialty after successful completion of an accredited residency training program. Fellowships are more competitive to get into than residency programs because they are smaller, highly specialized, and have fewer available positions each year. Cardiovascular Disease is one of the subspecialties available after completion of an Internal Medicine residency. Joe completed his Internal Medicine residency at the same hospital where he is now training in the Cardiovascular Disease Fellowship.

Joe will be graduating soon, moving to York, Maine with his wife and two preschool aged children, and going into practice. Although he has only been to that part of the country twice, his wife's family is from the region and he seems eager to go, completely unconcerned with unfamiliarity. Joe has dark hair and eyes, and a polite, humble demeanor. He has a kind voice although I didn't consider him soft-spoken. He seemed like someone who would easily be able to put his patients' minds at ease. I guessed Joe was probably a go-to cardiovascular fellow when an especially calm presence was needed, or for giving particularly difficult news, and I assumed he will be missed in the program after graduation. Finally, at 32 years of age, Joe is ready to begin his adult life and career after 14 combined years of undergraduate work, medical school, residency and fellowship. I can hear it in his voice. He is smiling, and he looks calm and relaxed. There are literally only days standing in the way at this point, and he seems excited to begin his next chapter with his family.

As is fairly common in fellowship programs as well as residencies, Joe and his co-senior in the cardiovascular disease program are both considered CRs. Having the fellow(s) in the senior year automatically assume the responsibilities of CR simply by default means there is no selection criteria or election process they must undergo to achieve the position. Although this means there could be a perceived difference between CRs who were required to earn or compete for the position and those who's positionality automatically granted it to them, in my experience there does not appear to be a difference in the way CRs respond to each other as leaders, or the way they are treated by junior residents. All CRs carry a similar set of responsibilities within their programs, although scope varies based on program size. I suspect one of the reasons there are no obvious disparities is because smaller programs are by nature more selective from the outset and therefore all applicants are exceptionally qualified. Well-developed leadership,

organizational, and administrative skills above and beyond medical knowledge within smaller programs tend to be more homogeneous.

Elsa Emergency Medicine CR

Elsa is a CR in Emergency Medicine, a fast-paced discipline requiring snap judgments and a wide medical knowledge base that crosses many other disciplines. This Emergency Medicine program is a four-year program, with a total of 24 residents or 6 per year. Elsa talked faster than anyone I know, often using run-on sentences in a stream-of-consciousness style of speaking that seemed wholly appropriate for the nature of her life's career. She also brought her two, busy, young daughters with her to our interview, ages two and four, and she attended to their frequent interruptions with an unbelievable ability to keep perfectly in step with our conversation as well. She was fully present, authentic, and as much in her natural state as anyone could be. Although at first I wasn't sure we would be able to connect and remain oriented to the phenomenon of focus, I quickly realized the Elsa in front of me was exactly who she was every day.

There are two CRs in the Emergency Medicine program, who are simply voted in by all the residents and faculty collectively. There is also an Education Coordinator position that is also a senior resident position. The selection pool for the three positions consists of all 6 upcoming senior residents less anyone who chooses to opt out. There is an "all in" policy, meaning everyone who is willing to be considered must be willing to serve in any of the three positions. A senior cannot decide they would like to be considered for only the Education Coordinator position but not a CR position, or vice versa. As with the other CRs, there are no other established prerequisite criteria beyond being a senior level resident in good standing in the program. The program director is able to overrule the selection of someone to a position if he feels strongly they should not be in the role, although in 30 years of being the program director

he has not had to do it. Elsa said there have been years when rumors have gone around that there was favoritism involved in who ended up in the CR positions, although Elsa doesn't believe it is feasible since everyone including the faculty and the PD, only gets one vote. In her program, the Education Coordinator plans the didactic schedules, presenters, and topics, while the co-CRs divide the responsibilities of scheduling, mentoring, teaching, and other program administrative support tasks.

Initial Results: Interview Observations

All four CRs I interviewed talked about sharing the burdens of extra administrative work that included creating schedules, didactic lecture planning/organizing, and resolving problems brought to them by junior residents. None of the CRs gave details about problem resolutions they were engaged in, but one CR, Vicki, said her role also involved being a liaison between junior residents and the program director.

Another thing all CRs did was tell multiple stories, providing multiple examples of lived experiences of stress. Although I expected to deeply explore a single lived experience story with each participant, hearing multiple stories allowed me to gain a broader insight into the variety of stress experiences they encountered and the relationships between them. By allowing the conversations to flow naturally, the CRs took them where they needed to go. They each connected and wove their own stories together to create a complete picture of their unique lived experience of stress. The interconnectedness of their stories was a key element of their experience.

Each CR participant was asked to recall and describe a time when they became acutely aware they were feeling extremely stressed. One thing I immediately noticed after the initial listening and transcribing was that none of the participants shared an experience from their current, Chief

Resident, year. Three of the participants shared an experience from their first year of residency, and one shared his experience from his second residency year. This is an unexpected element of commonality across the participant experiences, since one of the reasons for selecting CRs was due to the career phase they are in; at the end of educational years, and just before moving into independent practice.

None of the four participants described stress associated with clinical work functions, patient care tasks, or studying for exams as a significant contributor to their most stressful experiences. On the contrary most specifically volunteered at some point during the interview, without being asked, that they did not find the nature of their jobs stressful at all. After describing how deeply the death of a patient she had been caring for during an ICU rotation impacted her Elsa offered,

> "…other than that I've never really had a terrible, stressful, you know *[work situation]*. Like, being in the ER, our job is relatively, I wouldn't say easy, but like I said, we know how to do our job and when we leave work, it's over. And it's not like taking call, or whatever. The only stressful part really for me is having to deal with childcare and stuff."

Joe, in explaining how he felt needing to ask his colleagues for help, shared, "...it's just overall I found that, you know, working in residency or fellowship, working hard or taking care of patients was never that stressful for me. But having to rely on somebody else and asking for a favor, that was really stressful for me." I must have had a surprised expression on my face because he added,

> "Even when I was very busy, taking care of a big list, I never felt that stressed. [*paused*] I've never found work that stressful, to be honest. And even, you know, you talked about taking exams, and those are really high stakes exams, of course. And I've taken four

[*subspecialty certifying board examinations*] because of my specialty, but even that I didn't find that stressful. It was tough studying for it, but it was not that stressful."

The CRs I spoke with shared a belief that stress from work-related job functions, including managing multiple patient care tasks, even life-threatening ones, is more often energy stimulating, improving mental acuity and strengthening focus, judgment, and efficiency. A modest amount of work-related stress did not hold the same meaning for them as the negative stress that contributed to the anxiety-producing lived experiences more likely to push them to burnout. Vicki also separated these two concepts in her own way stating, "stressful situations like having two patients who are critically ill and crashing at the same time. That's stressful. But that doesn't block me from doing the job. I think that actually makes me be more efficient and make decisions faster."

It was easy to see the four CRs shared some similarities in their lifeworlds related to the phenomenon of stress. In addition, each of their experiences uniquely shaped and were shaped by them. After reflecting on descriptive interview observations, I turned my attention to more conceptual and thematic interpretations of the data.

Brief Introduction of Essential Themes

Learning and working within a clinical environment means CRs are regularly engaged in health care team interactions. Dealing with the emotional and social complexities of teams and the high-stakes nature of health care decision-making naturally creates stress for individuals. What is not well understood is how CRs understand, interact with, and are shaped by the stressful experiences in their lifeworld. As a result of the interviews, three primary themes emerged relating CR stressful experiences to a high need for autonomy, strong feelings of inadequacy and guilt, and feeling the need to keep personal struggles hidden. I will briefly

outline the themes here, followed by a deeper narrative description of each theme in the following chapter supported by participant text and co-interpretations of meanings.

The first theme that emerged was a high need for autonomy. Although manifested in different ways, all four CRs I interviewed derived significant stress from parts of their lived experiences where they felt the greatest lack of autonomy. The role of CR is one that comes with a certain amount of required autonomous decision-making. Exercising control over resolving peer conflicts, setting schedules, and planning didactic lessons necessitates a measure of autonomy by nature. In addition, they are at the point in training where they are making career and life decisions that will impact their futures. Simultaneously, their daily work routines and schedules are nearly devoid of autonomy. Adding unanticipated changes in personal life or family schedules during the day magnifies an already imbalanced tug of war between high accountability for decision-making and little freedom to make decisions.

There were two ways a high need for autonomy was conceptualized within the broader theme. The first way emerged as a thread woven throughout my conversation with Ray more than with the other CRs. This conceptualization of autonomy was expressed in multiple ways as a high determination to have autonomy over the structure of his work, both his future practice setting and the current structure under which residents are trained. The second sub-theme was a high need for autonomy over their time, which was regularly stripped away by the unmitigated presence of interrole conflict. Vicki, Joe, and Elsa all expressed significant stress from experiencing competing mental demands resulting in feelings of having a complete lack of control over the way they could spend their time. As adult learners in charge of many other areas of their lives, the fact that using time was beyond their grasp was extremely stressful.

The second theme that was revealed as a significant element of the CRs' most stressful lived experiences was strong feelings of inadequacy and guilt. Choosing a medical career carries with it a heavy responsibility for the lives of fellow humans that the CRs I spoke to all took seriously. Even though they are learners, they still expressed deep feelings of inadequacy, guilt, and shame with anything they perceived as a personal failure. Making mistakes or letting others down, while understood as growth opportunities, generated stressful feelings with those experiences that had lasting impacts. Some of the most difficult and stressful events the CRs shared with me were experienced in multiple ways and lent themselves to interpretation as part of the sub-themes. The two primary sub-themes included feelings of inadequacy from believing they were not doing their fair share of the work in the program, and guilt from feeling as if they had not done enough for patients, families, or colleagues.

The final emergent theme from my conversations with the CRs was their feeling the need to keep personal struggles hidden. Although many within the profession, in addition to educators and researchers, have called for an end to the longstanding culture of silence preventing doctors from seeking support for mental health, clearly it persists. I listened carefully as they opened up and described ways stress was manifested in their personal and emotional struggles. As the CRs shared reasons they felt strongly compelled to keep their struggles undisclosed from peers and supervisors as much as possible, two sub-themes became apparent and further illuminated our shared interpretations of their experiences. First, some of the CRs expressed fears of being perceived as less capable relative to peers if it was believed they were not able to compartmentalize their emotions. As a result, the CRs acknowledged it was an unspoken norm that most residents avoided talking with colleagues about anything that evoked emotional feelings, and worked hard to conceal emotions over discouraging patient outcomes. The second

sub-theme, an interpretation of why the CRs felt it necessary to keep personal struggles hidden, was a lack of close, trusting relationships with peers outside of work. The CRs in my study each discussed having good relationships with other residents in their programs, and believed they worked well together. However, they also acknowledged not being able to spend time connecting and developing supportive friendships with their peers beyond the work environment. The social dimension of their lived experience in the residency felt more stressful on a day-to-day basis to them because they did not feel they had someone they could confide in when they were struggling.

Teamwork in a teaching hospital requires a well-coordinated team of doctors and other healthcare professionals working together to improve the health of patients. The complex, high-stakes decision making that occurs in healthcare teams creates conditions that can be stressful for many individuals. My interviews with four CRs yielded new insights into the ways they perceive, deal with, and make meaning from the experiences they consider most stressful during their training years. Through a hermeneutic process of dialogue, reflection, and thematic analysis three essential themes and six sub-themes emerged that deepen our understanding of the phenomenon of stress. An overview of the themes has been provided in this chapter. In the next chapter, an expanded narrative description of each theme will be explored, supported by rich details from the participants' own words and shared interpretations of significant meanings.

CHAPTER 5: NARRATIVE RESEARCH FINDINGS

This chapter consists of a deeper, narrative interpretation of my research study findings in support of each of the three primary themes and six sub-themes, integrating key excerpts of text from the interviewees, reflections, and meanings they self-identified. The chapter concludes with a summary of aspects of each CRs' lived experience stories that were wholly unique to them. These particular elements of their individual lifeworlds also influenced their perceptions of, and responses to, stressful experiences.

Emergent Theme 1: High Need For Autonomy

Autonomy is a well-known important precursor of self-directed learning in adult learning theory (Knowles, 1970). In my conversations with the CRs I learned that each of them derived significant stress from parts of their lived experiences where they felt the greatest lack of autonomy. For Vicki, Ray, and Elsa the struggles for autonomy were most often manifested through situations of interrole conflict, where they lacked control over everchanging family and work schedules and were forced to make uncompromising choices. For Ray, his being in situations where he was unable to make autonomous patient care decisions was a significant factor elevating his personal stressful experiences. He shared strong feelings about ways he believed his work decisions were unnecessarily controlled by others, such as those imposed by the ACGME on work hours that seriously hindered his opportunities to gain experience and expand his future career options.

Sub-Theme: Autonomy Over Current Experience And Future Choices

Ray enjoyed talking about his fellowship training program in Phoenix, and was looking forward to the future. In considering what he wanted to do after fellowship, Ray stated emphatically he knew he did not want to work for a hospital. It was his goal to avoid it at all

costs. When I asked why, Ray lit up. He sat up in his chair. It was as if he wanted to tell me more and was waiting for me to ask. He leaned back in his chair and looked off to the side toward the ground, almost apologetically as if he considered me one of "them", part of the hospital "machine", and was weighing whether I might be offended by what he might say. He continued, noting that trainees like him spend most of their 20s working in a hospital and learning how to give patients the best possible care medically and therapeutically. Yet, throughout the training years they are required to do or not do certain things because of, for example, contractual agreements with certain vendors. This scenario was something Ray said he didn't want to deal with when he was out of training. According to Ray:

> "It's just not for me. I don't want to work for somebody. I don't want to have these, like, deadlines or, "Oh you can only use this implant because we have a contract with them." And, "You know, oh, well you know the cost of this is up now so we're getting rid of it." I've seen this kind of stuff happen over time, to people who are employed and people who work in a hospital. Now, I get pressure and everything, but it's a lot of people that don't know anything about medicine, telling you what to do. And I just don't like that. I know it's reality. I'm gonna have to deal with it regardless of where I work, there's no such thing as that perfect group. The more control I can have, that's worth more than money to me. So that's really why I'm pulling out of the system, I guess."

His perspective was that decision-makers in a hospital system do not know anything about medicine and make decisions for purely financial reasons. He aspired to be part of a smaller practice-run work structure where he believed he would have more direct control over those decisions, and presumably be able to use any device, therapy, or medication that was deemed best for the patient. While this may or may not be a reality, he has had more exposure than me

working alongside surgeons in private practice and hospital employed surgeons throughout his five years of training.

Ray had a lot on his mind when I asked him to talk with me about his lived experience of stress. In addition to sharing his story with me and strong feelings about his future choice of practice setting, he wanted to tell me about the things that impact his current life as a CR physician and contribute to his feelings of stress on a daily basis. Ray told me how the ACGME governance of medical education generally contributes to his, and he believed many other residents, having to deal with unnecessary stressful situations. He said medical education was "going the wrong way, too." As he began to explain what he meant, a paradox emerged. Limits placed on the weekly maximum number of hours a resident is allowed to work were intended to mitigate the chances of residents becoming overly fatigued, leading to other negative effects such as higher incidences of medical errors, stress, and burnout (CLER Evaluation Committee, 2019). However, for residents like Ray, the work hour limits were perceived to negatively impact his ability to learn and get as much practice as he can during his training years, thus increased the general stress he said many residents shared over fears of not being fully prepared to enter independent practice. In Ray's experience:

> "...the ACGME only restricts you, they never allow you to do extra, right? It's always like you can't do this. Well what can I do, right? Because if I want to be here and I'm with my attendings, and they see I'm not super tired, I'm not making bad decisions, and I'm getting the experience I want, then that's me making the decision. It's not the program forcing me to be there. Those are two different things. So, if I violate work hour rules, but I'm doing what I want to do, that's not a violation, that's medical education. That's what I want, because you have five years to train as much as you can, to hit that learning curve."

He said his feelings of stress have definitely been affected by his deep desire to get all the training he can possibly get while he is in residency, and the feeling of being prevented by the very organization that is supposed to ensure residency graduates have adequate training. For Ray, it seems this dimension of stressfulness exists like an undercurrent that flows throughout his day-to-day work habits, and adds to any other acute stressful situation he might be experiencing at a particular time. Weekly managing and reporting his own work hours is a program requirement, nationally for all programs and residents. Any work hour violations must be reported and evaluated for ways to mitigate avoidable recurrences. Unfortunately, the environment that has resulted is one of residents and program directors using a kind of collaborative decision-making about which work hour violations are reportable and which are acceptable for improved learning and experience. Ray said he is confident in his abilities as he faces graduation only because he was doing many procedures all along. He provided an example highlighting his fears and stress about what could have been:

> "and if I'm restricted, and I don't get that [*as much practice as I want and can safely handle*], and now I'm a junior attending somewhere and I'm stuck, I have no idea what I'm doing, you know, that's a tough spot. I gotta call a partner. Partner thinks I'm a moron, and doesn't think I shouldn't be doing stuff. And it just affects your whole thing [*reputation, patient referrals, hospital privileges, income*]. And in the hospital, the people you work with think, "oh, this guy's not good". All the while it puts all this doubt in people's minds."

Without the ability to capitalize on opportunities to participate in surgical procedures because of work hour limits being reached for the week, Ray would not feel as prepared to graduate, especially with the Covid-19 pandemic having reduced the total volume of procedures performed

in hospitals over the past two years. Because of this compounding dynamic of ACGME work hour limits and a reduced overall procedural volume due to the pandemic, Ray and his program directors are concerned the next few graduating classes of residents may not have the training they truly need to feel comfortable, compounding their likelihood of being more stressed as independent practicing surgeons.

Sub-Theme: Interrole Conflict Strips Away Autonomy

Vicki, Elsa, and Joe all talked about their lived experiences as being extremely stressful in ways that included managing a consistent and competing demand for their focused attention. The competing mental demands resulted in feelings they described similar to having a complete lack of control over the way their time was spent. Although this aspect of their experiences impacted them in unique ways, they each described a constant undercurrent of stress or anxiety that was always present with them, layered on top of everything they did each day. This kind of stressfulness came from a tension between scheduled work and non-negotiable family obligations such as child care that sometimes changed throughout the day. Interrole conflict or work–family conflict is characterized as a type of conflict in which participation in the work or family role is made more difficult by participation in the opposite (family or work) role (Greenhaus & Beutell, 1985). For Elsa, Joe, and Vicki, there was never a point of hesitation and no other options to consider. Family needs always superseded whatever they were engaged in during the work day, meaning for them they had no real autonomy in these situations, no control over what they did with their time. As Joe put it:

> "You know, I don't think being a cardiologist is what I'm born into. I think I'm more born, meant to be a father than a cardiologist. So that's my first job I want to take care of,

> which is why that puts so much stress on my job that is, to be honest, second most important to being a father."

When family needs collided with patient care obligations, the psychological and emotional feelings of stress for some became almost unbearable. Either work or family would always have to shift to the back burner, and it was always work. Although the choice was never difficult there was always an emotional and mental toll to be paid in the form of accumulating psychological stress that never truly got a reprieve on top of daily stressful work experiences, potentially leading to burnout.

Although family needs always assumed the priority position in their lives, the anticipation of a phone call that might mean an immediate change in plans for the day was enough to elevate their anticipatory stressfulness in a way that created intense feelings of fear, self-doubt, fatigue, and extreme stress or anxiety. These emotions came from real or imagined worries that plagued each of them. While Vicki worried over random potential dangers in the world that she imagined could happen to her family at any time, Joe and Elsa each shared stories about experiences that felt most difficult and stressful to them when they had a sudden need to leave their clinical responsibilities to pick up a child from daycare. These situations happened often throughout the Covid-19 pandemic when the daycare had to close suddenly once someone tested positive for the virus, and meant Joe and Elsa would each have to disrupt the care of their patients and create additional work burdens for their colleagues.

Having an unexpected daycare closure was always a frustrating and unpredictable part of Joe's lived experience, and the possibility of getting that phone call hung over him daily throughout the majority of his three years in fellowship. He said he felt anxious anytime the phone rang, dreading the thought it might be the daycare calling to close, again. Responding to

pressing situations beyond his control that disrupted the organization of both his personal and work life pushed him to mental exhaustion at times.

> "There were at least four or five incidents where there would be a Covid outbreak. Either one of the teachers or one of the students were exposed to Covid and the daycare would have to shut down for 10 days. And because we don't have any family here, we would have to find a way to arrange that [*alternative childcare*]. But, because of Covid, there's not a lot of daycare or babysitting or anything involved [*available*], either. Because people were not willing to expose themselves if my kid was exposed. So we, my wife and I had to find a way to kind of split the day in half just to somehow, read some studies at home while taking care of the kids. And then, you know, my wife would come home and write notes [*while he went in to work*]. That was very stressful. You know, having to take three different board exams, while being in fellowship [*working clinically*], studying for that [*the board exams*], and taking care of the kids. But then also, even when I was at fellowship [*working at the hospital or outpatient practice office*] I didn't know when or how often they were going to be sent home. So we were trying to take care of everything at home efficiently and at work. That…those, are very stressful, yeah."

When these situations occurred, he and his spouse did what they could to support each other, ensure their children's care, and keep up with their clinical and educational responsibilities. There was no room for anything to give. None of the demands on their time were able to be set aside, even temporarily, creating acute feelings of anxiety and fatigue for Joe that were never fully relieved.

Elsa also had small children and experienced intermittent and unpredictable daycare closures during her residency that punctuated her lifeworld with interrole conflict and heavy emotional

distress. She shared with me she didn't consider her emergency room physician job to be the most challenging part of her days. She knew the medicine, understood how to care for the patients, worked her shift and was able to leave work at work when she went home. Elsa said the most difficult part of her days was trying to arrange child care and adapt to changes related to child care availability. In addition, her parents lived nearby and were unvaccinated. They had chosen to believe the pandemic was a hoax, so Elsa dealt with the frustration of trying to help them understand the seriousness of the public health crisis and keep them from being exposed. She shared that some of her greatest difficulties, those that created the most stressful feelings for her, came from trying to deal with all of the changing personal and family situations. What made the changing personal situations difficult was trying to navigate them in addition to handling the everyday work and learning responsibilities she considered a natural part of her chosen profession. Elsa, like Joe and Vicki, always put her family's needs ahead of work obligations. She also felt the strain of interrole tension that accompanied each new situation. As Elsa described her experience she said,

> "I think that a large component of it for me, again, was the childcare stuff. Because like, their daycare was closed *[once the Covid-19 pandemic began*]. And, so then they had to go to a different daycare. And then if they were exposed to covid and they couldn't go to daycare, but one of them could, and the other one couldn't, I still had to pay. So I always had to try and figure out childcare on top of everything. And it was kind of a huge challenge. So, I had that. So, it wasn't just work-related stuff. I had home stuff too, you know? And I didn't want to see my family because I didn't want to get anyone sick. And so it was like this constant juggling, you know? I felt fine with them going to school, because they go to *[name of daycare]*, which is where everyone from the hospital sends

> their kids. So they all have the same germs, it's fine. But then there were my parents, who at that time weren't vaccinated, and thought this whole thing *[the Covid-19 pandemic*] was a hoax. And so it was just like I had so much going on at home. And then all of the stuff here... It was too much."

Elsa's interrole conflict contributed to making her lived experience stressful in multiple ways, and demonstrated the complexity of multiple lifeworld elements intersecting. Beyond the regular mental demands of being an emergency medicine physician, she was constantly managing daycare schedules, coordinating work schedules with her spouse who was also a physician at a different hospital, and navigating best practices for avoiding unnecessarily exposing her parents and children to the Covid-19 virus.

While well-intentioned, required program wellness event days were particularly stressful for Elsa. She disliked the scheduled events because they only added more stress instead of relieving it. According to Elsa,

> "What I really, really dislike the most is, the forced wellness events that we have to do. I know it comes from a good place, but for me that doesn't make me well to force me to do things. Like, if I were being well, I would be with my family, or you know? Or, not doing whatever people think I need to do with my time, you know? And me going to the farmers market with someone is not going to make me like them more."

Since she was juggling so many other scheduling needs, she admitted she rarely participated in after work events saying she preferred to be at home with her husband and daughters. That was where she felt happy and well, and what she needed most to counter the effects of stress in her life. Elsa said she realized she was missing out on opportunities to connect and form deeper friendships with her classmates, since she was the only one in her class with a family. She still

preferred to be at home with hers. Each year there are more residents with families and Elsa said she is encouraged to see this trend.

Although Vicki's experience of interrole conflict was manifested in different ways, it was no less profound. Vicki shared with me her deep fear of being "left alone", and of feeling generally unsafe in the world since the time she had been left behind at age seven with her grandparents in Ireland when her parents suddenly moved to the U.S. She did not see them again for eight years. During our conversation about how her feelings of anxiety or stress affect her work days she described imagined scenarios that regularly filled her mind and created distracting and disturbing fears. The kind that interfered with her ability to focus on other things, especially work.

> "..now it's one of those things, especially with driving. If my husband goes somewhere, I get stressed out and I look at the clock, and I'm like, "Oh, he should be there. He should let me know that he made it safe.", kind of thing. And when I started ruminating on that, and being very stressed out, if I was at the hospital and I would text him, and he wouldn't text back, I would right away start thinking about him, that something *[bad]* happened."

Immediately she adds, "And a lot of times those are very unrealistic scenarios. Like somebody breaking into our house and shooting him, for example." Vicki felt powerless to overcome the feelings of dread and anxiety when they appeared, demanding to be dealt with before anything else could be attended to. For her, the mental attention required to verify the well-being of her family occupied her total available focus to the extent she was prevented from being able to give sufficient attention to her job at times, significantly escalating her feelings of fear and anxiety, and experience of stress. I could see the emotions that affected her even as she shared her story with me. Her eyes turned glassy and she looked at me as she swallowed back tears, "It's just, that's just how my anxiety shows itself to me. And then when I, you know, if he wouldn't reply

to me, I couldn't do my job because I was just thinking about him." Vicki said it wasn't a single event or situation that made her realize how extremely stressed she was feeling, it was starting to notice her own behaviors such as constantly checking her phone to see if her husband had texted he arrived safely to where he was going or the kids had gotten home safely from school. She was always wondering if she should call to check on them, and she could not give her full attention while rounding on patients with her attending and fellow residents and students. She realized her preoccupation with the safety of her family members throughout the day was interfering with her ability to learn and perform her job effectively.

The lived experience as a CR for Joe, Elsa, and Vicki was stressful because it was permeated with interrole conflict, which they effectively experienced as a form of lacking autonomy. Although the stressful feelings they felt were not interpreted by any of them as created because they needed to make a choice between giving time and attention to their residency responsibilities or family needs: family always came first, without hesitation, there was significant stress associated with the surrounding effects when these events occurred. Emotional and psychological stress was the result of anticipating the work disruption and constant mental contingency planning going on in the background of each of their minds. I equated it with a "Jack-in-the-box" stress phenomenon, as in, the low level fear response a person feels winding the crank of the box, knowing the lid will pop open, but not knowing when. In addition, stress from interrole conflict for Vicki, Joe, and Elsa was felt through emotions associated with anticipating other downstream impacts from the work disruptions their sudden absence would cause. Leaving their clinical work to attend to their family responsibilities would mean adding to the work burdens of colleagues and supervising physicians, who were already managing their

own patients, lives, and stress. Leaving work frequently was also believed at times to negatively impact a trainee's professional reputation in the eyes of supervisors and peers.

Emergent Theme 2: Feelings of Inadequacy And Guilt Causing Stress

Having a high stakes job like that of a physician taking care of the lives of other people carries with it a tremendous amount of responsibility. All CRs I spoke to took this responsibility seriously, therefore any perceived failure brought about real feelings of inadequacy, guilt and shame that exacerbated and cumulatively added to their feelings of stress from experiences over time. Failing to fulfill what they felt were their responsibilities was described by them in many ways, some from external sources and experiences and others from exclusively self-imposed pressure. Some of the perceived failures resulting in stress from feelings of inadequacy and guilt included letting colleagues down by needing to leave work urgently, failing a board exam, misprioritization of which patients to see first, and even an unavoidable patient death.

Sub-Theme: Guilt From Feelings of Not Doing Fair Share in The Program

Being a physician makes it more difficult to set aside or delay your work than another person in a different line of work who can reschedule meetings or delay a project. For CRs and other physicians who need to leave work urgently during the day or need to call in sick for a day, another physician must see the additional patients or perform the procedures for their patients if at all possible. In my interviews with Elsa, Joe, and Vicki they each expressed deep feelings of guilt or shame that infused the stressful lived experience stories they told me. They all shared with me the feelings of guilt they felt when needing to leave work to attend to family or personal matters, primarily because it meant placing an extra burden on their colleagues or attending physicians. Even though they knew their co-residents would be more than willing to cover for

them, and that they would gladly return the favor, they felt the weight of knowing they were adding to the experience of stress for others.

As required by the ACGME, all programs have policies in support of resident well-being that allow for personal appointments to be taken during the day without a resident being required to utilize personal or vacation time. Vicki confirmed that everyone is allowed to take time during the day when needed to attend personal appointments, but she did not feel comfortable doing so unless it was an emergency because she did not want to burden her colleagues with taking care of her patients in her absence. Vicki was not the only one who expressed this sentiment, and in my role as director of medical education I have heard this many times from other residents as well. Vicki did not have to leave often during the day to pick up children, because her husband was able to be at home with their children, but admitted not taking good care of herself by not keeping up with regular preventative health appointments for this reason. Joe and Elsa were in different situations when it came to handling childcare arrangements, and often experienced unforeseen disruptions to work or educational time because of daycare or school closings.

As Joe walked me through one of several days when he received a call telling him his child needed to be picked up within 30 minutes because the daycare was closing due to a Covid-19 exposure, it became clear the stress he felt wasn't about whether his kids or his patients would be cared for, or whether he would have enough time to study for exams. The most difficult and stressful part of his lived experience was asking his co-fellows and attendings to take on his work, knowing they were all experiencing extra demands exceeding their finite supply of time. I asked Joe what his first thoughts were whenever he got the call that his children's daycare is closing and they must be picked up within thirty minutes. Instead of launching right into his list

of actions, Joe slumped back in his chair, dropped his head, and shared how receiving that call made him feel:

> "First, I feel bad for my co-fellows who are having to cover for me, and taking them away from what they're learning from other rotations. And I don't feel so good about my attendings, you know, who has to cover me as well. And it's just overall I found that, you know, working in residency or fellowship, working hard or taking care of patients was never that stressful for me. But having to rely on somebody else and asking for a favor, that was really stressful for me. Yeah. Asking for that, for, for somebody to cover my responsibility was extra stressful."

We continued to talk about the give and take of teamwork and his feelings about not wanting to burden his colleagues. Anecdotally, through conversations with other residents I have heard this sentiment before, and was curious what motivated the mindset within him. He said he had a very good relationship with his colleagues and they are always willing to help each other. So, why such strong feelings of angst about needing to rely on each other? In Joe's words,

> "Yeah, *[we have a]* very good relationship. And they were all happy to help. And you know, some of my colleagues have kids too, and when they get sick I would be happy to cover them, of course. But still that, the feeling of…. *[long pause]*... Yeah, but staying home…*[pause]*. And, *[small, nervous chuckle]* ….not doing my responsibility… was pretty stressful."

He struggled to find a way to describe the way his feelings of stress affected him, the weight of the guilt he felt about asking his co-fellows and attendings to cover for him. He understood they were happy to help, and he would gladly do it for them in return. What initially seemed to emerge was a sense of guilt over knowingly adding to the workload of a colleague, slowing

down their ability to care for their own patients, and adding to whatever stress they too were already experiencing. As Joe described how it felt he said,

> "If you miss work, you don't hurt as many people if you're an accountant, as you do as a physician. Or your colleagues. Like, somebody has to take care of the patients and cover for your colleagues. It's not a job that, that can be, [*paused*] that goes unnoticed if no one's there. The studies get backed up. The patients don't get the procedures. Patients don't get seen. The hospital doesn't work. The patients have to be seen, somebody has to cover them. So…yeah."

It was clear he understood the magnitude of impact his choice had on many other people. When he handed over his patients to another fellow or attending, he understood those patients needed to be seen but would face longer wait times. He knew they were sick, and he cared deeply for them. He knew the other cardiologists were just as busy and would have to make adjustments to their own schedules. He knew that unless he made all the necessary arrangements before leaving, there would be catastrophic consequences. Nonetheless, Joe never once second guessed a decision to leave for his family needs. It was never truly a choice he considered. Taking care of his family came first, even if it meant the care of someone else's family member had to wait a little longer or one of his co-workers was going to have a busier, more stressful day. Grappling with that reality and feeling helpless to find any other way to take care of his family and his patients caused him feelings of guilt for putting more burdens on his co-fellows and attending physicians, and added significantly to the stressfulness of his lived experience during training.

As I continued to reflect on his comments, I also saw hints of an unrecognized sense of pride. Not an arrogant pride, but the kind of pride that does not want to be perceived as not carrying his own full weight in the program, unreliable or incapable in any way, however slight. Joe presents

himself as a person of integrity who takes great pride in his work and the profession of medicine. He didn't want to let anyone down, or even allow anyone to think he was passing off his responsibilities.

Sub-Theme: Guilt From The Feeling of Letting Down Patients or Families

Elsa shared a lived experience story that was also deeply personal and happened during the Covid-19 pandemic. She had been working in the emergency department caring for very sick and dying patients for several days in a row. Between her regularly scheduled shifts and extra shifts she picked up, she guessed she had worked as many as sixteen days in a row when an event occurred that she said significantly impacted her mental condition. Elsa had been taking care of a man for several days whose condition only continued to deteriorate. He was not getting better and needed to be intubated. At that point, Elsa knew it was likely near the end of his life and it hit her hard. This patient was in his forties, younger than her own father. She allowed his wife to come in, which was against the hospital's "no visitor" policy at the time so they could be together for his final moments. After the patient died, Elsa said she went into the hallway, slumped down to the floor, broke down, and sobbed. In her words, she was "in a very, very dark place". Without even taking a breath she immediately launched into explaining that it was kind of her fault because she signed up for so many extra shifts and no one else was picking them up. The guilt she felt over his death and feeling as if she was too tired to compartmentalize her emotions because of her own doing was overwhelming. Elsa shared her experience with me,

> "...it was a really good learning experience. It was just like, so much of badness, you know? I learned a lot. I would do it again, but it was just depressing to see so many people die. And, so that was really the only time that I've had so much stress. And, I literally was, like, I just can't do this anymore. I went to our call room, and [*peer resident*]

was there. I just sobbed, and he held me. And then, like, for days I was just… I was just sad. Like, very, very sad."

Elsa felt the weight of her sorrow for the couple as she grappled with her own feelings of having to give so many patients hope at times when she knew they were not on the path to improving. I asked her what that felt like for her. She said,

> "I think, very, very sad. I felt helpless for the situation. I did everything that I could to save him and I couldn't. I felt defeated, I think, really. Like, why am I doing this with my life if we can't actually save people? Essentially? I don't know. It was kind of dark, for a bit. It's almost like guilt too, because I was there. And he's crying when I was intubating him. And I was shaking. I'm not, like, I wasn't afraid. I was just sad. And I was stroking his head, and I was telling him, "it's going to be okay. I'm going to take good care of you." I felt like I lied, too, because, you know what I mean? But, even still, if it were me, I kept going back [*in my mind*]. I would want someone to tell me it will be okay."

Elsa struggled with self-doubt and depression for a long time. She told me she took solace in knowing she defied hospital policy to allow his wife to be with him for his final moments, saying that her guilt feelings over this event would be so much worse if she had not done so. She said she allowed the patient's wife to come back to the room. His wife got into the hospital bed with him, and they just cried. Elsa was grateful she was able to meet her because they had been speaking by phone for some time. Elsa said it was a day she will never forget.

Taking Call: Ray's First Recalled Experience. The stories Ray shared with me describing his experience of stress highlighted more about his ways of avoiding feelings of inadequacy and guilt. He interacted with feelings of inadequacy in a natural state of being with self-sufficiency and perfectionism. It was during what is commonly known as the "intern" year, or the first year

of any residency training program. It was almost halfway through the year, and Ray was tasked with carrying the pager for the orthopedic residency service during that month. The pager number is used by other departments to page for an orthopedic surgery resident to see a patient for any orthopedic surgery-related care need such as a consult in the emergency department or a post-surgical patient in an ICU. Interns are always paired with a second-year resident to provide supervision and knowledgeable support. The intention is for them to see the patients as a team or at least for the second year resident to see the patient after the intern, ensuring appropriate care. Ray remembered telling the second year resident he would not be needing any help, that he could handle everything on his own. He remembered feeling empowered and eager to demonstrate his capabilities, skills, and knowledge. He wanted to prove to everyone in his program he was able to make sound clinical decisions independently. As he started to describe the pages that came in for orthopedic consults, three in a row, Ray went off on a brief tangent to share something he learned through this and other experiences. Knowing how to do procedures or handle different types of injury exams from studying a text or watching videos does not equal being able to do it in an actual, live situation. Ray reflected:

> "I think it's so funny because you ask people in interviews and when the students rotate, like, 'How would you handle these situations?' Like, well, no duh. 'You just do this, this, and this, you're good.' But when you're doing it, it's like, totally different."

He continued his story and stated the three calls were for a patient with a finger fracture, another patient with a hip fracture, and a lady who fell off a horse and had a tibial shaft fracture that had not been stabilized. He walked me through the order in which he saw the patients and his thought process for prioritizing them the way he did, essentially from least to most complicated as listed above. He sidestepped again from the linear telling of his story to share a relevant piece of

medical knowledge for what happened next. When long bone injuries such as a tibial shaft fracture are not splinted they tend to shift and can break through the skin causing a serious increased risk of infection, increased pain for the patient, and other surgical complications.

By the time he got to the patient with the tibial shaft fracture, she had already had a CAT scan. As he was updating his attending physician team and senior residents on the patients he had seen, they became alarmed he did not splint the woman's tibial shaft injury before allowing her to be moved and taken for a CAT scan - and alarmed was an understatement. This is where his lived experience of stress became acute for him. The two attendings were berating him for not splinting the tibial shaft first, and then when they found out he allowed her to go to CAT scan, they were even more upset with him. He was not living up to his own standard of perfectionism, he had failed to demonstrate what he believed he should have known and been able to do successfully and independently. While they were chastising him, he did not even realize he had received another page. This one was a consult to rule out septic knee on a patient, which is a surgical emergency. Ray could not recall how much time had passed. He remembered hearing attendings shouting orders to other residents, telling them to go "see all the stuff before people start recovering". He said he could not remember what else he was doing or supposed to be doing. He described how he was feeling and what he was experiencing as if it were a kind of personal failure to act on what he knew:

> "I just remember I was just like, swarmed and like, I know I messed up. I know I messed up bad. I knew the answers to all the questions. If you were to ask me, 'What would you do in this scenario?' Like, I knew what to do, but I didn't do 'em. And then my chief came down and just ROASTED me. Told me how far behind I was, how I was like, behind everybody else. That I don't know what I'm doing, "What are you doing? What's

going on?" *[gesturing angrily with his hands]* He was just killing me. And I just remember, sitting there and all. And I was thinking in my mind, "I don't know if I can do this." I was thinking, 'I think I'm too stupid to do this.'"

As he continued sharing his story with me, I heard a deep sense of having not lived up to the start-of-residency picture he had developed in his mind, of his own potential, of the quality of work he knew he was capable of. Although he acknowledged the mistakes he made were ones all learners make, thus the purpose for being required to go through a lengthy training program, he did so almost as if trying to convince himself that he was not an exception. His matter-of-fact way of presenting the admonition felt as if he was reciting a line of text. He did not seem to want to completely accept what he knew was true by his own experience, he was one of his peers. This is not to say he was arrogant or overconfident in himself, however deeply disappointed he did not live up to his own expectations of himself.

Ray had to guess the amount of time that had passed, and said it must have been three to four hours. He described the unfolding experience: "It was like a domino effect. Like, that was messed up. Now this was messed up. Then that was messed up. It's all because I just didn't ask. I just didn't, like, have anybody help me out. Because I'm like, I remember going in, 'I don't need anybody's help, I got this. I can do this.'" He shared that he sat for probably twenty minutes immediately after the experience struggling with imposter syndrome, and remembered feeling down, "bummed" was his word, for a long time after that experience. He couldn't say how long, but four years later the memory and feelings of the experience were still vivid, and it influenced his approach to junior residents once he became CR.

Treating Morning Report. Another story that exemplified Ray's drive for perfectionism and became a salient part of his CR experience was what he learned from "treat morning report".

Morning report is the shift handoff between the night shift residents to the day shift residents. Morning reports are conducted as a group, guided by senior residents, and sometimes attending physicians participate. Each night resident takes turns summarizing their patients, one by one, key problems, interventions performed, changes to the patient conditions, and other important information. Often during morning report, junior residents are quizzed by seniors regarding details of medical knowledge pertinent to a patient case or questioned about their choice of a particular course of treatment. The consequences for not knowing something or not choosing the best surgical or therapeutic option include embarrassment and humiliation, sometimes additional reading assignments, or extra remediation measures such as increased supervision designed to advance the resident's knowledge. These consequences created an environment where junior residents got caught up more in focusing on what would be needed to avoid the harsh consequences in the morning instead of simply focusing on doing what was best for the patient. Ray acknowledged allowing himself to do this, once even briefly considering taking off a patient's cast and re-wrapping it because there was a wrinkle in it. Although his senior resident prevented this, he wanted to wrap the perfect cast so it could not be criticized in the morning in front of everyone in the program. He described "treating morning report" as something of a trap, where a resident learns to work with a greater concern for what their peers will say about them the next day at morning report than for the patient's comfort, expediency of care, or cost considerations. It is essentially perfectionism embodied in the idea that a resident feels compelled to take extra time to allow a surgery to take longer than necessary in the name of doing some part of the procedure better, even if changing something might detract from providing cost-effective, efficient patient care. As he talked, I understood this kind of peer pressure was real and worse for senior residents because as they progressed through the

residency training years there was a shared cultural expectation that they must become increasingly better at everything they did. They openly criticized each other in the name of learning and, according to Ray, this was not only an acceptable, but necessary part of being in a highly competitive specialty field of medicine. No one liked it, but everyone valued it. According to Ray:

> "Like, yeah, it sucks. Yeah, nobody likes to say, "What you did wasn't as good as it should be". Or, "It's not adequate based on our standards." But once you get that mindset of everybody's shooting for perfection. When you get done *[with residency*] you realize, "Okay, this is fine". You know? But, it could be better, I guess. And that's where you want to be *[that's the type of residency program you want to be training in*]. That's where you never want to accept "okay", right? If you're doing that then, like, what's the point of even doing something? If you're just all, "it's fine", *[that's not going to be good enough]*. So, you don't want that mentality."

Again, Ray articulated the idea of not wanting to be average, instead striving for and expecting better and better from himself and his peers. This principle underlied his lived experience, creating frequent stressful situations that he and everyone in the program navigated daily, both together and independently. "Treating morning report" was a key cultural element in the program, a shared mindset reinforced by other residents and attending physician behaviors, and this culture of criticism intended to sharpen learners' skills came from the top: the Program Director. In Ray's words, Program Directors perpetuated the expectations by asking residents why they are here if they do not want to work and try to be a perfectionist. Essentially this message is one of, "always strive for perfection or be deemed unworthy and invited to leave the program".

Ray told me he tried to get junior residents not to provide patient care with this mindset:

> "You don't treat morning report, like, even though you want to because you know you're going to get it in the morning you don't treat morning report, treat the patient." Like, because sure for you it won't be as bad in the morning you'll get like, a, 20 seconds of a roasting on your splint, versus this patient that you gotta take the splint down and now they have like 10 to 15 minutes more of, like, unnecessary pain and, splinting and everything because you were upset about this one little thing that doesn't matter."

Ray was quick to point out that although expecting perfection is part of their program's culture, they all work together as a team really well. He said they are not "cutthroat" toward each other because they are all on the same team. In the same breath he reinforced the high value he placed on self-sufficiency, characterizing the culture of the program as one that emphasizes the importance of being self-directed learners. "It's on you, kind of thing," he said. He felt strongly that everyone must take full responsibility for their own learning and development. In Ray's experience, people who were self-directed and possessed a good sense of personal responsibility and personal accountability thrived in the program.

Emergent Theme 3: Feeling a Need to Keep Personal Struggles Hidden

The CRs I interviewed told me they intentionally hid their personal stress and anxiety from peers as much as possible and truly believed they were successful in doing so. Joe, Vicki, and Elsa all believed there was no noticeable difference in their performance at work, affect, or behaviors as a result of the stress they felt from daily experiences and interrole conflict, and believed their peers did not suspect their internal struggles. When asked why they did not reach out to colleagues or mentors for support, they stated they either did not feel the need to, did not

feel they had close enough trusting relationships, or did not want to be perceived as less capable of handling the rigorous expectations or emotional nature of medicine.

Sub-Theme: Did Not Want to be Perceived as Less Competent or Committed

Some of the CRs kept their personal struggles to themselves to avoid the potential perceptions of peers or supervisors that their frequent absences meant they were not taking on their full share of responsibilities, were not learning as much, or were not carrying their own workload the same as other residents or fellows. As a result, more layers of mental and emotional stress were added to each one from self-doubt of worrying that maybe they were underperforming or not doing enough. All three expressed concern over even the potential of being perceived as somehow less competent or capable by virtue of having family obligations that sometimes interfered with clinical days. The concerns were more overt and openly acknowledged by Vicki and Elsa who acknowledged fears of being not considered "tough enough", or not able to compartmentalize their emotions when they believed they were supposed to. Vicki and Joe's concerns also emerged in more subtle ways, clothed in going-above-and-beyond type behaviors they described, such as taking charting work home, checking on patient labs from home, going in to work earlier, and staying later for Joe. Vicki shared that she frequently picked up extra shifts, and avoided leaving for daytime appointments unless it was an emergency.

Elsa admitted she worked hard to hide her struggles because she wanted to be CR, and wanted to be perceived as a strong leader who could handle anything. She said,

> "...because of the fact that, like, I am a 'crier', and people know about that, I would be judged differently. And I'm sure it has something to do with the fact that, you know, I'm a female and I wanted to… I've wanted to be chief the entire time so I wanted people to think that I had it all together, you know? Because on the surface, just looking in at me, it

> does look like I, you know, hold it all together quite well. And so then that was like a sign of weakness for me, and I didn't want people to think, you know, less of me… for struggling."

Elsa said she later regretted hiding the severity of her emotional pain. It became too much to bear and drove her to burnout, and to the point of considering suicide before seeking professional support.

In Vicki's lived experience a sense of needing to demonstrate exceptional competency and commitment manifested itself in multiple ways, both through expressed emotions and behaviors. Although she said she didn't need to leave work often because her husband stayed home with their kids, she talked about being the person in the program who usually volunteered to help others when they asked for it even though she often regretted it and felt overwhelmed by doing so. Vicki also regularly took on extra ICU shifts to help cover gaps in scheduling if no one else was available. She said she just felt a responsibility to help and couldn't say, "no". I left room for her to keep talking about this, curious where her feeling of responsibility came from. She continued to give examples, describing how she tried to express her true feelings by saying she'd, "rather not, but would if no one else could do it". Over time she felt it became well known that she would do extra shifts so people began to rely on her more, knowing she could be counted on, even if reluctantly. There were many times this happened, and as she described the impact she said,

> "...by asking, most of the time the chance is I will say yes. And then I feel overwhelmed with all the work that I have to do because, I need, there's a deadline for this, or I have to, you know, work on the schedule. I have to take my kid to the doctor. I have to write up this report, and you know, it just piles up. And yet when somebody asks, I would rather

not. However, if nobody else volunteers, I'll do it. It's always also like that with my friends."

And as I asked her why she thought she felt so compelled to take on more responsibilities when she was aware of how it escalated her feelings of stress or anxiety, she only shrugged her shoulders and repeated, "I don't know. It's just how I am". It was as if she needed to go above and beyond, proving to herself and everyone else she was not distracted or impaired by the high level of anxiety she was experiencing. She was concealing her stressfulness and demonstrating she was fully capable of doing her job, learning in her resident role, and even working more. In addition to keeping her stress hidden under an extra productive work ethic, Vicki also experienced vivid emotions at times when anger or frustration overwhelmed her.

Vicki was one of the CRs I had an opportunity to work with more directly on a few occasions throughout the pandemic as we planned ways to staff resident physicians while preserving education to the extent possible, maintaining a safe work environment, and ensuring fairness in distribution of work and skill requirements. She had taken part in a couple of strenuous meetings with members of the medical staff and executive teams when tensions were high, stakes were high, and sleep reserves were low for everyone at the table. The meetings and difficult decisions that followed were some of the most stressful in my experience over the past few years, and I was surprised she had not mentioned anything about how she experienced those meetings. I decided to ask directly. Her lived experience of those meetings was complex. The most stressful aspects were not related to the hierarchical authority figures involved in the conversations, or the seriousness of the pandemic, or the impossible options in front of us. Vicki had prior military experience, which served her well in these situations. The high-stakes nature of the business at hand did not phase her, and she remained confident. Although when she did share with me her

most stressful experiences during those meetings, her tears flowed. She described feeling deeply frustrated at other program residents and their program directors' perceptions of her and her fellow residents' commitment. Vicki felt deeply angry thinking that others questioned her competence or commitment, and found it impossible to compartmentalize her emotions even though she wanted to and thought it was important to. In Vicki's experience, she worked a lot in the ICUs and didn't see any of those residents working there. Yet, they were suggesting that she and her colleagues needed to work more. She was angered by this and overcome with emotion. The tears came. Vicki said,

> "I think for me it was frustration. They were saying something about, you know, how hard they work. And how much they help out. And I remember thinking, "Excuse me, I haven't seen any of you in the ICU taking care of these patients. Yet you want to throw more at us and ask us to do more?" That, I think, was the context. And I just, because I feel that when my emotions get in the way of what I'm trying to say that's when I cannot get the words out. And I start crying, and I, and it frustrates me even more because again, a woman crying. "Oh, you're just a little girl.""

She was crying as she told me this. She admitted the anger was still with her after two years because she could still feel it. She gave her all, day after day, her energy and time to the point of exhaustion, and yet it had gone completely unacknowledged by those in another program. Deemed insufficient in comparison to how hard they felt they were working. To her, it all seemed a selfish, competitive, pursuit of who had done more, or cared about the patients more and deserved a break.

Vicki resisted crying in front of others, believing it to be perceived as a sign of weakness in professional settings, especially as a woman. For her it held meaning as giving up dignity and

losing the respect of others. She believed crying would be misinterpreted by others in the meeting as her feeling sadness, when in fact she was angry. She did not want to give others the impression they had in some way made her feel inferior or insufficient.

Joe shared his stories about his most stressful experiences with me without connecting his emotions in the same way Vicki and Elsa did. During our conversation there were times he looked away or looked down at the floor, and there were quiet moments of long, thoughtful pauses. He felt the weight of his experiences and his emotions were present, enacted more through his behaviors and mitigating responses. Joe did not want to give any opportunity for his supervisors or peers to think he wasn't capable of keeping up with his care plans or educational schedule so he did his best to prove his competency and commitment were never compromised. In one situation, Joe described taking work home with him when he needed to leave to pick up his child from daycare. He talked about making sure he didn't leave any task behind that he could do from home. He went in early, stayed late, and offered to cover extra clinic time for his colleagues. He read patient studies and checked their charts while at home to stay in step with every patient care need as much as he could.

Ray's focus on not wanting to be perceived as less competent was also a recurrent idea that kept emerging within the stories he shared, although the ways he responded to stress associated with needing to demonstrate his competence and commitment was through his strong competitive drive. The traditionally high stakes nature of some surgical disciplines often, though not always, attracts individuals with highly competitive, achievement-oriented personalities. I started to learn about the influence of competitiveness and demonstrating competence as a significant part of Ray's lived experience as soon as I asked about his post-graduation plans. Ray sounded as if he was informing me of a requirement when he shared he would be going to

Phoenix to start a one-year Hip & Knee Reconstruction fellowship program, a subspecialty within the field of orthopedic surgery. When I asked why Phoenix, and why that subspecialty program, he started by explaining, "Almost everybody kind of goes to a fellowship. [*Orthopedic surgery is*] an elective-based specialty so, you know, you gotta get, you know… Anything you can do to put yourself in an advantage in the market, that is beneficial." Elective-based specialty is an idea I understood conceptually by way of working in medical education, but this was the first time I heard the term spoken. Even referring to the specialty this way pointed to the competitiveness of the field. An elective-based medical field is one in which the majority of the providers' earned income is contingent upon performing procedures that are not covered by insurance, so the patient pays out of pocket. Therefore, there is a strong incentive to become certified to perform specialized procedures that are generally elective and in-demand. This ensures not only higher earning potential for the surgeon, but also more opportunities for privileges at multiple hospitals and greater career flexibility.

Ray's desire to perform to the highest level of competence and maximize his future opportunities continued to be evident as he described the specificity of consumer demand, saying "everyone wants their certain amount of specialists", and citing this as a key reason being fellowship trained would make it easier for him to go into private practice.

Getting Unstuck. Toward the end of my interview with Ray, I asked him how he feels about and responds to stressful situations now as a CR versus earlier in training. I wanted to know if anything had changed for him in the ways he makes meaning of his experiences. After several seconds he spoke, and it was clear his experiences as a first year resident shaped his perspective toward his own practice of medicine. He still went through his daily work routines imagining he had to do everything on his own, but for different reasons. Instead of feeling a need to

demonstrate his abilities and prove his worthiness among his peers, he felt a sense of urgency about being truly ready for practice, when not having immediate help available would soon become the reality. The stress he experienced came from self-imposed simulation exercises representing how he envisioned his future.

Ray shared a story with me about a time he was recently in the midst of performing a surgery and got to a point where he was unable to continue because he could not think of the next steps. He said, “I get down to where I know where I'm at, and I'm like, okay, I don't know what to do next. Like, I'm just staring in this hole and I'm not sure what to do next in anything, but you cannot let it stress you out because you're sitting around, and I was waiting for a good 25, 30 minutes before this person [*the attending physician*] came in and I'm sitting here, and like, I don't know what's going on.” For Ray, these lived experiences are the most stressful.

The worry and fear of facing a situation without knowing what to do next, or finding himself in a situation without any support available, haunts Ray. Again, he referenced his concern for the patient as primary, and reminded me the longer the surgical site is open, the greater the risk of infection, and the longer the patient is in surgery increases risks of anesthesia complications. What gives him the most acute feeling of stress now is the same as it was then. He shared, “getting into a situation where I don't know how to bail myself out really freaks me out.” After an unusually long pause he added, “...because like, that's not good for anybody.” I was given fresh appreciation for why it was so critically important for him to feel confident in his own skills and abilities, for the surgical outcomes and overall well-being of his patients. Eventually, his attending physician came in and helped him finish the procedure, although he also said there was at least one other time he could not continue waiting and had to proceed doing the best he could. He had to “go in and just do” what he could to complete the surgery. Ray was ultimately

able to move forward because he knew the principles and knew the options he had, just wasn't sure which was the best option. In the end, the patient thrived and Ray valued the experience even though it was extremely stressful at the time because it forced him to choose a course of action and move forward with the best knowledge he had. He believed going through this and similar experiences helped him because they prepared him to perform surgeries on his own more confidently.

Sub-Theme: Absence of Close Relationships With Peers

Healthcare is a team sport. I wanted to learn how the CR's relationships with their peers may have mattered within the context of their lived experience. I wondered how those relationships supported or hindered them in regard to their stressful experiences, personally and professionally. Elsa, Joe, and Vicki all described having good relationships with other residents in their programs, but not being able to spend time connecting and developing friendships with them beyond the work environment. The social dimension of their lived experience was stressful and difficult to them because they did not form deep friendships with peers, and even though they were self-aware of this they preferred to spend time with their own families at home. Loose connections made it difficult to develop trust. Forced wellness events, while well-intentioned, only piled on requirements that further exacerbated the work-family interference stress.

Elsa shared with me that she kept her mental and emotional struggles hidden from her co-CR and other peers, even from her own husband, who happened to be a physician in a different specialty and hospital, for a long time out of embarrassment. She believed it was a universal expectation for all physicians to compartmentalize their emotions and maintain a professional affect at all times with colleagues and patients. Although she said without hesitation they had a

close program and supported each other well, she said no one knew she was having a difficult time. Elsa said,

> "I just kind of kept it very close to myself that I was struggling. Which was foolish, looking back. That's probably why I struggled so much, is that I didn't talk to anyone about it, you know? I just pretended to be ok. I guess I was just concerned that people would think that I'm not tough enough to handle this. Maybe I was just embarrassed by the fact that, like, I was impacted so much by it?"

She added she felt further embarrassed allowing herself to be so deeply affected by the death of someone she did not know personally.

As we talked more about the social aspects of learning and working together with peer residents, and also having a spouse who is in medicine, another reason she kept her emotional turmoil secret became clear. Elsa shared with me that her husband was not someone who talked about his emotions, and it was not a habit for them with each other. Then one day out of the blue, they were discussing the number of deaths they had witnessed in recent weeks because of the Covid-19 virus and he told her, "I cry all the time." At that, Elsa felt awash with surprise, relief, and more guilt. She thought, "How did I not know?" It also made her feel better knowing she was not alone in her struggles, that he struggled, too. Elsa acknowledged she should have reached out to her co-residents to see if anyone else was experiencing what she was, but she did not want anyone to see her as "the one" who could not handle the emotional burden that was a normal part of the profession of medicine. I realized as she talked, in expressing her thoughts the way she did, she still worried she would be perceived as the only one if she spoke up and admitted having difficulty coping.

I asked Elsa if she would share more about her relationships with her co-CR and other residents. She told me her relationship with her co-CR was not close even though they talk every day about a lot of work related things. She said she reached out to her co-CR sometime after the patient's death occurred and she had started having suicidal thoughts. Her co-CR expressed sympathy and concern and suggested resources, but never followed up or checked back in with her after that first conversation, and they have never talked about it since then.

She confides in the same peer resident who was there for her on the day she experienced the patient death that impacted her greatly. They check in on each other periodically and have developed a trusting friendship where they feel comfortable sharing their struggles with each other and making sure each other is getting support. Even so, Elsa admitted she still keeps her mental and emotional difficulties mostly secret. She is not completely comfortable exposing her vulnerability with everyone. Unfortunately her experience with opening up to her co-CR and not having a genuinely supportive outcome reinforced Elsa's belief that many physicians and residents continued to value separating emotions and personal needs from work and professional duty:

> "...so then I thought, "well if [*co-CR*] doesn't care, no one's going to care". So then I just didn't talk to anyone about it because I was, like, you know, she's my closest friend, or was, and she didn't, you know, give me the time of day."

For Elsa, having "a person" was essential to her success in navigating her most stressful experiences, but this relationship would not have been effective if assigned or randomly partnered in the program.

Vicki was part of a large residency program with thirty residents. Since she was the only one in her class of ten who had a husband and children at home, Vicki said she didn't spend time

with her classmates outside of work. She always wanted to go home to her family after work and didn't choose to participate in social activities such as going to the bar or to a park. I realized she viewed these as mutually exclusive. In Vicki's mind, it was either possible to nurture friendships with coworkers or to have quality family time in balance with the demands of a profession that left little room for anything outside of patient care beyond study or sleep. Vicki articulated both positive and negative outcomes as a result of missing out on social peer resident interactions and relationships.

On the one hand, she felt "detached from the group", stating, "I know that there are friendships that have evolved throughout the residency and I am not part of them." On the other hand, she said it may have been beneficial to her as a CR because she was viewed as more impartial by everyone. In her words, "It probably helped being a chief resident because they actually kind of felt that they could come to me and complain about another person, knowing that I'm not friends with them". After saying that she returned to her previous thought as if it was somehow incomplete. To her it was. She reiterated feeling sadness over leaving residency without having formed many strong friendships and, as if needing to defend her lack of friendships, said, "However, I also feel it's very hard to make friends in U.S. compared to Europe." Vicki described her observations of social interactions in U.S. versus Europe,

> "I think it's the lack of having smaller communities, and maybe, city centers [*like in Ireland*] with little gardens where you go out and have a beer, and you meet people, and all of a sudden you see a friend walking by, and you're like, "hey come on over"! And, you know, it doesn't happen here. For me it was easier to make friends over there. It's just here, everyone just goes to work and goes back home, and closes the garage door, and doesn't even know their neighbors. So yeah [*it's different*]".

Impartial, Compassionate Leadership, Instead. We continued talking about friendships, her feeling sadness over not having developed many, and how her experience of what she labeled anxiety was impacted by being the impartial CR everyone else trusted to help them resolve differences. As we talked her role as listener, counselor, and trusted confidant clearly emerged as a central characteristic of Vicki's self-description of her being. This was a role she recognized she played, and it held meaning for her, yet she told me she didn't intentionally seek or pursue it. I asked how it affected her to listen and try to help everyone else with their problems. I wanted to know if she felt she carried extra burdens of stress or anxiety along with others by worrying about them or for them, or if she felt the weight of what they were experiencing in any way. She gave me a calm, reflective look and said definitively,

> "I don't think I feel stressed for them. I don't think that people's stress adds to my stress at all. Or my anxiety…. I feel like I'm able to be there for [*people*] if they need it, but I'm also not trying to take over their problems. I'm trying to be helpful in the way of trying to let them figure out what to do. I always tell them that I'm there if they need me. Let me know what they need and I'll try to figure it out, but I don't try to walk all over their life with my boots, kind of thing. I'm not going to fix them."

She seemed to have a clear sense of the role she played in the lives, decisions, and lived experiences of others. She also knew what she could and could not do to help them carry their own problems and deal with their own stressful experiences. Listening, providing time, and occasionally advice is something she gave, and somehow it seemed to be the only thing she knew could truly help. After all, she could not make their decisions for them, could not realistically take away whatever was causing their stress. She could not "walk all over their life with her boots", but she could listen, be there, and give time.

While Joe also did not have many friendships outside work, he did not view it as a deficiency. On the contrary, the centrality of his relationships with colleagues and supervising attendings was a prevalent theme throughout my conversation with Joe. These relationships both contributed to some of his stressful experiences in his lived experience in his program during his training, and were integral to balancing stress with the fulfillment of his learning goals. The relationships were both competitive and collaborative. Conflict was not usually seen as a significant part of stressful experiences. Instead disagreements were felt to be constructive and necessary for growth, and as long as handled professionally, an important component of learning. The reason Joe felt such angst over leaving to pick up his child from daycare in the middle of the day and asking his co-fellows to take his patient appointments was because he did have good, supportive relationships with them. Although his peer relationships were important to his overall experience, Joe did not feel a lack of reciprocal trust or respect by not socializing with them outside of work. Because it was a small program of only six fellows and most of them also had families, none of them came by extra free time easily.

I asked Joe what it would have been like for him if he had been part of a program where the support of peers and attendings was not the same. Even though it is an ACGME accreditation requirement for all residency and fellowship programs that trainees must be afforded time away from clinical obligations during the day to take care of personal matters, not all cultures were truly supportive of those policies. In some hospitals or programs, residents may be socially excluded by colleagues, given extra work to compensate for time away, or not selected for CR positions if perceived as taking too much time away for personal or family needs. Joe's response to my question about how he would handle things if the culture of his program had been less understanding and his peers less supportive? "That would be impossible."

Unique Elements of Each CR's Lived Experience

As a research methodology, phenomenology is well-positioned to enable scholars to learn from the lived experiences of others as they are in the world. Although human experiences share commonalities that allow a sense of resonance to connect us through the process of shared interpretation, each individual also has their own unique lifeworld. Their conscious experience of this lifeworld is formed from the historically lived experiences of each individual's culture, family upbringing, social environment, religious beliefs, and other elements (Neubauer, Witkop, Varpio, 2019; van Manen, 1997). While the CRs in my study shared some commonalities in their most stressful experiences, exemplified by the themes, each of their own ways of being in the program and experiencing stressful situations was also unique to them in other ways.

Vicki

A person's historicity always contributes to their current way of being in the world (Bynum & Varpio, 2018; Neubauer, Witkop, & Varpio, 2019; Smith, Flowers, & Larkin, 2009). Past experiences through interactions with family, community, and other social groups shape each person's current experiences. Vicki was the only participant that talked about something significant from her past that greatly affected the lens through which she saw everything and everyone in the world and herself within it. A specific recalled early childhood experience made her current stressful experiences more salient in her mind. Her eidetic memory of the powerful negative feelings associated with what happened in her life years ago became ascribed to some of her current stressful events.

At the age of seven, Vicki was left by her parents to remain where she grew up in Ireland. She lived with her grandmother for another eight years before she saw her parents again. As a result, Vicki's lifeworld is colored by uncertainty, mistrust, and fear of someone she loves suddenly

being taken out of her life. It influences her view of everything she experiences in some way. She openly shared with me her most stressful residency experience was a time when her husband had not let her know he arrived safely to his destination. She described being so anxiety-filled that she was unable to focus on her work, which was her highest experience of stress. Vicki acknowledged, “I couldn't pay attention on rounds like I wanted to because I was constantly checking my phone. “Did he write back? Did he write back? Is he okay? Should I call him?” … kind of thing.” Feelings of fear and difficulty trusting others easily shaped her world view and influenced her difficulties connecting to peer friendships outside of work. She talked openly about how hard it was to connect to people in the U.S. This part of her lived experience was unique to her and not expressed by the other CRs that were part of my study.

Ray

Ray’s experiences were all closely related to the theme of autonomy and his sense of self-accomplishment being within his own control. He expressed strong criticisms of system limitations and any imposed by the accrediting body that restricted his ability to make decisions, including cases he participated in, his work hours, or the surgical products used with patients. Ray prided himself and praised others for self-initiative, at one point while describing his program stating, “It’s a very self-directed learning [*program*]. It's on you, kind of thing. And if you're like that, those people thrive here.”

Ray was also a perfectionist and believed that is what it took to succeed in the profession. According to him, “I don't want to be “okay”. I don't want to be “okay”. So, I want to be good. I want to be good at what I do. And I think we try to attract those people because that's always been kind of the theme of the program since I've been here, and the guys I've trained with. Like, that's always what it was.”. In this vein, he also discussed a general sense of acceptance of harsh

criticism that was the norm. A "no one likes it, but it's good for you" culture where criticism that was not always delivered with grace and professionalism was swallowed like a jagged pill. It was also believed this medicine was certain to make you into a much better surgeon. Again, Ray's experience was unique to him in these ways, shaped by his historical upbringing, social experiences, and personally held beliefs. His ways of seeing his experiences were not the same ways the work environment was experienced as stressful by any of the other three CRs.

Elsa

Of the four CRs I interviewed, Elsa had the most severe feelings of stress. Although she did not use the word to describe herself, the symptoms and attitudes she described fit the description of burnout or at least very near it. At one point she acknowledged having suicidal thoughts and a level of despair that was difficult to put into words. I asked her how she felt, as she was intubating a patient she knew was probably not going to survive, she said, "I think, very, very sad. I felt helpless for, like, the situation. I did everything that I could to save him…and I couldn't. I felt defeated, I think. Really. Like, why am I doing this with my life if we can't actually save people? Essentially. I don't know. It was kind of dark, for a bit."

Another interesting part of Elsa's history and cultural influences were her parents, both of whom believed the Covid-19 pandemic was real, but was not as deadly as everyone made it seem. They refused to believe it was dangerous at all, and thought everyone was being disingenuous about the impact the virus was having on human life. For Elsa, this posed additional work-life conflict and worsened her feelings of stress. She felt she could not visit her parents because she did not want to expose them. She also would not allow them to see her children and expose them, which she said was very difficult and stressful for her because it was not easy to explain why to her children. Elsa said she wrestled with anger and frustration over

her parents' refusal to see the truth of what she was witnessing so clearly every day watching patients the same age as her own parents die unnecessarily from Covid-19. While she loved her parents, at the same time she was scared for them and angry with them. For her it was almost like trying to learn how to be herself in two worlds with people living out opposing realities, and the stress she felt was hard to deal with.

Joe

As a fellow, Joe was a few years further advanced in training than the other three CRs. Most of the other fellows also had their own families and young children at home. His lived experience descriptions included primarily stressful situations involving interrole conflict and stressful feelings from needing to rely on his peers to take on part of his patient care work at times, although they all helped each other when needed.

What was unique to Joe's story was the lens through which he viewed the roles of physicians as teachers, learners, and colleagues in their responsibilities to each other and to the patient. He understood medicine to be both an art and a science and believed both were equally important to delivering the best patient care and best education. In describing why receiving negative feedback or having his clinical decisions questioned by an attending or another colleague was not stressful to him, he said,

> "I think medicine is interesting because it's not like other work. The work you do can always be improved and always be looked at from a different perspective because we're taking care of the same patients. And the more I stay in medicine, the more I realize there's really not a black and white answer to a lot of things. All the evidence based research is really not that robust in medicine, I feel like. Especially in certain… Of course there are, like, "this is a heart attack or not" type of situations, but there are

> oftentimes not a particular randomized study about this one case that I can just go off of [*to decide what is the best decision*]. You have to kind of make a judgment call, which is more of an art part of that. I think there's a big part of that more than, more than, like, the science part of medicine, that I realized six years in."

The meaning that thoughtful dialogue with colleagues and feedback from mentors held for him was a source of knowledge that brought reassurance more than a cause of stress. Did he always welcome it and feel appreciation in the moment? No. Although overwhelmingly the experiences that contributed most to his feelings of stress were those aligned with the themes, and for Joe his were most predominantly noticeable for him in feelings of inadequacy and guilt from putting additional burdens on colleagues when he needed to deal with work-family conflict situations.

This chapter provided narrative interpretations of my CR interview outcomes in support of each of the three primary themes and six sub-themes. The thick, descriptive commentary provided detailed accounts of the interviewees' lived experiences and included their own words, reflections, and meanings. The chapter concluded by summarizing important elements of each CRs lived experience that were wholly unique to them and ways those experiences were shaped by the CRs' historical backgrounds, cultural experiences, and personal beliefs.

CHAPTER 6: DISCUSSION

This chapter begins with a restatement of the purpose of my research study. Next, I highlight some of the ways the lived experiences shared by my CR participants were illuminated by and further supported existing research on the causes and symptoms of stress. I then discuss four findings revealed by my research study that indicate a need to expand research in new areas and continue exploring the effectiveness of current approaches to mitigating physician and resident stress. Next, a discussion of practical implications for the field of medical education is provided. This chapter concludes with a brief proposal for viewing the problem of the physician's lived experience of stress through a lens that re-conceptualizes the nature of the medical profession as it is.

Existing research on stress and burnout among physicians, including those in the residency and medical school training years, is primarily quantitative and focused on identifying the causes, symptoms, and outcomes (Dyrbye & Shanafelt, 2016; Goebert, et al., 2009; Wolpaw, 2019). More recent studies evaluate the effects of various interventions designed to improve well-being during the medical student and residency years (Cedfeldt, et al., 2015; West, Dyrbye, Erwin, & Shanafelt, 2016; Williams, Tricomi, Gupta, & Janise, 2015). My study was specifically focused on exploring the phenomenon of stress by learning about the lived experiences of a specific subgroup of residents, CRs. The purpose of the study was to understand what experiences are most stressful according to CRs, what qualities of the experiences create the sense of stress, and the meanings CRs ascribe to the stressful experiences. I also wanted to learn how these experiences have shaped the CR's lives, impacted their learning, and influenced their relationships. Each CR I interviewed provided unique insight into their lifeworld that gave me a deeper sense of the ways stress in the clinical learning environment acted upon them and how

they interacted with it. Stress they experienced did shape the way they thought about their programs, their fellow residents and attending physicians, the process of medical education, and the system of healthcare. In turn, the CRs influenced their residency program environment as they learned how to navigate the stress and in some ways changed how they interacted with their peers, health care team members, and patients.

Several aspects of the lived experiences of the CRs I interviewed were consistent with findings from current studies supporting the understanding that stress can have substantial negative impacts on the lives and careers of physicians, leading to burnout (Marshall et al., 2020; Monrouxe, Bullock, Tseng, & Wells, 2017; Shanafelt et al., 2019). The conversations I had with the CRs about the symptoms they were feeling that made them aware they were experiencing stress yielded similar results to those reported by other researchers, including anxiety, emotional distress, sense of loss of control, decreased optimism, depression and even suicidal ideation (Conley, 2015; Menon et al., 2020; National Academies of Sciences, Engineering, and Medicine, 2019; Vercio et al., 2021).

Joe, Elsa, Vicki, and Ray each talked about the mental and emotional demands of dealing with poor patient outcomes, competitive program cultures, and having little control over schedule or workload as significant contributors to their lived experiences of stress. In each CR's life, multi-source causes of stress at the individual/personal, institutional, and systemic levels were interwoven like a thick blanket that overlaid their daily work, learning, and family life activities, making everything feel heavier. What Joe, the Cardiology CR, told me illustrates the cascading effect of a seemingly single stressful experience, "[*When I have to leave work suddenly during the day*] this is so much bigger than just, "I'm stressed out because I have to go pick up my kids in 30 minutes". It's not just that, it's that I have to make sure that 50 other

people's lives are taken care of. Yeah. And go pick up my kids in 30 minutes. And I just feel bad that I'm taking another fellow away from what they're learning." Although the individual experiences they shared were stressful to the CRs, they also provided clues to what else could be contributing greater significance to the physician experiences as compared to others in the general population, worsening their feelings of stress and leading to higher rates of burnout. After considering current research in the field of resident and physician well-being, my experience in medical education, and the stories the CRs shared with me, I came to understand the critical importance of situating the CR experiences within the broader context of the whole lifeworld. The broader lens of the lifeworld allows for exploration of a person's phenomenological experience with the understanding that personal and professional identities cannot be fully separated and that various environmental contexts the individual person interacts with affect the way an experience is felt and understood by the person (Neubauer, Witkop & Varpio, 2019; van Manen, 1997). The CRs I interviewed were a collective group of physicians in training ready to enter independent practice, and their lived experiences that made them feel and give meaning to stress shared some similarities with mine and others as a human experience, yet in other ways were different. I believe their insights and the shared interpretations that emerged from this study provided some clues and suggestions for future research.

First, the high stakes nature of making life-and-death decisions in the medical profession cannot be separated from other contextual elements experienced by the CRs including an absolute non-negotiable interdependence of team members with different expertise. For example, a cardiologist cannot reduce a hip fracture and is dependent on an orthopedic surgeon to arrive to do this. Physicians are also dependent on many other clinical professionals such as nurses, respiratory therapists, pharmacists, and even transporters to deliver the care they prescribe and

safely transfer patients to appropriate units. Next, the essence of time-based decision-making is frequently a salient feature of hospital work. Every minute lost could have devastating life consequences, a concomitant element in the provision of emergent care that naturally increases pressure associated with performing daily work tasks. Although the CRs in my study all stated their clinical work was not a significant contributor of stress, as a non-physician I suspect the tacit acceptance of the nature of their work has instead provided an acceptable backdrop that serves as a universally elevated baseline of stress, providing a higher starting point than that of the rest of the population, in general. Ray's perspectives on the unspoken expectations of performance and acceptance of criticism in the program support this conceptualization:

> "I will say we're big critics on everything and I think that's really important because, you know, this is a great time to get criticized right now. Like, yeah, it sucks. Yeah, nobody likes to say, "What you did wasn't as good as it should be". Or, "It's not adequate based on our standards." But once you get that mindset of everybody's shooting for perfection. When you get done you realize, "Okay, this is fine". Like, you know? But it could be better, I guess. And that's where you want to be. That's where you never want to accept "okay", right? If you're doing that then, like, what's the point of even doing something? If you're just all, "it's fine", [*it's not good enough*]. So, you don't want that mentality."

Add to that a level of mental contingency planning that was continuously ongoing like an undercurrent in the back of their minds as they compared their own choices and assessments of others' possible perceptions of their competence or dedication to their patients. This undercurrent of contingency planning was effectively anticipation of future stress. They mentally struggled against anxious thoughts about past and possible future attending or peer criticism. Some CRs also worked through their days mentally anticipating and planning what arrangements could be

made if they received a phone call requiring them to leave work to pick up an ill child from daycare, disrupting remaining patient schedules for not just themselves, but also their peers who would be needed to cover for them.

All of these actions and reactions, with significant weight on the anticipatory stress of worry over other situations that might happen, and often did, resulted in a net cumulative effect of compounding current situational stress feelings experienced by a day's regular events. All of these experiences were added on top of a baseline of stressful situations already inherent to the profession of medicine. As a result it became clear at least one of the reasons for higher incidences of stress leading to burnout among physicians is likely an additive, layering effect of personal and work-based stressful experiences more common to the human experience, plus daily, higher acuity stresses, then elevated by continuous anticipation of future stressful experiences. Future research should focus on understanding the cumulative effect of multiple types of stressful experiences converging within the lifeworld of the physician.

Although I wondered if CRs as a population would have a unique lived experience of stress because of additional mental demands or time needed for administrative and teaching tasks beyond regular clinical and learner responsibilities, none of the CRs I interviewed attributed their most significant stress experiences specifically to their role as CRs. Two possible explanations present themselves as interpretations for why the CRs recalled earlier lived experiences instead of current experiences as a CR when asked to talk about a time they became aware they were feeling significant stress. First, their accumulated years of experience as they near the end of training and beginning of independent practice likely engendered a sense of confidence in their skills and abilities. Repetition and opportunities to teach others naturally reinforce both knowledge and skills through the learning process, and over a period of years, those skills have

become fine-tuned (Kolb, 1984). At this stage of training the CRs' interactions with their patients and decision-making capabilities are areas of their daily lives they have also gained increasing autonomy over, providing greater, not less, job meaning and satisfaction.

Another reason the CRs may have turned to an earlier time in their residency to describe their most punctuated stress experiences may be that the true meaning of an experience is not fully understood until a period of time after a significant event has occurred (Kolb, 1984). It would make sense that a process of reflection and meaning making, interaction with the experience, and sensing the emotions takes time. In addition, with a phenomenon like stress that is usually accompanied by strong emotions, time is often necessary to process reactions from others in the social context of experiences involving encounters that may result in changed relationships. There is also new knowledge that takes time to learn and apply to subsequent situations before an individual is able to fully realize the impact the initial lived experience had in shaping their lifeworld (Kolb, 1984; Neubauer, Witkop, Varpio, 2019). When someone is in the midst of a challenging or stressful experience, as I learned by talking with the CRs in my study, there are aspects of the experience they were unaware of until long after the events, such as the reasons why they acted or reacted in specific ways. Through the passing of time and internally processing their lived experiences, and perhaps discussing them with others, the CRs engaged in a process of their own interpretation and learning to make sense of the experiences. As time passed, they were better able to look back and understand how those earlier experiences influenced not only their thinking about present and future choices, but their views of relationships, career, and other lifeworld elements. Elsa, when reflecting on the time she spent keeping her emotional struggles hidden and not reaching out for help, shared, "I just kind of kept it very close to myself that I was struggling. Which was foolish, looking back. That's probably

why I struggled so much, is that, like, I didn't talk to anyone about it, you know? I just pretended to be ok."

Personal Perceptions of Stress and Job Performance

Many studies discuss the impacts of stress and burnout on physician job performance including absenteeism, medical errors, missed diagnoses, diminished patient satisfaction, and poor communication (Bingemann, et al., 2017; Dewa, et al., 2017; Eckleberry-Hunt, Kirkpatrick, Taku, & Hunt, 2017; Panagioti, Geraghty, & Johnson, 2017; Privitera, Plessow, & Rosenstein, 2015). While the purpose of my study was not to quantitatively compare individual CR stress and specific clinical outcomes, the CRs I interviewed did not perceive the times when they were feeling the most significant stress were noticeable in terms of their job performance. Since Ray's stressful lived experiences stemmed from anxiety and criticism from others over his clinical decision-making, his was slightly different from the other three, although he still indicated his peers and attendings were unaware of how those events affected him personally or emotionally. The other CRs all told me they did not believe anyone noticed the stress they were experiencing because their work never suffered as a result. Instead, they believed they were highly effective at multitasking and juggling workload and family responsibilities, or temporarily compartmentalizing their emotions long enough to do the job at hand. This finding has two important implications. First, there was a noticeable disconnect between the CRs' stressful experiences and their own perceptions of that stress impacting their work performance. When compared to the current literature connecting higher reported physician stress to higher absenteeism, error rates, and missed diagnoses, there seems to be a disconnect with the findings from my study. Secondly, the difference in self-reported stress and self-perceived work performance demonstrates the ways stress can be manifested differently for people. It is

important to note that using a phenomenological approach allows exploration of the nature of a phenomena from perspectives not available through quantitatively-based study designs.

Firstly, although the fact that no CRs in my study believed their most significant stressful feelings and experiences had any negative impacts on their job performance does not directly indicate a contradiction of current literature, it does point to a potential need for further exploration. A predominance of existing quantitative scholarship on the subject of physician and resident self-reported stress or burnout associates higher stress with higher rates of medical errors and suboptimal professional behaviors (Dyrbye, et al., 2014; Dyrbye, et al., 2021; West, Huschka, & Novotny, 2006; West, Tan, Habermann, Sloan, & Shanafelt, 2009). The residents in my study were all CRs. They were nearing the end of training and had encountered multiple stressful experiences over multiple years of training. Each was quick to tell me they felt confident no one noticed anything different about their patient care or attention to their work tasks, even when at the peak of feeling stressed. As one CR walked me through one of her most stressful days, Vicki pointed out, “I don't think it ever got to the point where I was missing a diagnosis, or misreading patients, or anything like that. It was more of a, I couldn't pay attention on rounds like I wanted to because I was constantly checking my phone. “Did he write back? Did he write back? Is he okay? Should I call him?” … kind of thing. I don’t think that it affected my performance at work from the outside looking in.” The other CRs echoed similar thoughts. At a minimum, this finding points to an opportunity for further research to explore physician and resident self-perceptions of awareness of personal stress associated with work experiences compared to their self-perceptions of job performance changes during these times. Alternatively, this finding calls into question some study methodologies. Specifically, it would be worthwhile to more closely evaluate how quantitative studies control for the fact that physicians are

potentially more stressed when working with more complex patient cases, where errors are inherently more likely. In those situations, there would also be an expectation to see a correlation between higher error rates and higher self-reported incidences of physician stress although the higher error rates would not be directly attributable to the physician stress. Case complexity could be a significant, even more significant factor.

Centrality of Work-Family Conflict

Although work-family conflict, or interrole conflict, is not a new or unique contributing factor to stress during residency it may be increasing in prevalence as more residents strive for a greater balance between work and personal life during the residency years. This element of the lived experiences for three of the four CRs I interviewed held an absolute central position in their lifeworlds. Anytime unexpected changes occurred in the family schedule, work was always viewed as the intrusion and a cascade of additional responses were needed to adjust the remaining scheduled portion of the day. Last minute changes to schedules, lectures, and patient appointments impacted peers and supervisors and created significant feelings of stress for the CRs I interviewed. The work-family conflict stress was a consistent component of anticipated future stress the CRs talked about, and it existed for them all the time like a layer over all other event-based stresses that might be encountered throughout a day. The anticipation of work-family conflict situations exacerbated feelings of stress for them, since changes to family needs could occur on any day and with little notice, also playing into the CR's frustrations and stress caused by a general lack of autonomy over patient care volumes, acuity, or work schedule. Unlike asking a colleague to take over a work shift, present an educational session to junior residents, or check on a few patients, responding to family needs and the constant mental energy spent creating backup plans for possible interruptions could not be easily relieved by others.

Although some studies have begun to evaluate the effectiveness of residency training programs based on achieving specific measured competency levels regardless of how many years it takes an individual, versus the current fixed-year training programs as a more personalized approach to residency education, to my knowledge the feasibility and effectiveness of flexible work schedules for residents or the effects of providing benefits such as child care services or extended LOAs on well-being have not been well studied (Karpinski & Frank, 2021; McGaghie, et al., 2011). More research is needed to better understand trends related to resident and fellow work-life balance expectations and preferences, particularly as a generation so development of future wellness interventions will be more effective.

Imposter Syndrome or Something Else?

In the literature, feelings of guilt or inadequacy are frequently equated with a phenomenon characterized as imposter syndrome, or the tendency to feel guilt over personal successes, believing they come from external factors such as chance, special connections with others, or by mistake instead of from authentic personal effort or ability, resulting in a feeling of fraudulence (Clance & Imes, 1978; Gottlieb, Chung, Battaglioli, 2020). The feelings of inadequacy expressed by the CRs I interviewed were not like these. They all communicated well-developed self-efficacy and personal responsibility. Instead, the lifeworld of each CR in my study was permeated with stress caused by a compelling need to overcome a sense of guilt from a personal perception of not living up to their own or others' expectations, not doing enough, or not knowing enough in comparison to their peers. They believed their own knowledge positions were from their own hard work and time, however it always seemed somehow inadequate compared to others. In some cases, the anticipation of even a potential to be perceived as not pulling their own weight was enough to compel them to volunteer for extra work, stay later, take

work home with them, or want to thwart ACGME work hour restrictions to get more procedural experience. For Ray, Joe, Elsa, and Vicki, it is possible they were like the characteristically high-achievers that often exemplify those competing to get into medical school to begin with, predisposed to a deficit way of thinking about their own achievements and responding with overachieving or competitive behavior. Along the way the encouragement of families, classmates, communities, and successes further shaped their heightened expectations of self and others. While a healthy sense of competition and setting high personal goals is generally thought to be a positive way to stimulate motivation, an extreme focus on achievement fueled by guilt over perceived deficiencies, real or imagined, appears to have led to a more acute and sustained experience of stress, increasing the risk of burnout for the CRs in my study. Based on the outcomes of my study, future research would be beneficial to efforts at improving physician and resident well-being if focused on exploring the role personal characteristics might play in understanding how individuals experience stressful situations and the process by which someone moves from stress to burnout.

Culture of Silence Has an Additive Impact to Other Causes of Stress

A troubling construct that was part of the lifeworlds of all four CRs and which seemed to worsen any other causes and symptoms of stress for them was the existence of a culture of silence about personal struggles. Although the ACGME and others within the physician community have acknowledged the existence of this culture and issued calls to action to abolish it, the culture persists (National Academies of Sciences, Engineering, and Medicine, 2019). Unfortunately, all of the CRs I interviewed felt strongly compelled to keep all personal, mental, family, and emotional struggles hidden from peers and supervisors, and despite public efforts this discouraging trend does not yet show signs of abating. Three of the four CRs also reported

lacking supportive peer relationships outside of work, deepening feelings of isolation associated with stress and anxiety. The fourth CR made no mention at all about having social interactions with peers, friendships, or support from them outside of work. The three who stated they kept their personal struggles hidden said they did so intentionally. Although not explicitly stated, it was as if it was the only acceptable strategy for demonstrating sturdy competence (command over all emotions at all times) and full commitment to patient care. To do otherwise is still perceived by the CRs in my study, and according to them it is universal, similar to compromising the integrity of the doctor's professional position, jeopardizing both respect from others and future promotion opportunities.

This is an area where the SEL framework falls short of helping make sense of how adult learners like the CRs might learn to manage the emotions of stress or burnout in the context of a social environment whose espoused values contradict the enacted values in the culture. Such a situational context creates an environment within which the residents are learning and working that is confusing and competitive. At the same time, medicine is a team-dependent profession requiring the development of communication skills, trust, and compassion. Current literature supports the central importance of social support, education, and mentoring guidance for effective resident learning (Eckleberry-Hunt, Kirkpatrick, Taku, & Hunt, 2017; Ripp, et al., 2017; Shanafelt, et al., 2012). Therefore, when residents are struggling personally, mentally, or emotionally there are supportive policies in place and they are verbally encouraged to reach out to someone for support. Unfortunately there is still an understanding and anticipation of other less desirable impacts to their peer relationships, the opinions of supervising attendings, or even potential unspoken limitations on their future career opportunities at risk by doing so. When the

residents weigh those risks against seeking the support they know they need and know is available, they choose not to.

Additionally concerning is that as individual CRs make decisions not to share their struggles with peers and reach out for help, they model and in essence encourage the behavior for junior residents coming behind them. According to Ripp and colleagues, the way physicians deal with stress and burnout may end up as tacitly learned behaviors inherited by residents, resulting in career-long effects (Ripp, et al., 2017). While additional research will add to our understanding of the ways this cycle of silence is perpetuated and support development of interrupting strategies I do not believe a simple solution is possible and discuss reasons for this belief in conclusion.

Implications For Practice: Peer Relationships and The Culture of Silence

One important way to make it easier for residents to speak up when they are struggling is to encourage and support forming peer connections. Although this may seem straightforward, the CRs I interviewed did not feel they had helpful guidance or a good understanding of how to do this. This is another area where the SEL framework does not provide a sufficient starting place to explain what is happening. What is needed is more research to suggest processes by which adult learners transitioning into a highly competitive learning and working environment might identify and initiate the best supportive relationship(s). Doing so happened by chance and made the difference for one of the CRs I interviewed, and helped her decide to seek professional help instead of ending her own life.

Since residents encounter similar causes of stress working side by side in the clinical learning environment each day, creating spaces and opportunities for peers to develop personal ties and deepen trust would make it easier for them to share it with each other when facing a difficult

situation. Although they said they had good working relationships, the CRs lamented they did not feel comfortable discussing personal worries or fears with their colleagues because they did not have a strong sense of trust and lacked friendships with peers outside of work. Elsa said that although she worked closely with her co-CR every day, she did not feel comfortable talking to her about her deepest hurt and greatest need for help. She said,

> "I talk to her a little bit, literally every single day about lots of stuff, but when I told her how I was feeling at this time, because,...[*pause*]... I was actually suicidal at one point because of this... this situation *[the death of her patient from Covid-19*]. Not like actively, just, like, I actually, I think I told [*co-chief*] right around the time that it was happening, that I was having, 'thoughts'. She never checked on me. She would never [*ask me how I'm doing*], and to this day we still have never talked about it."

There are also at least two inherent barriers to facilitating the development of closer non-work relationships between resident peers. One is a lack of time. Resident work schedules are demanding and residents often work 80-hour work weeks, making the availability of time outside those hours scarce. For residents with spouses or significant others and children their non-work availability is even less. The subject of resident work hours has long been, and continues to be, hotly debated (Accreditation Council for Graduate Medical Education, 2015). On the one hand, evidence suggests long work hour weeks leads to excessive fatigue and increased risk of medical errors, as well as risks to personal safety when driving home after work (Institute of Medicine (US) Committee on Optimizing Graduate Medical Trainee (Resident) Hours and Work Schedule to Improve Patient Safety, 2009; Hariharan & Griffin, 2019; Wolpaw, 2019). Opponents of resident work hour limitations, including at least one CR I interviewed, Ray, claim the decision should be left to individual residents and program directors to determine their level of fatigue

and capability. Those in favor of allowing more flexibility and longer work hour weeks cite restrictions as limiting case exposure and resident learning experiences. Restricting resident work hours also increases the number of patient care handoffs occuring during an inpatient stay, thus increasing opportunities for provider miscommunications during handoff transitions leading to medical errors (Accreditation Council for Graduate Medical Education, 2015; Colvin, Eisen & Gong, 2016). While additional evidence on this aspect of medical education is beyond the scope of this study, time was clearly cited by the CRs in my study as an important barrier to their ability to develop peer bonds outside the workplace. This lack of comfortable, trusting relationships was a key reason at least two of the CRs said they did not reach out to talk to someone when they were struggling emotionally, allowing the culture of silence to rule.

The second barrier to encouraging resident collegial relationship development is that trusting relationships cannot be manufactured. At least one CR told me that their program partnered peer mentors to try to help establish a "buddy" type system with the intent that each pair check in with each other at defined intervals throughout the year. The CR did not feel the arrangement was beneficial because the relationship was artificially constructed, and she was not comfortable sharing her personal feelings with the assigned peer. Although well-intentioned, the artificial nature of the bonds predisposed them to being viewed as inauthentic and rendered them ineffective.

Medical Education Policy Support May Not Be Enough

The nature of medicine is complex and stressful, and becoming more complex as the pace of change accelerates, technology and AI are integrated into the space of caregivers, and healthcare becomes more commoditized (National Academies of Sciences, Engineering, and Medicine, 2019; Rothenberger, 2017; Shanafelt, et al., 2016; Sinsky, et al., 2016). Today's residency

graduates and medical program leaders will need a wide variety of skills and the ability to learn and adapt within a social context that can be unforgiving. As a national body with oversight of the physician education process, the ACGME cannot change the nature of the medical profession: sick patients will continue to need urgent and emergent, complex care that continues to evolve. Requiring hospital policies to be extremely liberal to allow for residents to attend to their own well-being and take time off as needed to do so are laudable, however the stigmas are still felt. Sometimes they are real and sometimes internally imposed. The CRs I interviewed all expressed a strong adversity to taking any time off unless they absolutely needed to, even though program policies liberally allowed for it and program directors were supportive. They expressed different reasons for their reluctance to take advantage of the policy designed for their benefit, some because they felt it caused extra stress for them and others because of the guilt of burdening their colleagues when they left work. Others avoided taking time for personal appointments during the day for fear of being perceived as less capable or committed to the program, or not wanting to disappoint their patients. Still another CR downright refused to do anything short of a personal emergency that would cause them to miss out on a potentially valuable learning opportunity such as missing a rare surgical procedure. The residents all acknowledged they knew they were freely allowed to do so and more than willing to return the favor for another resident, and yet it did not make them take time for their own personal appointments during work hours.

Another example of well-intentioned interventions to promote resident wellness missing the goal are some required group or program events. The objectives of such activities may be to promote education on personal resilience, teambuilding, conflict management, or other ways to reduce stress in the workplace, even when combined with a fun relationship-building activity

were still perceived by those already burdened with work-family conflict to complicate already stressful family schedule planning and take more time away from family or rest activities. The net effect was to make their stress worse, not reduced. Considering individualized plans and self-select choices, or integrating wellness and teaming education into existing program curriculum may be more effective. Since residents consider more time with family or other loved ones to be what contributes most to their well-being, it would be worthwhile to consider the impact a collaborative and flexible residency schedule option might have on enabling a better balance of time with family, even if mastering competency for independent practice extends the residency training years over a longer period of time. A part-time residency program option similar to a pilot program recently launched in the U.K. postdoctoral training system, extending overall training time in favor of a Less Than Full Time (LIFT) training schedule would be an flexible option (Health Education England, n.d.; Wolpaw, 2019). A similar option in the U.S. may offer a path to producing fully trained independent physicians with a greater sense of well-being and confidence, and equal, if not more supervised patient care experiences under their belts.

Conclusion

Through my conversations with CRs from four different specialty training programs and our shared interpretations, three themes and six sub-themes emerged. The themes provide a place from which to evaluate current thinking about resident and physician stress leading to burnout and ways of conceptualizing well-being during residency. In general, the CRs lived experience of stress was, as expected, multidimensional and consisted of multiple overlapping layers of stress causes and interactions. Even though stress for all participants in my study was experienced individually and privately, the causes were always socially derived by actions at least partially

involving others, and the stressful experiences were always accompanied by strong emotions. Connecting with trusted others was the top key to mitigating stressful feelings, although the clinical learning environment still poses obstacles to forming the nurturing peer relationships most helpful for dismantling medicine's long standing culture of silence. Having a trusted self-selected confidante readily available provided knowledge and safety similar to an anchor in a storm. Sometimes this was a spouse, although a peer friend who could truly empathize with the same stressful work experiences was especially valuable. Since many residents match into residency programs from different communities, states, or even countries, exploring how residents initiate and go about the process of forming their own peer friendship connections and developing trust will be an important avenue of future research and theoretical development. SEL is only partially helpful as a theoretical framework to explain processes involved in learning to navigate lived experiences such as the stressful experiences that influenced the lives and relationships of the CRs in my study. Although the SEL model emphasizes emotional awareness, regulation, and learning within a social context, it may benefit from being expanded to include cultural context, processes needed to overcome barriers to initiating new beneficial relationships and develop trust in another person, or incorporate personal character qualities that may be both helpful and harmful, such as competitiveness or persistence. This study highlights the importance of further exploration of the lived experiences of stress in residents and physicians. Improved understanding of the ways CRs make sense of stress and deal with it is a critical step toward improving our ability to prepare them to enter independent practice with the knowledge, skills, and ability to be successful at mitigating stress and preventing burnout.

Unfortunately, despite focused efforts of educators, administrators, and academicians over the past decade, the problems of medical student, resident, and physician suicide remain (National

Academies of Sciences, Engineering, and Medicine; 2019). The profession of medicine has always been an emotionally-laden one, deemed a calling, a social contract with society (Creuss & Creuss, 1997; Wynia, 1999). Historically doctors were taught that pursuing a career in medicine meant the sacrifice of many personal comforts in an altruistic sense to put the needs of patients ahead of even the doctor's own needs (Caelleigh, 2001; Irby & Hamstra, 2016). Society has evolved and although the responsibility for the health of populations still rests to a large extent in the hands of physicians, there are teams of health care professionals devoted to supporting patient needs. There are also systems, technology, and greater knowledge available to help improve health outcomes, but at what cost?

In summary, we are spinning our wheels. 20+ years of research on well-being have shown us that what we are doing in medical education to try to create an ideal stress-less clinical learning environment is not working. Furthermore, my research has shown it may not be achievable or even the best path to well-being in medicine.

Medical students and residents are joining a profession that has asked them to bring a healthy reserve of compassion and empathy, a true desire to care for others before all else. The expectation that somehow flexible policies or assigning peer mentors during the education years will be sufficient to counteract the complex lifeworld situations causing stress is at best well-intentioned but misguided. Even if effective at some level of stress mitigation, the gap is too large. Residents look down the road ahead and see their mentors, pushed by the rapidly increasing pace of technology, change, and consumerism models, unable to achieve a work-life balance that offers any real sense of well-being. The disconnect leads to disillusionment and greater stress.

Instead, leaders should focus on aligning learners' expectations to achieve wellness and balance. Return to embracing the nature of the profession of medicine. The health of the many rests on the shoulders of the few. The physician's work is, by nature, emotional and stressful, immutable facets of a career in medicine. Understanding self, the role of emotions, breaking the persistent culture of silence barrier, and forming true personal connections is the key to mitigating the devastating impacts of stress and burnout, since the ways they are experienced and dealt with are unique and personal to individuals.

Today's residents work and learn within clinical environments and are being taught by attendings who have not mastered taking care of self. Current research surveys of practicing physicians and reported rates of burnout and suicide among physicians has continued at an alarming rate (Dyrbye, et al., 2014; Hariharan & Griffin, 2019; West, et al., 2020). If the residents' role models are not able to be examples of how to achieve a work-life balance that supports mental and emotional wellness in addition to a fulfilling career path, I do not see an easy path toward a targeted intervention at the postdoctoral level that will create this moment of clarity for the learners. The residents and fellows need to see wellness being enacted by their attendings. Instead, they see increasing administrative burdens, increasing complexity in the healthcare system, and accelerating technological advances that are having the cumulative effect of creating even greater barriers and putting work-life balance further out of reach (National Academies of Sciences, Engineering, and Medicine; 2019; Wolpaw, 2019).

If we return to looking at the nature of the profession of medicine as it truly is, which is the purpose of phenomenologically-oriented research, and examine the phenomena of stress and burnout within the greater context of the plight of our physicians and trainees, there exists an unsolvable dilemma that may not be truly answerable through additional research. Two things we

are asking of physicians may be mutually exclusive at the heart of the matter. On the one hand, society puts the health and well-being of the many, its citizens, on the shoulders of the few, its physicians. The existing national cap on residency training spots in the U.S. and projected physician workforce shortage will only make this burden heavier (Zhang, et al., 2020). This is a painfully heavy burden to carry as we are seeing through the experiences of the CRs and the data from countless other studies. The work of doctoring cannot be made easier or lighter. Taking care of the sickest in society is heartbreaking work, and having the love and compassion to want to do this work requires a deep emotional bank. Society expects this of physicians and expects physicians to spend time with patients to fully understand their needs. On the other hand, antithetical to their sacrificial calling, it is critical physicians are able to achieve a work-life balance while the pace and volume of work they are expected to do increases with only the same number of hours to do it, known as work compression (Ludmerer, 2010; Sundaresan, Ferrell, & Hron, 2022). Attending physicians are also expected to model well-being and effective stress-mitigation for trainees. Without role models, teaching hospital systems will continue with only limited success at helping residents and medical students achieve it.

There are things we can do with all that we have learned as a profession of educators to come alongside the physicians in support of their work. Many of these efforts have come out of the research of those mentioned in this paper and should continue, including teaching resilience-building and team communication skills, facilitating support resources, encouraging peer connections, and creating open supporting cultures that can erase silent norms inhibiting doctors from talking about their struggles and seeking help. At the institutional and systemic levels, reducing administrative burden and implementing family-friendly policies and practices, as well as pursuing flexible residency-training options provide customizable ways for physicians

to choose how best to achieve states of wellness within each of their own lifeworlds. As my research has confirmed, physicians, like all humans, experience stress in unique ways influenced by their unique and complex histories that are made up of family, cultural, educational, social, religious and other influences. When they choose a career in medicine, they take on a burden that is, by its very nature, stressful in ways that cannot be eased.

My research has been personally enlightening to my own life and career journey as a director of graduate medical education and I have been honored to be invited into the lifeworlds of the four CRs who participated in my study. I believe our greatest task as leaders, educators, and patients is to honor them, to acknowledge their struggles and sacrifices, to take time to listen with compassion to the ones called to give compassion freely of themselves to others, and to continue to support and advocate for them. There is little else that can be done to truly change the nature of their lived experience in medicine.

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