Physician Burnout and the Risk Factors Associated

by

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ABSTRACT

Introduction: The practice of medicine can be incredibly rewarding, meaningful, and fulfilling to a physician, however it can be demanding and stressful. This paper set out to answer two main questions 1) what is the definition of 'burnout'? and 2) What are the risk factors associated with physician 'burnout'?

Methods: A literature review was conducted to address the research questions. The Person-Environment-Occupation (PEO) Model was employed to structure the review of the literature with the main causes of burnout being highlighted in each of the person, environment and occupation domains of the model. Multiple databases were used in the collection of literature.

Main Findings: It was evident that the current definition of burnout in the literature no longer reflects the needs of physicians and the healthcare field thus a reconceptualised definition is warranted. The organizational factors associated with physician burnout were disruptive behaviours, organizational climate, job satisfaction, organizational commitment and physician engagement. The main personal factors associated with physician burnout were medical training, work-life balance, sex and gender, personality traits and self-care. Lastly, the main environmental factors associated with physician burnout were autonomy, cultural shifts in medicine, perceptions of medicine in society and advances in medical technology. After assessing the definition and risk factors, it became clear that the issue of physician burnout requires an intersectional approach to fully understand physician needs and challenges.

Conclusions: This paper highlighted many recommendations and considerations to advance burnout research and to increase the health and well-being of physicians including employing an intersectional approach as a starting point for fully understanding and preventing physician burnout.

Keywords: Physician burnout, risk factors, stress, burnout, medical students, residents, intersectionality, burnout definition, burnout syndrome, personal factors, environmental factors, organizational factors, well-being, and Person-Environment-Occupation Model.

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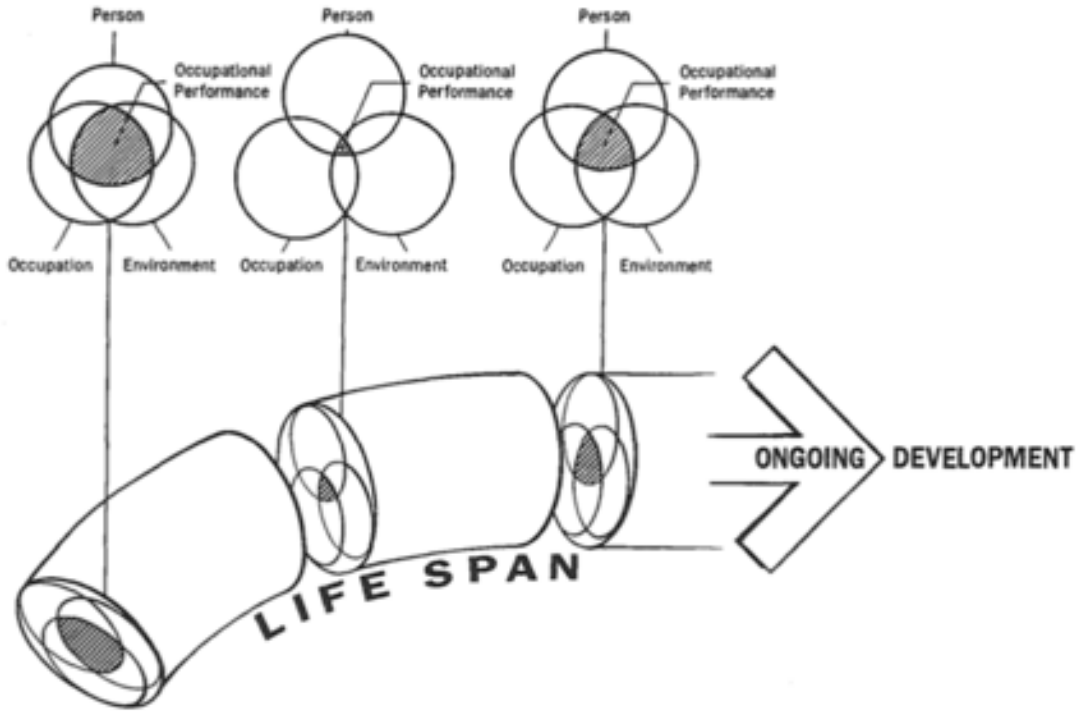
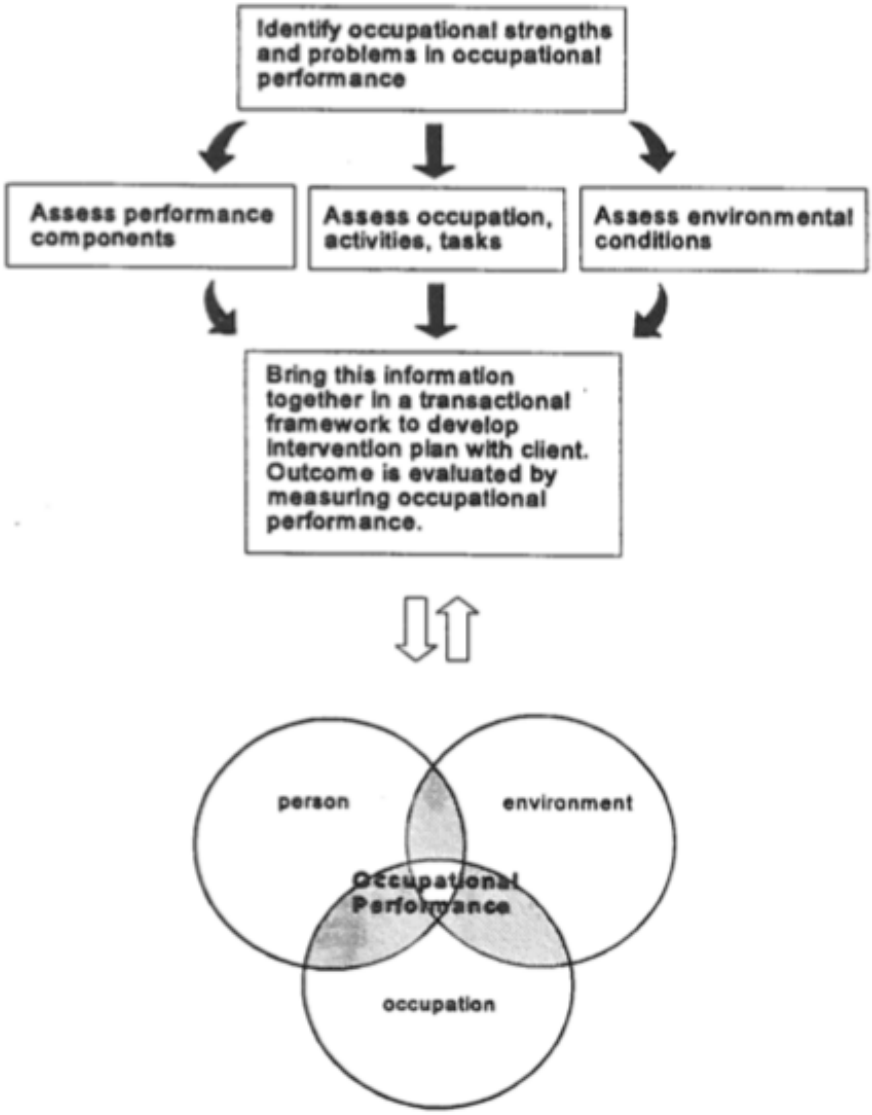


Figure 1: Depiction of the Person-Environment-Occupation Model across the lifespan illustrating hypothetical changes in occupational performance at three different points in time from Law et al. (1996).



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INTRODUCTION

The practice of medicine can be incredibly rewarding, meaningful, and fulfilling to a physician, however the profession can be demanding and stressful (Hu et al., 2019; Shanafelt et al., 2012). Growing external and internal pressures (Panagioti et al., 2018; Gazelle et al., 2014) besiege the healthcare environment. These pressures range from organizational pressures such as access to resources, volume and time constraints, to the growing personal pressures of trying to have a work-life balance. Physician burnout has reached epidemic levels with prevalence being reported near or exceeding 50%, in both learners and practicing physicians (West et al., 2016). However, research is starting to show many cases of physician burnout are widely underreported (Drummond, 2016). Physicians are exposed to a medical culture that demands perfection, denial of vulnerability and delayed gratification (Hu et al., 2019; Rosenstein et al., 2015; Gazelle et al., 2014). At the system level, there have been financial pressures requiring greater productivity, increased workload, and reduced autonomy (Shanafelt et al., 2017). Physicians have simultaneously had to deal with an expanding medical knowledge base, increasing maintenance of certification requirements, rising educational debt, and increasing administrative burden with the introduction of new electronic health record systems (Shanafelt et al., 2017).

Studies have found that burnout in physicians has been associated with increased medical errors, lower patient satisfaction, longer post discharge recovery times and diminishing physician personal care (mental and physical), and professionalism (Rosenstein et al., 2018, ; West et al., 2016). The reported prevalence of burnout and its known consequences have prompted calls to increase attention to physician well-being, targeting both individual and organizational factors (Williamson et al., 2018; West et al., 2016; Kassam et al., 2015).

Burnout in physicians has been a challenge to define. Some reviews suggest that a more concise definition of burnout is needed to be able to assess physicians quickly and inexpensively (Rosenstein et al., 2018). With the staggering rates of physician burnout, there has been increased interest in determining factors that increase the well-being of physicians. Williams et al., (2010) found that higher levels of perceived stress could affect a physician's intentions to continue or withdraw from practicing. Understanding risk factors in physician burnout is key to being able to decrease the negative personal and professional repercussions (Shanafelt et al., 2017). Few researchers have focused on how personal, environmental, and organizational factors together affect physician burnout. As a result, there is a gap in the literature in determining the interdependent relationships between the three constructs. Identifying the relationships between the three constructs is critical to prevention and treatment of burnout. Due to the staggering rates of self-reported burnout and the identified gap in literature, this paper explores risk factors in the domains of the personal, environmental, and organizational context.

The purpose of this major paper is to review the current literature on physician burnout: to define it; assess known risk factors; and point the way toward effective prevention and treatment. I hope the conclusions from this paper will potentially inform physicians health change and stimulate future research.

METHODS

A literature search was conducted on relevant literature in the area of physician burnout, and more specifically literature regarding the definition and the risk factors associated with burnout. Below I have detailed the research questions, conceptual model, and the search strategy used.

RESEARCH QUESTIONS

1. What is the definition of 'burnout'?

2. What are the risk factors associated with physician 'burnout'?

CONCEPTUAL MODEL

Risk factors for physician burnout found in the literature were viewed through the lens of the Person-Environment-Occupation (PEO) Model. The PEO Model has been used in many healthcare and research settings to examine complex occupational performance issues, and identify barriers, and prevention/intervention strategies (Strong et al., 1999: Gibbs et al., 2010; Maclean et al., 2012: Wong and Leland, 2018; Fathipour-Azar and Shirmard, 2018).

The Person-Environment-Occupation (PEO) Model (Law et al., 1996) was created using a collaboration of occupational theory and client-centered practice (Maclean et al., 2012; Strong et al., 1999; Law et al., 1996). The PEO model uses a transactional approach, which recognizes that a person's contexts are continually changing and shifting in order to accomplish their goals as they change (Gibbs et al., 2010; Law et al., 1996). The goals and duties of a physician change throughout medical school, residency and throughout independent practice, which is why a transactional approach is important to assess risk factors throughout the lifetime of a physician.

The model depicts three domains (person, environment and occupation) that overlap as interrelated circles to represent occupational performance (Law et al., 1996) (see Figure 1). The domains are three dimensional to represent the continuity of these factors over the lifetime (Law et al., 1996). Occupational performance is the central focus of the model, with the three dimensions determining occupational performance (Broome et al., 2009; Strong et al., 1999; Law et al., 1996). Occupational performance is described by the model as interacting and interwoven relationships between the person, environment, and occupation (Law et al., 1996). In terms of this paper and research question, occupational performance represents the ability of a physician to effectively and efficiently perform their duties without the symptoms of burnout. The paper used the three domains defined below to understand the role they play in determining occupational performance. More specifically, I reviewed the physician burnout literature and categorized risk factors into the person, environment and occupation domains of the PEO Model.

The "person" domain in the PEO model is defined as the individual complete with their multiple roles occurring simultaneously, which are dynamic, occurring across the life course varying in context, importance, duration and significance (Law et al., 1996). The person brings a set of attributes and skills, including self-concept, personality style, cultural background and personal competencies through their life experiences contributing to their occupational performance (Fathipour-Azar and Shirmard, 2018; Maclean et al., 2012; Law et al., 1996). This domain may also incorporate abilities related to motor performance, sensory capabilities, cognitive aptitude and general health. Maclean et al. (2012) studied the usefulness of the PEO in acute physical healthcare settings. They found that the PEO model is valuable and transferable to various healthcare settings as it offers a clear framework to structure and guides practice (Maclean et al., 2012).

The "environment" domain is defined broadly in the PEO model and includes all aspects of the environment (i.e., cultural, socio-economic, institutional, physical and social considerations) and places equal importance on these aspects thus allowing for comprehensive understanding of the environment as a whole (Law et al., 1996). In the PEO model, the environment domain can be considered from the perspective of the person, household, community or neighborhood (Law et al., 1996). Gibbs et al. (2010) suggested that the environment could include physical aspects, such as the design of the healthcare unit, equipment, technology as well as staff and patient interactions. This aligned with the direction I took on examining environmental factors, which focused on physical and social considerations of the physician's life.

The last domain, "occupation", is defined as "groups of self-directed, functional tasks and activities in which a person engages over the lifespan in order to meet his/her intrinsic needs" (Law et al., 1996, pg. 16). I used the word 'organization' instead of 'occupation' as it was related closer to the literature and I found it fit more fluidly into the concepts presented in the medical field. Others have conceptually equated organization with occupation. Wong and Leland (2018) used the term occupation however the factors they included under occupation mainly included organizational considerations of a long-term care home. Gibbs et al. (2010) also used occupation terminology but on the organization of the neonatal intensive care unit. Both studies used occupational terminology, however both equated this with organizational factors indicating that using the term occupation and organization interchangeably is reasonable and appropriate.

Risk factors of physician burnout cited from current literature were examined by using the Person-Environment-Occupation (PEO) Model by 1) Identifying occupational performance issues, 2) Evaluating the three domains both separately and identifying the overlapping problems between domains, and 3) Developing and identifying plans for intervention/prevention for occupational

performance based on evaluation of domains (see Figure 2) (Fathipour-Azar and Shirmard, 2018; Wong and Leland, 2018; Gibbs et al., 2010; Broome et al., 2009). Gibbs et al. (2010) found that using the PEO model created a structure which allowed them to gain a better understanding of each domain (NICU, family, and infants), ultimately allowing them to focus in on barriers and interventions to increase the development of occupational performance in ways not done before. Many researchers attest to using the PEO model because it allows the complex nature of the person, organization, and environment to be explored individually and as a whole with equal importance on each domain, which many models fail to do (Wong and Leland, 2018; Fathipour-Azar and Shirmard, 2018; Maclean et al., 2012). Using the PEO model allows all domains to be considered, giving a new perspective to research in the studied field (Wong and Leland, 2018). Using the PEO model in this research paper allowed me to categorize risk factors and establish a connection between occupational performance and burnout.

LITERATURE SEARCH STRATEGY

The literature search strategy involved searching Google Scholar, PubMed, Sage Journals, and Medline (OVID) articles all accessed through the Laurentian University Library Database. I used a two-stage approach to gather information and relevant articles. Initially I gathered information on the topic using the database Medline (OVID) to create a MESH (medical subject headings) in combination with keywords including; *physicians, burnout,* and *resilience.* This produced relevant and detailed articles in the field of physician burnout for initial analysis. Factors and concepts in the field of physician burnout were explored in this initial stage. The secondary stage built on the articles found in the initial stage, further exploring the factors, definition and burnout field.

The inclusion criteria for the literature selection included: (i) peer reviewed studies/articles /commentaries that documented physician burnout as well as risk factors associated with physician burnout (ii) research published after the year of 2000, with the exception of some sentinel works which were published prior to 2000 as these studies were incorporated due to their significance in understanding the evolution of the concepts and scholarship reviewed, and (iii) research published in English. Search terms included Physician burnout, risk factors, stress, burnout, medical students, residents, intersectionality, burnout definition, burnout syndrome, personal factors, environmental factors, organizational factors, well-being, and Person-Environment-Occupation Model.

CHAPTER 1: DEFINITION OF BURNOUT

The term 'burnout' is commonly used to define a state or process of mental or physical exhaustion. The Merriam-Webster dictionary defines burnout as "exhaustion of physical or emotional strength or motivation usually as a result of prolonged stress or frustration" (Burnout, 2004 p. 166). The Oxford Canadian dictionary defines 'burnout' as "physical or emotional exhaustion caused by stress" (Burnout, 2006, pg. 120). Both of these dictionary definitions point to a similar conclusion that burnout leads to the demise of an individual's health. It is important to understand where the concept of 'burnout' originated before looking at the current definition and position of burnout in medical care.

Herbert Freudenberger (1974) is considered the founding father of the concept of burnout. In the late 1960s, Freudenberger studied volunteers at a drug addiction clinic. He observed that volunteers had a gradual 'energy depletion and loss of motivation' as well as various mental and physical symptoms (Freudenberger, 1974). It was through these observations that Freudenberger chose the word 'burnout' to reflect the changes in emotional and physical states experienced by volunteers working in the clinic. Freudenberger defined burnout as exhaustion resulting from "excessive demands on energy, strength or resources" in the workplace (Freudenberger, 1974 pg. 159). Symptoms of burnout, according to Freudenberger, included fatigue, frustration, cynicism, inefficacy and malaise (Freudenberger, 1974). Freudenberger originally stated that the diagnosis of burnout included summing up the individual's symptoms, such as fatigue, anger, frustration, emotionality, overconfidence, and depression to name a few (Freudenberger, 1974, pg. 160). However, this proved to be problematic as each individual had different symptoms. In addition, the lists of symptoms did not address the underlying issue.

It was Christina Maslach who built on Freudenberger's work by studying how human service workers coped with the demands of their job. She defined 'burnout' as gradual exhaustion, cynicism and loss of commitment (Maslach et al., 1976). Maslach et al. (1982) later adjusted the definition to describe burnout as a combination of emotional exhaustion, depersonalization, and feelings of low personal accomplishment (Maslach et al., 1982).

There have been many suggested definitions of burnout in the past. One commonly used definition referring to burnout in professionals was coined by Cherniss (1980). Cherniss (1980) stated that "burnout is defined as psychological withdrawal from work in response to excessive stress or dissatisfaction" (Cherniss, 1980, p 16). Cherniss suggested that burnout in professionals was caused by a loss of motivation when their work shifted from being a 'calling' to merely a 'job' they must do (Cherniss, 1980). However, like Freudenberger's (1974) definition, Cherniss' (1980) definition was found to be too vague and broad (Doulougeri et al., 2016). Maslach's definition has remained the 'gold standard' in professional and occupational realms. (Doulougeri et al., 2016).

While many definitions have been proposed, Christina Maslach's and her colleagues' definition is currently the most widely used (Shanafelt, 2012; Rosenstein et al., 2011; West et al. 2016). Maslach et al (1982) describe burnout as a combination of (i) emotional exhaustion, (ii) depersonalization, and (iii) feelings of reduced personal accomplishment. Maslach et al. (1982) found that together these three dimensions lead to an individual experiencing the psychological syndrome of burnout. Maslach stated that feelings of emotional exhaustion deplete the resources of an individual thus preventing them from performing at an optimal level (Maslach et al., 1982). Depersonalization is said to occur as individuals with burnout become callous or dehumanized to their patients/clients (Maslach et al., 1982). Lastly, feelings of reduced personal accomplishment was Maslach's final dimension of burnout and referred to the individual negatively rating their

success at work and feeling that they are no longer giving high-quality care to their patient/client (Maslach et al., 1982).

After defining burnout, Maslach and colleagues created the Maslach Burnout Inventory (MBI) in 1981 to measure burnout levels (Maslach et al., 1981). The MBI focused on measuring the three dimensions stated in her definition being (i.e., emotional exhaustion, depersonalization, and feelings of reduced personal accomplishment). The MBI is comprised of 22 items divided into three sub-scales anchored in the three dimensions of the definition. Each item is rated on a 7-point scale (ranging from 0 "never" to 6, "every day") and addresses the individuals' personal feelings or attitudes. An example of an item is: "I feel burned out from my work". Maslach and her colleagues designed the MBI as a research tool rather than a diagnostic tool (Maslach et al., 2008). However this caution did not stop it from becoming one of the most widely used tools to measure burnout as evidenced by the over 93% of peer reviewed research articles on burnout using the MBI in a diagnostic capacity by the end of the 1990s (Doulougeri et al., 2016).

The definition of burnout has remained relatively unchanged (Shanafelt, 2012; Rosenstein et al., 2011; West et al. 2016), however recent research and expanding knowledge of risk factors are now challenging the way we think about burnout. The definition of burnout has become a controversial topic with many researchers and practitioners beginning to question the validity of the current definition for medical and other human service professions. For example, there have been several in-depth evaluations of Maslach's definition by Kristensen et al. (2005), Doulougeri et al. (2016), Schaufeli and Taris (2005), and Bianchi and Schonfeld (2017) critiquing its relevance in today's medical profession. These researchers call for a new definition that better suits the lives of physicians and healthcare workers, is inclusive, and reflects the various aspects of their lives. Below I review these articles highlighting the limitations of the current definition.

Kristensen et al. (2005) suggested that there is more than one type of burnout not reflected in Maslach's definition. Kristensen et al. (2005) compared the Copenhagen Burnout Inventory (CBI) against the Maslach Burnout Inventory (MBI). The CBI focuses on the attribution of fatigue and exhaustion to specific domains or spheres of an individual's life rather than examining three dimensions like the MBI (Kristensen et al., 2005). The CBI outlines three types of burnout: personal burnout, work-related burnout, and client-related burnout. These three types of burnout together create fatigue and exhaustion in the individual leading to burnout. Kristensen et al. (2005) explained that creating a measure to identify factors in these three types of burnout would be more likely to identify individuals and cases that would have been missed by a narrower definition. Many physicians experience factors outside the work environment, including personal and environmental factors, which are associated with increased levels of burnout (Rosenstein. 2011; Jackson et al., 2018; and Dyrbye et al., 2011). Kristensen et al. (2005) asserted that since Maslach's definition only focuses on symptoms in the organizational domain, it does not allow for a full picture of physician burnout or address physician stress from other areas of life.

Schaufeli (2003) and Taris et al. (2005) criticized the narrow focus of the Maslach's definition and lack of sound theory as the main problematic issue. Schaufeli (2003) and Taris et al. (2005) both agree that Maslach's three dimensions were built by factor-analyzing an arbitrary set of items rather than on sound theory. Due to the dominance of the MBI, burnout has become what the MBI measures. The concept is narrowed to three dimensions which cannot be combined, placing many factors beyond the scope of this narrow focus, and leaving many factors unaddressed.

A review by Bianchi and Schonfeld (2017) stated that the current definition, and burnout as a whole, could not be reduced to just three dimensions because it involves a full array of

symptoms and factors. Bianchi and Schonfeld (2017) strongly argue for a new definition that presents burnout as a depressive condition to insure proper assessment and treatment. Many physicians' symptoms do not fall into the three dimensions of the current definition. Thus, a physician may not measure as 'burnt out' using the MBI however could be exhibiting other unmeasured symptoms and still experience negative health effects.

Varpio et al. (2018) proposed that the three dimensions stated in Maslach's definition are useful to consider as symptoms rather than for defining or measuring burnout. Green et al. (2014) outlined that physicians have many roles in their lives both inside (i.e., medical student, resident, and physician) and outside the occupational realm (i.e., spouse, parent, friend, caregiver), which may clash with the role of being a physician. Multiple researchers such as Varpio et al., (2018), Green et al. (2014) and Maslach et al. (2001) present evidence that role conflict and competing demands are associated with higher levels of burnout.

Maslach primarily focused on occupational roles in burnout, but did not address the various roles outside occupation that cause stress, frustration, and burnout in individuals. Many physicians experience role conflicts with performing the duties of their career and trying to balance a healthy lifestyle (Varpio et al., 2018). A study by Leiter et al. (2009) showed that a conflict between a physician's personal values and their workload or occupational duties is a strong predictor of burnout. Varpio et al. (2018) and Green et al., (2014) discussed that interventions should address both the personal and occupational conflicts and the various roles a physician must face. Many physicians feel they must choose one role; however, the medical profession needs to acknowledge that physicians are more than doctors, to recognize these multiple roles, and to help physicians to balance their personal lifestyles, health, and professional roles. Varpio et al. (2018), Leiter et al. (2009) and Green et al., (2014) validate that factors outside of the occupational environment

contribute to burnout. This demonstrates that the definition of burnout should include potential contributions from the many roles physicians play. This is missing from Maslach's definition. A new burnout definition should provide a more holistic view of the physician as a person and integrate their occupational and personal lives.

In a 2012 study, Dale and Odds cautioned the medical community from relying on the MBI to measure levels of burnout in physicians. Dale and Odds (2012) stated that the major flaw they found with Maslach's definition was its inclusion of depersonalization as an aspect of burnout. Physicians are overwhelmed with patient needs, practice policies and their own personal lives such that depersonalization may serve as more of a coping strategy than a dimension of burnout. Levels of depersonalized feelings varied across a number of general practitioners by sex and practice types, meaning that one physician may use depersonalization as a copying strategy while others experience depersonalized feelings due to higher levels of burnout (Dale and Olds, 2012). Kristensen et al. (2005) came to the same conclusion stating that there should be more of a focus on exhaustion and less on depersonalization and feelings of reduced personal accomplishment. Conversely, Sonnetag (2005) stated he did not agree with this approach, as it can be misleading. He agreed that mentally distancing oneself from one's work may occasionally be a necessity and a healthy behavior; however burnout arises when mental distancing becomes a chronic approach to coping with the demands of one's work and life. Sonnetag (2005) did state that challenging the aspects and domains of the current definition allows for a fresh new discussion on what constitutes burnout as well as the development of new measurement tools. In view of the multiple opinions on the domain of depersonalization, it is evident that it may need to be reconceptualized in an effort to improve the definition of burnout definition. More research into depersonalization is needed to see how significant an impact it really has on physician burnout.

With the concerns over the current definition proposed by Maslach et al. (1982), there has been a push to create new definitions of burnout for physicians that consider their various professional and personal challenges and the conflicts between them. Most definitions proposed have always centered on job-related factors and are confined to organizational factors. The medical community frowned upon doctors bringing their outside "baggage" or stressors into the workplace (McDonald, 2008). However, in recent years there has been a push to understand and protect the health of physicians both in the workplace and in their personal lives.

Researchers such as Kassam et al. (2015), Williamson et al. (2018), and Wallace et al. (2009) have proposed a well-being-focused definition. Weiner et al. (2001) conducted a study regarding physicians' perceptions of 'well-being' and its relationship to burnout. They found that wellness-promotion practices by physicians are more consistent with physicians' own definition of health, and practicing these strategies led to increased psychological well-being (Weiner et al., 2001). The wellness-promotion practices explored included five main themes: relationships, religion or spirituality, self-care, work and approaches to life. According to Weiner et al. (2001), approaches to life may be a beneficial place to start in the efforts of making a wellness-centered definition to address burnout. Wallace et al. (2009) came to a similar conclusion that wellness goes beyond merely the absence of distress but includes being challenged, thriving and achieving success in various aspects of personal and professional life (Wallace et al., 2009). Wallace and colleagues state that a wellness-centered definition of burnout would be able to capture the complex and multifaceted nature of a physician's mental, physical and emotional health not captured by Maslach's current burnout definition (Wallace et al., 2009). Additionally, Kassam et al. (2015) describe 'well-being' as a "broad term for a holistic sense of confidence, energy, empathy, enjoyment and purpose" and that burnout is the absence of well-being (Kassam et al.,

2015, p. 70). Williamson et al. (2018) reported a study comparing the MBI to well-being measures. They concluded that using various well-being measures would be better for medical students as it could reduce the survey fatigue associated with the MBI as well-being measures can be taken throughout the year more quickly than the MBI. Additionally, the MBI currently does not translate into targeted interventions while well-being measures do. Both tools were able to capture students exhibiting burnout tendencies; however, the well-being measures were more in line with the students' ideology on burnout and health. Weiner et al. (2001), Wallace et al., (2009), Kassam et al. (2015), and Williamson et al. (2018), all came to similar conclusions that a definition for physician burnout should be a positive centered one instead of the current negative focused one.

Maslach et al. (2001) reflects on the study of psychology in burnout in recent years, and accepts a shift from defining burnout in negative psychologic lens to transitioning to a positive psychological lens. This positive psychology lens is seen as an alternative to the dominant focus on pathology and redirects attention to a focus on strengths of the individual and organization to understand how those strengths can improve the overall functioning of the individual (Maslach et al., 2001). Burnout (being a negative psychological state) is currently being reframed in physician burnout research to reflect a positive approach (Maslach et al., 2001) such as job engagement, reinforcement, self-care, and work-life balance, which are explored further in the chapters ahead. Maslach et al. (2001) did acknowledge that a positive psychology approach is beneficial, stating "building engagement rather than trying to reduce burnout enhances the accountability of the intervention" (Maslach et al., 2001, pg. 420). While this approach focused on risk factors, extending this approach to include the definition of burnout would be crucial to understanding and preventing burnout. Positive psychology interventions (positive responses, personal strengths, recording three positive things) were used on a group of nurses experiencing burnout, they found

that by completing these interventions over time alleviated exhaustion and reduced burnout in nurses (Luo et al., 2019). Luo et al. (2019) found that not only did the individual's health improve but it also created a positive environment in the organization. With emphasis in physician burnout research shifting towards a positive psychology approach, as well as many interventions already including a positive lens, a new definition of burnout developed with the same framework would likely be beneficial.

Moving towards a wellness-focused definition will allow for the improvement of physicians' overall health, increased physician catchment for burnout, lessen restraints on individual notions of burnout, and develop more reliable and valid assessment tools. There is a need for a definition that reflects societal and organizational changes and the various effects of professional and life roles. While a concrete definition to replace the current Maslach's definition has not yet been developed or implemented, the work on well-being focused definitions and further research into the context of burnout allows promise that a new definition is forthcoming. The healthcare environment has undergone an enormous transformation in the past century (McDonald, 2008). While most of this evolution has advanced medical technology, established foundations for healthcare practice, and improved patient care, it has also created other challenges that threaten the health and safety of physicians (McDonald, 2008). Additional research into a well-being focused definition may be a starting point for addressing burnout. Another important piece of this puzzle will be understanding the scope of risk factors for physician burnout across a wide spectrum. Therefore, this paper will next address risk factors in the organizational, environmental, and personal domains of a physician.

CHAPTER 2: ORGANIZATIONAL PHYSICIAN FACTORS ASSOCIATED WITH BURNOUT

Organizational factors include tasks and activates that physicians engage in through their work environment, this includes the duties, tasks, and measures to perform their job effectively and efficiently. These factors include the organization and workplace where the physician performs their services. Organizations are responsible for ensuring the health and well-being of not only their patients but physicians and other staff and providing them with resources and tools to perform their roles (World Health Organization, 2002). Organizational factors have been well researched as a contributor to physician burnout (Hu et al., 2019; Panagioti et al. 2018; Rosenstein, 2015; Embriaco et al., 2007; Shanafelt et al. 2015). These factors include long hours, sleep deprivation, job demands and satisfaction, low organizational commitment, disruptive behaviours, specialty, work demands (including emotional demands), perceived job control and poor clinical leadership (Dewa et al., 2014; Williams et al., 2010; Shanafelt et al., 2012). Research has shown that organizational factors increase physicians stress levels and fatigue, as well as decrease the health and well-being of the individual (Hu et al., 2019; Shanafelt and Noseworthy, 2017 Dewa et al., 2014)

The work environment for physicians has changed throughout the years, playing a role in the development of risk factors physicians are facing today. According to McDonald (2008) physicians experienced a very profitable practice environment between the 1930s and 1950s largely due to high community standing, autonomy over their practice, sizeable patient time and developed patient-doctor relationships. The healthcare system has evolved since this time with increased legislative guidelines, patient representatives, impersonalization of the doctor-patient relationship, and additional restricting practicing measures. In addition to increased legislative

changes for patient care, there have also been increases in government regulation over professional activities, processes for errors, reduction in patient examination time, increased clinical demands, and many more concerns reducing the physician's autonomy (Austin and Gregory, 2019; Honavar, 2018; McDonald, 2008).

Research has shown that organizational factors that increase the perceived stress of the physician ultimately increase the risk of burnout for physicians (Barnes et al., 2019; Shanafelt and Noseworthy, 2017 Dewa et al., 2014). Throughout the literature review I found the main organizational contributors included disruptive behaviors, organizational culture, job satisfaction, workload, organizational commitment and physician engagement.

Disruptive Behaviors

Disruptive and unprofessional behaviours contributed to conflicts between staff members and their organization, and increased physician burnout (Rehder et al., 2020). These behaviours are often ingrained in the culture of healthcare and affect not only the physician, but decrease patient safety, increase medical errors, lower quality of care, contribute to poor patient satisfaction, increase cost of care, increase conflicts in the workplace and contribute to higher patient mortality (Rehder et al. 2020, Tatebe and Swaroop, 2018; Hu et al., 2019). Disruptive behaviours are defined by Rosenstein (2011) as "any inappropriate behaviour, confirmation, or conflict – ranging from verbal abuse to physical or sexual harassment – that harms or intimidates others to the extent that quality of care of patient safety could be compromised" (Rosenstein et al., 2011, pg. 1). Some examples of disruptive behaviour in the work environment consist of profane language, bullying, public humiliation, demeaning behaviour, harassment, racism, violent outbursts and boundary violations to name a few (Rehder et al., 2020; Tatebe and Swaroop, 2018). Many physicians

experience conflicts with colleagues, lack of support, bullying and lack of cohesive teamwork, leading to physicians working individually creating a toxic work environment (Brooks et al., 2011). Disruptive behaviours have long been a part of the healthcare environment and there is often a hidden 'code of silence' mentality where these behaviours are ignored, tolerated, reinforced or just not reported due to fear of retaliation affecting their career (Rehder et al., 2020; McDonald, 2008). Disruptive behaviours, especially harassment, abuse and mistreatment, were shown to be highest in residents and women in a recent study by Hu et al. (2019). Hu et al. (2019) studied general surgery residents where 50% of the residents reported some form of mistreatment and abuse. A study by Mullan et al. (2013) saw that medical students and residents often receive disruptive behaviour from nurses, whereas attending physicians most often receive such behaviour from fellow physicians. These behaviours lead to members of the care team avoiding individuals exhibiting such behaviour, decreasing the communication, team cohesiveness and endangering patient's safety (Tatebe and Swaroop, 2018; Mullan et al., 2013). Those who did report these unhealthy behaviours were often alienated, threatened with retaliation, and experienced lack of support and resources from organizations (Rosenstein, 2011). The main factors perpetuating this environment and behaviour included: hospital culture, lack of support, code of silence, and fear of colleague's reactions (Jackson et al., 2018; Rosenstein, 2011). If these kinds of behaviours are continuously ignored and tolerated it affects physicians and other members of the care team including decreasing morale and self-esteem, increased staff turnover, ineffective communication, and increased liability (Tatebe and Swaroop, 2018). Promoting communication and teamwork is vital to ensure patient safety when conflicts arise (Jennings et al., 2008). Receiving support from supervisors, coworkers, friends and families all played a beneficial role in work stress and strain

on the physician which helped to reduce the risk of burnout in the individual (Sarason and Sarason, 2009).

Rosenstein (2015) states that responsiveness is key in reducing these behaviours. Management styles are a contributing factor to conflicts and disruptive behaviours in the work environment, and affect physician satisfaction, which in turn have an effect on burnout (Barnes et al., 2019; Shanafelt and Noseworthy, 2017 Jennings, 2008). Disruptive behaviors can be exacerbated in the workplace when management does not have the ability, skill or formal training to deal with these situations (Barnes et al., 2019). Jennings (2008) stated that there are many issues with inconsistent management, causing frustration and conflicts arising in the workplace. Current problems with management include inadequate leadership, insufficient presence of supervisors, failure to address problems, and little awareness of staff issues and concerns (Jennings, 2008). Physicians who do not have sufficient leadership skills were more likely to have conflict in the work environment with fellow physicians, nurses, patients, and patients' families (Barnes et al., 2019). Physicians who perceived their supervisors to be unsupportive were more likely to describe their patient relations in a negative manner as well (Tayfur and Arslan, 2013). Panagioti et al. (2018) stated that if physicians do not feel supported, it is unrealistic to believe that physicians can effectively deal with burnout. Shanafelt and Noseworthy (2017) found similar results stating that the role a supervisor plays is significant for the well-being of physicians they lead.

In order to reduce levels of burnout organizational culture and leadership must support a zero-tolerance policy toward disruptive behavior to ensure safety of staff and patients. Many organizations have difficulty confronting physicians who exhibit these behaviors due to the large role they play in the hospital as well as the high revenue they contribute to the organization even though this may be at the expense of workplace safety and teamwork (Rosenstein, 2015). While it

may be difficult, organizations must put the safety of others before financial concerns by initiating a zero tolerance policy and confronting individuals immediately to reduce the amount of disruptive behavior seen across medical environments (Tatebe and Swaroop, 2018). In addition, Hu et al. (2019) state that the values promoted by an organization are key determinants affecting employee engagement or burnout. Hu et al. (2019) found that there is a direct relationship between disruptive behaviour and burnout and if organizations do not respond immediately and appropriately, it can have negative consequences. Having management present, involved and empowering members of the team around them has been associated with reducing job tension and increasing work effectiveness (Jennings et al., 2008).

Organizational Climate

The organizational climate has been shown to be related to burnout (James & Sells 1981, Green et al., 2014, Glisson et al., 2007). Culture, as detailed in *Chapter 4: Environmental Physician Factors Associated with Burnout*, is often confused with climate, however these are very different. Climate is associated with professional behaviour, perceptions, and attitudes of the individual which can be altered through individual or group actions (Shanafelt et al., 2019). The organizational climate can be described as the attitudes and perceptions of the workplace shared by the workers (James & Sells, 1981). This is different from culture, which is shared beliefs, values, and social practices, that are widely accepted and therefore no longer scrutinized (Shanafelt et al., 2019). Culture cannot be changed by an individual or small group but rather by action across the profession.

Role overload, conflict, and ambiguity were shown to affect the organizational climate as well as the perception of exhaustion and burnout (Green et al., 2014). When physicians have many

challenges such as increased workloads, on-call shifts, and administrative work, in addition to patient care, they may have more work than they can comfortably handle, leading to emotional exhaustion and burnout (Ahamd 2010). Job satisfaction is directly related to the perceptions of the workplace, which is also correlated with increased burnout (Austin and Gregory, 2019). These multiple demands in the workplace can be described as role overload and conflict. While role overload and conflict are related to work-home conflicts, they are also related to expectations and demands of the workplace (Shirom et al, 2006). When individuals feel overloaded and overwhelmed with work situations, it can lead to exhaustion, burnout, and a reduced sense of personal accomplishment and effectiveness (Maslach et al., 2001).

Role ambiguity refers to uncertainty about tasks and expectations, lack of agreement and ineffective coordination between members of the organization (Tunc and Kutanis, 2009). A lack of clarity can create an unhealthy interprofessional workplace that can lead to patient errors, reduction in quality care, safety issues and burnout (Bittner, 2018; Tunc and Kutanis, 2009). A functional organizational climate includes growth and advancement of both the workplace and employees (Green et al., 2014). For this type of healthy workplace to thrive, there needs to be role clarity within the workplace, meaning physicians need to have a clear understanding of their role, duties and obligations (Green et al., 2014).

Healthy organizational climates can increase clarity in the workplace through engagement and improving functionality in the environment thus decreasing conflict and work overload. There are three main elements to organizational climate: engagement, functionality and stress (Glisson et al., 2008). Engaged climates allow employees to feel personal accomplishment in many domains and remain involved with work and clients (Austin and Gregory, 2019; Glisson et al., 2008). Functional climates refer to cooperation and support that coworkers feel within the organization

(Glisson et al., 2008). Finally, there are stressful climates, characterized by employee emotional exhaustion, work overload, and inability to perform all their tasks well (Glisson et al., 2008). The climate can have a large impact on physicians as well as their patients (Linzer et al., 2005). Lack of communication, poor leadership and in cohesiveness in the workplace can create a hostile environment felt by all members of the organization (Linzer et al., 2005)

Appelbaum et al. (2019) suggest that organizational climate can be influenced through organizational support and role clarity for all individuals within the workplace. Future research should continue to monitor the relationship between work demands, role clarity, organizational support and effects it has on the physician's perceptions of their workplace (Appelbaum et al., 2019). Creating a healthier workplace for physicians will increase job satisfaction which will likely decrease burnout (Jackson et al., 2018).

Workload

Workload is discussed in *Chapter 3: Personal Physician Factors Associated with Burnout* in the section of work-life balance; however this section focuses on the effects in the workplace and their relationship to burnout. The workload of physicians has increased with higher patient volumes, increase in administrative burden, and shorter patient visit times, leaving physicians both frustrated and exhausted. Panagioti et al. (2018) conducted a study with cardiologists, which found that workload demands added a significant load of burden, stress and ultimately higher levels of burnout. High workload has been associated with increases in emotional exhaustion in physicians contributing to decreases in energy and attention (Tayfur and Arslan, 2013). Physicians face many challenges in addition to their clinical practices such as managing healthcare teams (nurses, physiotherapists, and additional healthcare staff), oversight of medical students and resident,

research activities, clinical audits, and hospital administration duties to name a few (Panagioti et al., 2018). These countless demands place a considerable amount of burden on the physician, at the expense of their energy, motivation, personal life, patient care and health (West et al, 2018). Workload was found to be the main contributor to increasing conflict between work and family lives (Tayfur and Arslan, 2013). Haber et al. (2013) found that practical support by organizations, in addition to emotional and educational support, may help physicians structure their workload more efficiently, allowing them to cope with the various demands in a healthier way.

Job Satisfaction

The relationship between career satisfaction and burnout has been well established (Shanafelt et al., 2015; Jackson et al., 2018; van Wulfften Palthe et al., 2016) and has been shown to affect patient care, specialty choice, as well as other more severe consequences that impact physicians of all specialties.

According to van Wulfften Palthe et al. (2016) career dissatisfaction is one of the leading causes of burnout in physicians. Recent studies have shown that job dissatisfaction has severe consequences on physician retention, job turnover, patient satisfaction and patient safety (Jackson et al., 2018; Wulfften Palthe et al., 2016). Barnes et al. (2019) found that of all the aspects of a physician's duties (patient care, research, education, administration) most physicians find less than 20% of their work time to be meaningful and effective leading to decreases in job satisfaction. Job satisfaction is derived from two components: intrinsic (e.g. achievement and accomplishment) and extrinsic (e.g. wages, job security and various other organizational factors) (van Wulfften Palthe et al., 2016). Some of the main causes of career dissatisfaction were due to physicians feeling a loss of autonomy, workload, and lack of appreciation (DeVoe et al., 2002; Jackson et al., 2018).

In a study by DeVoe et al. (2002) found that the main indicators for dissatisfaction among physicians were: feelings of loss of autonomy, insufficient communication with specialists and other physicians, lack of quality time with patients, barriers to providing high-level patient care, and difficulty maintaining relationships both in and out of the work environment. Shanafelt et al. (2009) found similar results in a study of surgeons showing that burnout was the single greatest predictor of career satisfaction in physicians. Shanafelt et al. (2009) also found that career satisfaction determined specialty choice more than any other personal or professional factor. Therefore, the literature shows that lack of job satisfaction causes burnout in physicians and should be a main focus of intervention and prevention strategies (Shanafelt et al., 2009; Jackson et al., 2018).

Another component of career dissatisfaction is work-life integration. Many physicians who were not able to obtain a healthy work- life balance, felt that obligations of their career contributed negatively to their health and restricted them from many personal events and activities (Shanafelt et al., 2015). Jackson et al. (2018) suggested that in order for career dissatisfaction to be mitigated three variables need to be changed. These variables include hospital culture, hospital support and financial reimbursement (Jackson et al., 2018).

Career dissatisfaction in physicians can lead to burnout, reduction in quality of patient care, higher attrition and turnover rates, and ultimately lead to a disruption in care and inaccessibility of providers (DeVoe et al., 2002) and should therefore be addressed thoroughly if burnout is to be reduced in physicians.

Organizational Commitment and Physician Engagement

Healthcare organizations should recognize the potential effects of physician well-being on long-term viability of their organization and physicians. Shanafelt and Noseworthy (2017) state that physician burnout is a shared responsibility and does not solely fall onto the physician as it has in the past. In the past, it has been an assumption of healthcare professions, such as physicians and pharmacists, that it is up to the individual to be engaged, motivated and self-reliant with little support from the organization (Austin and Gregory, 2019). Often organizations pursue a narrow focus on single interventions rather than looking at combined personal and organizational approaches to address physician burnout (West et al., 2018). These narrow organizational interventions may be seen by physicians as an insincere gesture thus further taxing the organization-physician relationship (West et al., 2018). Addressing physician burnout as a personal problem has led many physicians to pursue their own solutions some of which may be detrimental to the organization. These include reducing work hours, reducing professional effort, or changing specialty (Shanafelt and Noseworthy, 2017).

Having a successful and strong partnership between physicians and organizations allows for the interest of both parties to be understood and respected. Partnerships need to evoke trust, sincerity and transparency in all involved for the partnership to be successful, but currently physicians do not feel they are getting this from organizations (Swensen et al., 2016). Freeborn (2001) found that many organizations try to provide financial incentives to increase productivity, however it was found that organizational commitment had a greater impact on physician's productivity. Commitment, loyalty and trust in physicians by organizations were more important to physicians than a financial incentive signifying that physicians need support from their organization more than monetary gains (Freeborn, 2001). Physician participation in organizational

improvement is limited in many hospitals, despite the evidence showing that it can be incredibly effective to organizations (Swensen et al., 2016).

Physician engagement will help decrease levels of burnout by strengthening the relationship and understanding between organizations and physicians. There has been increasing research introducing physician engagement into organizations and in the medical community as a whole (Austin and Gregory, 2019; Shanafelt and Noseworthy, 2017 and Lindgren et al., 2013). One of the first definitions of engagement was by Kahn (1990) stating that it was how individuals physically, cognitively and emotionally express themselves in their work roles. Currently the most popular definition for defining workplace engagement comes from Schaufeli and Bakker (2005) stating engagement can be characterized by vigor, dedication and absorption.

A study on pharmacists by Austin and Gregory (2019) found that key determinants of engagement included autonomy, altruism, admiration, acceptance, agreement, alignment and aspiration. While autonomy can be interpreted differently from one professional to the next, the notion that professionals wanted control over their workplace, ability to self-direct, prioritize and have freedom from micromanaging was a common predictor of engagement (Austin and Gregory, 2019; Gunderman et al., 2019). Admiration and acceptance from peers and management for their work was a strong predictor of engagement in the profession, as well as simply being acknowledged, well-liked and respected in the workplace (Austin and Gregory, 2019). Alignment was another critical factor shown to relate to engagement. Alignment referred to feeling that there was a greater objective to their work and that they were part of the community, rather than simply the sum of the tasks they complete (Austin and Gregory, 2019). Aspiration was similar to optimism or having a positive outlook in the work environment (Austin and Gregory, 2019). These six

determinants can provide insight and knowledge to organizations on how to create interventions to decrease the levels of burnout in physicians through engagement and motivation.

Though past authors like Meyer (2014) have believed that intrinsic motivation is more important in generating engagement, Austin and Gregory (2019) found in their study that participants relied heavily on external reinforcements and motivation in order to sustain or increase their engagement in the profession. Shanafelt and Noseworthy (2017) proposed nine organizational strategies to promote physician engagement in the work place to bridge the gap between the physician and the organization. These strategies include acknowledging the problem, leadership, targeted interventions, incentives, incorporation of values, support and promoting flexibility and work-life integration (Shanafelt and Noseworthy (2017). These strategies allow for external praise, acknowledgement, and admiration, all which have been show to increase interest for physicians, which in turn has a direct effect in reducing burnout (Austin and Gregory, 2019).

When physicians are actively engaged in planning, delivery and transformation of healthcare services it allows physicians to be more engaged and feel in control of their workplace (Shanafelt and Noseworthy, 2017). Including physicians in organizational processes is necessary to the success of the organization, however has rarely been implemented (Greening, 2012). The more involved physicians are in the organization, the clearer the picture of burnout can become with an open and engaged workplace being created. By allowing physicians to be more engaged in the process, additional burnout interventions and preventions can be considered with the direct feedback of the physician (Greening, 2012).

For change to occur organizations must accept that burnout is not just a physician's issue and prevention initiatives must be created by both physicians and organizations to be successful.

Physician burnout affects physician's health, patient's health and satisfaction, as well as many consequences on the hospital like higher turnover, physicians leaving specialties (or practice entirely) and reducing work hours (Shanafelt et al., 2015). Therefore, it is in the best interest of organizations to be equally as devoted to reducing physician burnout on physicians as are individuals. Creating a healthy relationship between physicians and organizations may be the first place to start.

CHAPTER 3: PERSONAL FACTORS ASSOCIATED WITH PHYSICIAN BURNOUT

Individuals are unique beings with dynamic roles, attributes and life experiences that impact their life, decisions and careers. There is a growing body of literature strongly supporting the relationship that personal factors have in contributing to burnout (Varpio et al., 2018). Personal factors can include personality traits, health of the physician (exercise, nutrition and self-care), sex and gender, training stage, and work-life balance. Most burnout research focuses on factors in the workplace (Embriaco et al., 2007; Dewa et al. 2014) but studies have shown that personal factors affecting physicians, are all directly related to burnout (Linzer et al., 2001). Excluding the importance of personal factors does not allow for a holistic perspective of physician burnout and results in an incomplete picture of the phenomenon. In my review of the literature, I noted five key personal factors that contributed to physician burnout: medical training, sex and gender, work-life balance, personality traits, and self-care (Maser et al., 2019; Hu et al., 2019; Gander et al., 2010).

TRAINING STAGE

Training stage of physicians was found to be a dominant indicator of risk for burnout. Studies have shown that physicians in medical school and residency are at a greater risk of experiencing burnout than older more established physicians (Raj, 2006). Older more established physicians reported decreased levels of burnout and higher job satisfaction compared to younger physicians (Spickard et al., 2002). Residency in particular is one of the highest periods of reported burnout by physicians (Maser et al., 2019; Hu et al., 2019; Varpio et al., 2018; Raj, 2016) This is due to harsh environments in which residents work including a large amount of stress, sleep deprivation, and often, little support (Brooks et al., 2011). Many residents struggle with depression, anger control, and substance abuse according to Veldenz et al. (2013). In a study by Hu et al.

(2019), residents were shown to have higher rates of suicidal thoughts compared to the general population, an indicator that residents need services and resources early in their career. While finishing medical school and gaining a new competitive residency position can increase confidence and a sense of accomplishment in an individual, it can also add significant burden in terms of workload, responsibility, and depleted energy leading to burnout (Varpio et al., 2018). Hu et al. (2019) found that residents who exceeded the work hour limits were more susceptible to burnout and decreased well-being. Therefore, it should be reiterated to residents that work hour restrictions are in place for a reason and should be followed to ensure optimal health.

For most individuals, being in one's thirties is a transitional period that often includes solidifying one's career and aspirations, raising/starting a family, marriage, establishing relationships and building personal lives. For residents there are many barriers that prevent these individuals from going through this transition in the same way as their peers in other professions (Dyrbye et al., 2014). Residents face the highest levels of burnout compared to other physician age groups (Raj, 2016). Residents with burnout had significantly lower mindfulness and coping skills, and increased levels of stress, fatigue and depression (Chaukos et al., 2017). The intense schedule of residency training is associated with significant reductions in wellbeing (Raj, 2016). Residents must deal with cognitive impairment, anger, feelings of depersonalization, and the struggle to maintain a healthy work-life balance, which all contribute to higher levels of burnout (Peisah and Wilhelm, 2002). Residency lifestyle and workload also has a significant effect on relationships outside work and can contribute to overall home-life deterioration (Varpio et al., 2018).

While it has been presumed that residents and medical students are exposed to adverse effects from power imbalances (Bates et al., 2018), little research has shown the impact of workplace mistreatment and its relation to burnout (Hu et al., 2019). A recent study by Hu et al.

(2019) showed that more than 50% of residents reported some form of mistreatment and that there is a direct relationship between this mistreatment and levels of burnout. The resident-supervisor relationship contains a power imbalance due to reliance on supervisors for learning and future career opportunities, which can cause many residents to under-report abusive behaviour or mistreatment for fear of reprisals (Bates et al., 2018). Some suggestions from Hu et al. (2019) and Bates et al. (2018) include providing training to residents on how to respond to mistreatment and harassment through information, resources, and support available to ensure safety in the workplace and a shift in the culture of reporting mistreatment. Hu et al. (2019) ultimately found that current studies looking at mistreatment of residents in the workplace and power imbalance affecting residents is lacking and underdeveloped. It is recommended that future research explores and establishes standards of best practice and formal processes for addressing mistreatment. Creating best practice standards such as evaluating the work climate rather than just an individual action, allows for an improved understanding and enhanced prevention measures (Rehder et al., 2020)

Burnout severity in residents and medical students was also related to financial concerns and debt (Royce et al., 2019; West et al., 2011). Physicians accumulate significant debt throughout medical school and their early career as a physician. West et al. (2015) found that emotional exhaustion and depersonalization increased as educational debt increased, demonstrating financial concerns for medical students and residents is a concern affecting their health and well-being. Royce et al. (2019) states that financial literacy is poor among physicians, with a significant factor being the lack of financial education throughout their medical training. Implementing financial literacy programs into medical schools may allow physicians to be more confident and informed regarding their educational debt and finances. In addition, these programs may help students to set

goals and implement plans to not only manage their finances, but also reduce the stress surrounding these conversations.

While residents are most at risk for developing burnout, studies focusing on medical students have shown that they too are suffering from burnout and psychological distress. Dyrbye et al. (2006) found that mental health deteriorates during medical school, beginning in first year and continuing throughout the remainder of school. Students must face many stressors in their medical education such as workload, financial concerns, sleep deprivation, exposure to death and suffering, harassment and abuse (Dyrbye et al., 2006). Compared to postgraduate students in the general population, medical students have higher levels of psychological distress, mood disorders, anxiety and suicidal ideation (Maser et al., 2019). Many of these stressors are not addressed in medical education (Maser et al., 2019). Dyrbye et al., (2014) found similar results finding that medical students and residents had higher levels of emotional exhaustion, depersonalization and feelings of being 'burned out'. Dyrbye et al. (2014) found 49.6% of medical students felt 'burnt out' compared to 35.7 % age-matched college graduates. Residents perceived little to no support from their organization and personal life increasing levels of depersonalization and emotional exhaustion (Sochos et al., 2012). Receiving professional support for medical students and residents was challenging due to complex schedules including various hours and varying placements. (Brooks et al., 2011). Residents perceived lower support due to an intense workload and exposure to new and unfamiliar situations (Sochos et al., 2012; Thomas, 2004).

Some authors have suggested interventions for helping residents and medical students reduce feelings of burnout. Raj (2016) suggests that increased sleep and physical activity as well as time spent outdoors will increase well-being of residents and decrease burnout. This included time to run errands, exercise, socialize and relax. With the combination of clinical hours as well

as time for studying and exams, residents rarely have any true time away from work. Raj (2016) found that residents who had more personal time without work interference showed higher career satisfaction, less perceived stress, more positive experiences and emotions, and decreased levels of burnout. McCray et al (2008) found that interventions used in a meditation-type practice improved burnout and total mood disturbance in residents and medical students. McCray et al. (2008) also suggested that meditation may contribute to reduced burnout in students while increasing their overall health and self-care. One of the main suggestions by Varpio et al. (2018) to reduce burnout levels in residents and medical students was to share ideas with each other about effective communication skills to improve marital and personal relationships, improve self-care and develop methods of relaxation. Having an open and shared communication group allows residents to gain useful skills and knowledge, while normalizing the conversation and reducing the stigma associated with attaining support. External supports during residency may be helpful for individuals who are struggling with building a family and developing adult relationships. In terms of workplace relationships, positive feedback by colleagues and supervisors will help residents increase confidence and develop and maintain positive relationships with colleagues and their superiors (Hurst et al., 2013). Residents felt that being given opportunities for learning and a sense of increasing mastery of clinical skills all helped to increase their well-being (Raj, 2016). Until physicians feel that they are able to equally care for both their personal and professional lives, levels of burnout will not decrease and the well-being of students will continue to decline. Understanding the various organizational and personal risk factors this group is facing, will allow both the student and organizations to make changes accordingly for the best interest of the individual (Varpio et al., 2018).

It is clear that new strategies need to be put into place to assist young physicians during the stressful period of their training. Thus far, interventions have primarily focused around the individual (meditation, mindfulness) which can be helpful, however without organizational support significant change cannot be made (Dyrbye et al., 2014). Tyssen and Vaglum (2002) stated that medical students and residents are often not prepared for the enormous change when transiting from student to the role of physician. Tyssen and Vaglum (2002) suggest having low-threshold mental health services implemented throughout medical school to prepare students for the large shift they will experience in becoming a physician. Support systems for students and physicians was a reoccurring suggestion seen throughout the literature (Sochos et al., 2012; Dyrbye et al. 2006; Jennings et al., 2008; Tyssen and Vaglum, 2002). Support systems suggested included programs through medical school offering confidential resources and treatment for depression, burnout, and assistance with major personal or family events (Dyrbye et al., 2006). Peer mentoring, as well as support from supervisors with constructive feedback were additional suggestions (Sochos et al., 2012).

Work-Life Balance

Work-life imbalance is also a significant indicator of burnout for physicians. The main barriers to physicians achieving optimal work-life balance include long work hours, disruption of personal relationships and family lifestyle (Varpio et al., 2018; Shanafelt et al., 2015; Gander et al., 2010). The literature suggests that physician work-life imbalance is one of the most prominent personal risk factors for burnout (Thimmapuram et al., 2019; Honavar et al., 2018; Shirom et al., 2005). There is an expectation that physicians must excel in their career and be able to maintain personal relationships, optimal family life, as well as participate in extracurricular activities that

would increase their wellness. While this may be an ideal picture, it is unrealistic due to the various barriers that physicians are facing today. Witzig and Smith (2019) describe having optimal or overall work-life balance by achieving balance between three key life components — work, yourself and others. Having an optimal balance means that you are passionate in your career, understanding you are not a slave to your work and self-care is necessary, and contributing to the needs of others (spouses, children or friends) (Witzig and Smith, 2019). As an example, illustrating the impact of barriers on achieving work-life balance, Gander et al. (2010) looked predominantly at female junior doctors in New Zealand and found many physicians commented that they were unable to commit to any regular social and cultural activities, due to the idea of always having to be "on-call" in their career. In addition, this study showed that long work hours took away from physicians being able to commit to regular activities or family events due to sleep deprivation (Gander et al., 2010).

Personal relationships are often affected by conditions and factors associated with the career of a physician. The long work hours, on call shifts, workload, and varying schedule, have had a large impact on the family environment especially the relationship with spouses (Varpio et al., 2018). Marital problems can have an effect on the practice environment of physicians (Spickard et al., 2002). Varpio et al. (2018) stated that conflicts with spouses and family members may be influenced by work-related fatigue and exhaustion. Spickard et al. (2002) found that having a supportive spouse is a protective factor against burnout.

The long work hours of a physician contribute to work-life imbalance and increased levels of burnout (Shirom et al., 2005). Physicians work long hours, with most of these hours being unpredictable (e.g. surgery, patient care, administrative tasks), meaning that having an optimal work-life balance is extremely difficult. Long work hours disrupt a healthy work-life balance, due

to constraints of having less time to spend with their families or being able to engage in self-care practices to reduce their feelings of stress (Honavar, 2018). Many physicians reported that they are frustrated with long work hours and the time it takes away from other activities such as family, social and well-being focused activities (Thimmapuram et al., 2019). While physicians have been working long hours for decades, the culture and expectations of a career in medicine have changed, and more physicians want a work-life balance (Shanafelt et al., 2015). Staiger et al. (2010) looked at the trends in work hours of physicians in the United States from 1976 to 2008. This study revealed that in the past two decades work hours have been steadily declining. While physicians still work long hours, especially in the early years of their career, the steady drop indicated that this issue may not be the long work hours themselves but the impact that these hours have on the work-life balance of the physician. Staiger et al. (2010) explained many changes in legislation such as restrictions in hours for residents, but one of the crucial changes was societal shift occurring in the practice of medicine. Physicians have shifted to the preference of having a balanced lifestyle, which was not the case in years past. The expectations and perspectives of physicians have changed in the recent decade switching from career-focused to preferring a work-life balance (Williams et al., 2016). Staiger et al. (2010) also reported that there was a shift in employment of physicians towards larger practices and institutional settings. This also raises the question that organizations may be controlling the balance between work hours and personal time. Future research should focus on the relationship between long work hours and the relationship between work-life balance; exploring if work hours are a defining element of burnout on their own or if it is the challenge they post to work-life balance that is the main cause of burnout.

Given the long work hours and unpredictable nature of some hours (administrative, surgical, clinical, teaching etc.) healthcare organizations should establish principles, resources and

support to help facilitate a healthy work-life integration (Shanafelt et al., 2015). Healthcare organizations need to establish resources to allow physicians to optimize their work-life balance and reduce or manage hours in a healthier way. Using an intersectional approach for work-life balance would allow considerations in the personal and organizational domains, helping to decrease levels of burnout seen in physicians. Intersectionality and its benefits to physician burnout are discussed further in *Chapter 5: Discussion*. Shanafelt et al. (2015) suggested that if healthcare organizations improve efficiency and provide support to physicians by creating a flexible environment, this may reduce the workload and long hours physicians are facing. For this to be achieved the current funding and/or business models in organizations would need to be reviewed.

Sex and Gender

Throughout the literature analysis it became evident that women, in particular, are at higher risk of burnout (Hu et al., 2019). Brown et al. (2009) found that women are more prone to burnout than their male counterparts. This may be due to a number of factors that females must face that most of their male colleagues do not, ranging from harassment to pregnancy and family obligations (Brown et al., 2009). Women had higher reports of harassment, discrimination, abuse and mistreatment compared to males (Hu et al., 2019). However, after Hu et al. (2019) removed mistreatment from the models, the levels of burnout for women decreased significantly and did not persist further. This is an important finding showing that mistreatment has a large impact on well-being of female physicians and should be considered a risk factor of burnout. The relationship between mistreatment and burnout should continue to be explored as well understanding how intersectionality plays a role in women having higher levels of burnout, discussed further in *Chapter 5: Discussion*.

Panagioti et al. (2018) found that female physicians who prioritize work over personal time are especially vulnerable to burnout. Both Jennings et al. (2008) and Brown et al. (2009) discuss the many added workplace barriers that female physicians experience that male physicians do not. As discussed above, all resident's experience stressors however, women also face higher levels of prejudice and sexual harassment from patients, colleagues, and staff (Brown et al., 2009). McMurray et al. (2000) also found that different work expectations for women are present in the medical culture coming from patients, colleagues, and administrators. Women have far fewer role models in the workplace than their male counterparts, making it harder for females to receive support and guidance in challenging times in their careers (Barnes et al., 2009).

Female physicians struggle with conflict related to achieving both their professional and personal goals, which are often in opposition to one another. Often women must choose between furthering their career or having a family. This leads to feelings of guilt, having to take time away from residency training or taking time from family events, and raising children (Jackson et al., 2018). Female physicians face significant barriers when trying to have children due to the need to plan pregnancy around residency schedules and dividing time between work and family, and this lack of "work control" for women was shown to be a predictor of burnout (Templeton et al., 2019). Women who felt they had control over their work environment were more likely to report feeling satisfied with their jobs, however most women were perceived to have less control over their work life than their male counterparts (McMurray et al., 2000). Females are often depicted as choosing their family over career leaving them feeling unsupported and judged by their colleagues and medical community (Jackson et al., 2018). There should not have to be a 'choice' made between an individual's family or career as both should be equally accepted by the profession.

Children were a significant stressor leading to burnout in various studies. In a study by Jackson et al. (2018), many physicians stated that they did not feel their line of work was best suited for or allowed much room for children, especially if both parents were physicians. Those who did have children stated that their main issue and stressor was time constraints. Women reported more time pressure concerns than their male counterparts, and time pressure was associated with job stress and burnout in women (Templeton et al., 2019). Women especially reported that having children was a major source of stress in trying to maintain a work-life balance. Female physicians reported that the combination of full-time work and parenting was almost impossible some days, leading many women to reduce their hours to part-time work (Jackson et al., 2018). This often leads to differences in income between male and female physicians of similar ages (McMurray et al. 2000). McMurray et al. (2000) found that women usually take longer to receive promotions than their male counterparts. Women usually spend more time at home raising the family (Hu et al., 2019), whereas males have the opportunity to perform after-hour networking, work additional hours, and participate on committees, all which allows them to be seen and recognized faster (McMurray et al., 2000). Female physicians also felt that children restricted them from advancing further in their career, due to time commitments and feeling that their parenting would suffer as a result.

Panagioti et al. (2018) found that female physicians devote more time to family commitments and also experience more disruptions and breaks in their clinical training due to dealing with family concerns/issues. For women, their residency years are often their most fertile years, however they are also undertaking their medical training and a grueling residency schedule, which makes it stressful to determine when they should or can have children while still accomplishing their professional goals. Women face inequity in household and childcare

responsibilities compared to male physician. (Jackson et al., 2018; Mobilos et al., 2008). Missing important childhood and family events, and not being able to commit to the time they would like to have with their family was a significant stressor that contributed to deterioration in work-life balance leading to burnout. Panagioti et al. (2018) commented on the notion that the medical community should not be surprised that work-life balance is a significant indicator of burnout, especially in women. Until women feel that they do not have to choose between their career and family, levels of burnout may continue to increase in women, affecting physicians, family and patients.

Interventions aimed at eliminating the choice between family and work are very important for female physicians. Jolly et al. (2014) suggested measures such as having on-site back up childcare are valuable for promoting gender equality thereby recognizing that availability of child care can either positively or negatively affect the physician's work hours. Jackson et al. (2018) suggest that interventions should be aimed at hospital culture to support female physicians and accommodate their unique needs such as pregnancy and returning to work. Given the evidence indicating increased levels of burnout in women, more research should be encouraged to examine the various stressors they experience particularly around issues of lack of control at work and work-life balance.

Personality Traits

Personality traits are not as well researched as many of the other personal factors which contribute to burnout. The research regarding personality factors is equivocal as some studies have found associations (Thomas, 2004; Brown et al., 2009; Spickard et al., 2002) with burnout and others state that no associations exist (Embriaco et al. 2007). Many of the conclusions in these

studies include personality traits that facilitate success in medical school but which may be detrimental to the long-term career of the physician (Gazelle, et al., 2015). Panagioti et al. (2018) reported that compulsiveness, perfectionism, and an exaggerated sense of responsibility/guilt are common traits found in physicians which can cause difficulty in setting boundaries, maintaining personal relationships and enjoying healthy self-interests. Thomas (2004) also found that avoidant, dependent, antisocial and passive-aggressive traits were correlated with higher emotional exhaustion scores, and were often seen in physicians. Brown et al. (2009) found that most physicians exhibit perfectionism, self-criticism, and a high degree of empathy and idealism. Compulsiveness is a common trait found in physicians and may be helpful in medical education, yet becomes detrimental to the physician's career, family life and health (Spickard et al., 2002). Compulsiveness fosters feelings of guilt, doubt, and an exaggerated sense of responsibility (Spickard, et al., 2002).

Idealistic and perfectionist qualities make physicians more likely to fully immerse themselves in their work and devote themselves to it, not recognizing when it has become harmful to their health (Balch and Shanafelt, 2018). Therefore, physicians with these personality traits must be careful when committing themselves to their work entirely. This may make for a good physician; however it also places them at a much greater risk of burnout if they do not have a plan in place for setting boundaries. Self-care is very important for physicians who exhibit these personality traits in order to maintain a healthy work-life balance and sustain their well-being. Unfortunately, research indicates that the physicians who are at highest risk are the ones who work the hardest and try to give everything they can to their patients and career. These are the ones who are the most susceptible to burnout and need support systems put in place to help prevent them from overextending themselves.

Self-Care

Although physician burnout has been recognized as an epidemic health concern, increasing the health of physicians has remained in the backseat, while medical leaders continue to put the main focus on patient satisfaction (Jackson et al., 2018). In order to enhance physician well-being and decrease levels of burnout, self-care must be placed as a high priority with consideration given to both the mental and physical health of the individual (Kuhn and Flanagan, 2017).

Gander et al. (2010) found that both male and female physicians felt that their careers affected both their emotional and physical health negatively. The lack of sleep, irregular schedule, emotionally draining content, and overall exhaustion left little to no motivation to perform well-being activities. Self-care needs to be recognized as a multidimensional entity that must be interwoven into the many aspects of the physician's work and personal life (Arnetz, 2001). It should reflect the individual's personal life, family, work, community and spirituality (Sanchez-Reilly et al., 2013). Increasing self-care means prioritizing personal relationships, maintaining a healthy lifestyle through adequate sleep, nutrition and exercise, taking time off for vacation or personal time, and continuing to participate in hobbies outside of the work environment (Sanchez-Reilly et al., 2013). Physicians should also participate in self-care at work through developing peer and mentor support, improving communication, seeking organizational engagement opportunities, and improving self-awareness to understand when they need help (Sanchez-Reilly et al., 2013). Self-awareness and self-monitoring were found to be very important tools for physicians to increase and maintain their self-care (Epstein and Krasner, 2013; Sanchez-Reilly et al., 2013; Coster and Schwebel, 1997; Novack et al., 1999). While peer support, spousal and personal relationships can help detect when an individual is in distress, physicians are also adept at hiding distress from family and colleagues. Therefore, it is often largely up to the individual to recognize

they need assistance (Epstein and Krasner, 2013). Self-awareness and monitoring allows physicians to recognize when they need assistance and provides the tools to decide where they need to go for this assistance (Coster and Schwebel, 1997). Greater self-awareness by physicians can have a positive impact on job engagement, enhanced self-care, and decreased levels of burnout (Sanchez-Reilly et al., 2013). Self-awareness education should be implemented in all hospitals, medical schools and residency programs to ensure that physicians can understand how these techniques can be used to increase their health and well-being (Epstein and Krasner, 2013; Novack et al., 1999).

Physicians felt their schedule made it hard for them to maintain a healthy diet due to unknown schedules, on-call shifts, surgery, and patient treatment times varying (Lemaire et al., 2010). Personal health habits such as nutrition are important in reducing physician burnout through increasing energy, increasing overall well-being and reducing the risk of chronic conditions (Cresci, et al., 2019). Physicians mentioned that they did not have enough time or energy most days to prepare meals in advance, leading to poor eating habits (Gander et al., 2010). Physicians reported that work and patients were their main priority over their own nutrition (Lemaire et al, 2010). Similar statements were made with regards to exercise and participating in activities to promote well-being among physicians. Exercise has a significant effect on decreasing depression and improving the wellbeing of an individual, however many physicians stated that they did not have the time, energy, or motivation to perform exercise or various activities due to work constraints (Schuch et al., 2016). Kuhn and Flanagan (2017) found that young physicians who participated in organized exercise programs had improved quality of life as well as decreased levels of burnout compared to peer groups who did not participate in exercise. It is evident that limited time and energy are significant factors affecting physician's participation in well-being activities

outside of work resulting in a decrease in health. Physicians in a study by Gander et al. (2010) stated that they felt their decrease in health was directly an effect of their career, from work-related exhaustion, emotional fatigue, stress, workload, and lack of a proper work-home life balance. Balch and Shanafelt (2018) stated that physicians who focus on what's important in life, maintain a positive outlook and prioritize a healthy work-life balance will be able to reduce their stress and pressure and protect themselves against burnout. Personal factors as shown through this review are a large contributor to the burnout of physicians. Therefore, understanding the needs for physicians to balance both their work and personal life is imperative to creating a healthy environment, ultimately decreasing levels of burnout.

CHAPTER 4: ENVIRONMENTAL FACTORS ASSOCIATED WITH PHYSICIAN BURNOUT

Environmental factors affect physicians at the broader level, meaning that a physician may not physically deal with them every day, but will still impact the way in which they practice medicine. Environmental factors have not been as well researched as organizational or personal factors, however they have been shown to severely impact the health and ultimately lead to burnout in physicians (Austin and Gregory, 2019; Embriaco et al., 2007). Through the literature review, I found that environmental factors that were important risk factors for burnout included professional autonomy, cultural shifts in medicine, perceptions of medicine in society, and advances in medical technology (Honavar, 2018; Brooks et al., 2011; Panagioti et al., 2018).

AUTONOMY

Healthcare professionals are facing increased challenges to their autonomy, which is a concern because it may lead to decreased job satisfaction, disengagement from practice, and increased risk of burnout (Austin and Gregory, 2019). Honavar (2018) states that physicians are experiencing less control in the practice of medicine than ever before and many researchers have found that perceived control over the practice environment was one of the most important predictors of physician burnout (Austin and Gregory, 2019; Honavar, 2018; Freeborn, 2001). Hashimoto (2006) describes professional autonomy as synonymous with "physician discretion" which is the notion that physicians have a moral code of ethics both legally and socially created, and that they have a moral obligation to comply with these codes. Autonomy is primarily self-regulated by the physician, which is why when physicians feel autonomy is reduced, it is a direct criticism of their ability to regulate themselves (Hashimoto, 2006). Many factors contribute to physicians feeling that they are losing control of their practice. Honavar (2018) states that

autonomy of the physician is being challenged from all sides; patients, families, organizations, and the medical community. In a study by Austin and Gregory (2019), pharmacist participants unanimously described that autonomy in their practice was essential to performance. The study showed that when pharmacists felt there autonomy was being reduced they began to be distracted and concerned more about pleasing the manager or organization than they were with focusing on the patient's health and other important measures and outcomes (Austin & Gregory, 2019). These findings are directly transferrable to the way physicians are reacting to reduced autonomy.

Medicine has become burdened with increasing legislation and corporate invasion of the healthcare field (Honavar, 2018). Physicians are now constantly questioned and their expertise trivialized. According to Gregory and Austin (2019), Professional Identity Formation (PIF) is the transformation from being *just* a physician to becoming a highly recognized and respected physician with power, control and formation of a bond to their work. This is important to understand as it has a direct effect on how a physician perceives autonomy. There are no longer two separate personalities, but one being solely recognized as a physician. Professional work, such as medicine, is uniquely challenging as some situations, without clear-cut answers, requiring split second decision making, expert judgement, knowledge, experience, and ethics (Gregory and Austin, 2019). When this professional identify is formed, the physician establishes core values, moral principles, self-awareness, self-regulation, and increased confidence (Gregory and Austin, 2019). When decisions are made affecting patient care, patient-doctor relationship, or the way the physician must practice medicine, it affects physicians at a level that most non-professionals cannot understand. Physicians have bonded their identity, personality, and life to the profession, meaning any changes in this environment have a direct effect on them internally (Gregory and Austin, 2019).

The current state of technology allows health information to be found in minutes and is often easier than waiting to see a physician. Many patients search medical information online without telling their physician (Mota et al., 2018; Liszka et al., 2006), leaving the physician unaware of the doubts or expectations the patient is experiencing. Although online health information can be helpful at times, it is also potentially the source of inaccurate information and may generate mistrust between patients and physician (Mota et al., 2018). Murray et al. (2003) found that inaccurate health information harmed the quality of care, outcome of the patient, time efficiency, and the patient-doctor relationship. Additionally, many websites on health information are up to the interpretation of individuals, and can be dependent on how much they know about the topic. Mota et al. (2018) found that some physicians feel challenged when patients bring health information to the appointment with them. Murray et al. (2003) found similar results with over 70% of physicians in their study feeling challenged by health information patients brought into appointments. While both researchers could not determine exactly why physicians felt challenged, they did hypothesize it had to do with not feeling their medical expertise was acknowledged and acclimatizing to the greater access to medical information that patients have. Austin and Gregory (2019) explained that professional autonomy is an external sign of respect providing important psychological reinforcements that physicians are competent, and trusted with their role within organizations. This is why physicians in the study by Murray et al. (2003) felt challenged. When this reinforcement is broken it can have negative effects on professional's health, such as loss of motivation, feelings of incompetence, poor job satisfaction, and increased risk of burnout (Austin and Gregory, 2019). Gregory and Austin (2019) found in their study of pharmacists that participants repeatedly stated that patients need to 'trust' and not second guess their care teams indicating that this is a healthcare-wide issue not just among physicians. Questioning an

individual's work can be beneficial to the health of the patient, however must be achieved in a constructive way that is healthy for all healthcare professionals involved. There has been a shift in healthcare moving toward team-based care and promoting interprofessional care (Hager et al., 2018). Hager et al. (2018) provided insight that physicians may feel challenged due to not understanding the knowledge and skills that their colleagues in other professions hold. Physicians are trying to carry the burden alone when they could be sharing with competent and educated professionals (Hager et al., 2018). Promoting and understanding how interprofessional care teams can benefit the physician as well as patients is vital to decreasing the burden physicians are experiencing.

Emanuel and Pearson (2012) discuss misconceptions of physician's autonomy. They state that it is more than just control over terms, conditions and content of work and more importantly includes how care is provided, which is often taken away from the physician. The main concern surrounding autonomy lies with the patient-physician relationship (Emanuel and Pearson, 2012). Physicians have specialized knowledge and skills to help vulnerable patients; however this relationship is being restricted through legislative and organizational policies. Organizational policies such as measurements of physician's performance, measured through patient satisfaction, physician speed in replying to emails and messages, closing of charts and various other measures can be restricting on a physician's autonomy (Shanafelt et al., 2019). These measurements often leave out the personalization of patient-doctor relationships, interacting with families, socializing and supporting staff, all which have a positive impact on the work environment. Therefore, by focusing solely on quantitative clinical performance, organizations may make physicians feel micromanaged, demoralized, and misunderstood, leading to the risk of burnout (Shanafelt et al., 2019). Gunderman (2019) explained that organizations are more focused on productivity targets

than understanding that physicians require time to understand and create a relationship with their patients. Stoddard et al. (2001) researched the effects of organizations on physician's autonomy and found that organizations are known to infringe upon physicians' values, clinical and professional relationships, practice modes, prerogatives, and decision making. There is a large disconnect between what physicians feel is important for quality of care and what organizations believe is important, leading physicians to feel that their autonomy and decisions are being questioned (Gunderman, 2019). By diminishing this relationship, physicians are unable to have the freedom to determine conditions and care over their patients, with the goal of making decisions that will promote patient's well-being (Emanuel and Pearson, 2012). When a physician's values and views do not align with an organization, this may result in perceived restrictions of their autonomy and professionalism (Stoddard et al., 2001). Healthcare organizations have the power to either positively or negatively affect change in physician's autonomy, which directly affects the risk of burnout. Physicians need to be part of the conversation and decision making to confirm they still have control over their practice environment to ensure autonomy is still created in the working environment thus reducing risk of burnout in physicians.

Jennings (2008) found that structural work empowerment in the form of opportunities, information, resources, and power, all contributed to improved psychological well-being including increased autonomy and confidence. Opportunities to learn and develop, whether that be seminars on burnout, or additional resources for residents to train with more experienced physicians, have been shown to empower physicians (Laschinger et al., 2001). Physicians themselves are their best advocates; they cannot wait for hospitals or organizations to make changes to increase physician autonomy and need to take the first step and propose recommendations themselves for what is enabling their autonomy and what they recommend to fix it (Emanuel and Pearson, 2012).

With autonomy being an important predictor in the health and rates of burnout in physicians, organizations should look to empower physicians and provide resources to improve their feelings of loss of autonomy and control over their practice environment.

Professional Culture toward physician health and burnout

Becoming a physician is a hard-won achievement that brings with it high expectations as to the demeanor and levels of professionalism physicians must demonstrate. This environment of perfectionism and high-standing has led many physicians to not report their burnout in fear of the potential negative impact on their professional reputation in the current medical environment (Brooks et al., 2011). This environment often results in the active dismissal of any personal concerns about wellbeing, physical and mental health (Dale and Odds, 2012). Guilt and feelings of shame/weakness were seen across the literature as themes affecting physicians accessing help (Dale and Odds, 2012; Brooks et al., 2011; Thompson, 2001). Many physicians are concerned about having to take time off work, feeling guilty for letting their patients and colleagues down, as well as having fears regarding how hard it will be to return to work after time off (Brooks et al., 2011). Therefore, physicians fear of being shamed and judged by their colleagues and members of the organization deters them from admitting they have a health problem.

It is well documented that physicians often refuse to seek medical advice and treatment for themselves in fear of being seen as weak, unprofessional, or stigmatized by their colleagues (Dale and Odds, 2012). There is a culture in medicine of continuous achievement, perfectionism and placing work above all else. Seeking help to cope with demands of this difficult job is seen to diminish creditability of the physician. Culture as defined by Shanafelt et al. (2019) is “shared fundamental beliefs, normative values and social practices that are so widely accepted they are no

longer scrutinized" (Shanafelt et al., 2019, pg. 1557). Shanafelt et al. (2019) state that the underlying culture of medicine is powerful, persuasive and often unseen by most despite the large impact it has on physician's health. This culture has been engrained in medicine for generations and is heavily rooted into the profession, however a main contributor to burnout for physicians (Shanafelt et al., 2019). The effects of this culture can be seen through overwhelming levels of burnout being reported by physicians compared to workers in other fields (Shanafelt et al., 2015)

Brooks et al. (2011) separated stigmatization of the profession into two categories: professional implications and psychological barriers. Professional implications revolved around how reporting would affect their future career and practice (Brooks et al., 2011). Psychological barriers referred to how others would perceive them as well as guilt associated with receiving help and acknowledging that physicians struggle (Brooks et al., 2011). Professional and psychological barriers are very common among medical students and residents deterring them from receiving or accessing help.

Denying vulnerability, self-care, acute perfectionism and an invincible mindset expected by the culture of medicine has been detrimental to levels of mental health and burnout in physicians (Shanafelt et al., 2019). It has also created a barrier and stigma around receiving support, or reporting burnout (Brooks et al., 2011). In a study by Schwenk et al. (2010), medical students stated that stigma was their main barrier in using and reaching out to mental health services. Physicians often view colleagues with mental health issues negatively or view individuals with the notion that it is 'their fault' (Abbey et al., 2011). Dyrbye et al. (2015) found similar results in that medical students' perceived stigma, fears of discrimination and concerns about confidentiality breaches deterred them from accessing help. Admitting burnout or mental health problems created a fear in many medical students with the attitude that it would affect their career and choice of

residency program as well as how they were seen by supervisors and peers (Dyrbye et al., 2015). Hu et al. (2019) found similar results with residents fearing to report mental illness, verbal abuse, harassment, and discrimination. Clough et al. (2019) stated that many physicians found that there was discrimination or devaluation of their beliefs of accessing help by other colleagues or even themselves affecting physicians accessing services. Barriers to receiving care included lack of confidentiality, fear of documentation affecting their future career, fear of professional sanctions, and concerns that they would be evaluated on their illness rather than their performance (Schwenk et al., 2010).

Overcoming the culture of reporting burnout and receiving help is not just up to the individual or organization, rather the profession overall needs to play a large role to reduce hostility and fears of consequences against physicians. Many physicians felt more comfortable confiding in a family or friends compared to a professional within the organization demonstrating that career implications are one of the biggest concerns when receiving social support in the workplace (Brooks et al., 2011). Physicians find it very difficult to become the patient and often wait longer to receive help thus increasing the severity of the health issue (Thompson, 2001). It is common for doctors to self-treat, diagnose and even self-prescribe (Brooks et al., 2011) and self-treatment can lead to denial, incomplete treatment, and worsening symptoms (Abbey et al., 2011).

Reducing self-care stigma in the medical profession is a barrier that needs to be successfully overcome for physicians to feel safe in receiving help and not remaining silent. According to Moutier (2018), changes in education, policies and procedures will make it safe for individuals to seek help as well as change medical culture around mental health and receiving help. Creating and supporting formal mental healthcare will ensure that physicians receive help as soon as they are starting to feel distress or symptoms of burnout. Education across organizations as well

as the profession is warranted in promoting and understanding effects of burnout and its warning signs, and methods of encouragement (support, resources, coping skills) to create an open healthy work environment (Moutier, 2018).The combination of education and policy change will decrease the stigma associated with receiving help and reduce fear of consequences for reporting burnout and distress (Moutier, 2018). According to Brooks et al. (2011), organizations may want to consider specialized services developed specifically for physicians where confidentiality can be assured. Physician Health Programs (PHPs) are available to physicians in almost every jurisdiction across Canada and the United States (Candilis, 2016; Andrew, 2011). PHPs are focused on "supporting individuals in their emotion-focused coping" (Physician Health Program of British Columbia, n.d., pg. 3) through various means such as counseling, providing peer-reviewed literature, strategies at the system, individual and work unit level, and various skills (mindfulness training and coping skills) to help physicians with burnout. Many physicians are unaware or have inaccurate information about the PHPs deterring them from seeking treatment or support (Andrew, 2011). Physicians who are compliant with treatment can avoid disclosing mental illnesses, including burnout, to medical regulatory authorities/medical board (as long as the conditions do not impede with their ability to practice) which could reassure many physicians to reach out for support and resources (Candilis, 2016; Andrew, 2011).

While PHPs have high rates of success, they are controversial with some seeing these programs as coercive while others believe they offer necessary forms of assistance rather than the alternative of regulatory actions against physicians if PHP's were not in place (Boyd and Knight, 2012). Many physicians are referred or feel coerced into programs by their organization, medical board, colleagues, superiors and family, and are required to comply with recommendations and treatment or face disciplinary actions, such as losing their license (Boyd and Knight, 2012, Dupont

et al., 2009). Coercion is necessary for both safety of the public as well as the health of physicians. PHP's allow physicians to seek treatment in a 'safe harbor' manner protecting them from potential legal, family or employment actions against physicians which was significant enough to have physicians enter and complete the program (DuPont et al., 2009). The medical profession has a commitment and obligation to the development of PHPs, which provide a supportive environment that helps physicians feel safe, and increases their health and well-being (Taub et al., 2006). PHP's have been shown to serve physicians, organizations and the public in a positive manner ensuring physicians get the help they need which ultimately protects patients and supports better care (DuPont et al., 2009).

Abbey et al. (2011) states that employing social media and targeting hospital culture are two of the most important strategies in affecting change on stigma and discrimination. Organizations supporting positive media campaigns inside the hospital is one simple strategy to affecting change (Abbey et al., 2011). Acknowledging that the current culture of medicine has unhealthy norms and "unwritten" rules that lead to disruptive behavior, harassment, abuse and burnout in many individuals is essential for addressing the problem (Shanafelt et al., 2019; Hu et al., 2019). While acknowledging concerns of the current culture is vital, so is recognizing that there are still many strengths in the culture that will help to build a new mindset and aid in creating new values and beliefs. These strengths include compassion, dedication, commitment to colleagues, and most importantly, desire to provide quality care to their patients (Shanafelt et al., 2019).

The mindset of perfectionism and lack of vulnerability needs to change to one that promotes self-care as a main priority (Balch and Shanafelt, 2011). Burnout and its symptoms, need to become a normalized conversation to all for physicians to reach out for services and support

without fear of discrimination or stigmatization. Organizations need to promote knowledge and positive attitudes surrounding mental health as well as provide confidential resources. It is both organizations' and individuals' responsibility to ensure that physicians are receiving optimal care as soon as they need it.

Digital Age of Medicine

In today's medicine; efficiency and timeliness have become a key priority. Having the patient seen, heard, referred and treated in timely fashion is the goal of any practitioner. With today's computerization, many steps that used to take weeks now can be completed in just a few clicks. Patients' files can be sent from one doctor to the next instantly. Referrals and appointments for services can be made online. Prescriptions can be instantly refilled. All of these activities can enhance the coordination of care for a patient. Although computerization of many patient care activities has brought forth many advancements, it has also become a major risk factor in physician burnout. Computerization has made physicians constantly accessible by phone, email and computer, thus increasing the access for patients at the cost of physician's rest and relaxation (Panagioti et al., 2018). Physicians now feel an obligation to answer their phone and email regardless if they are on-call or not, and their work has now become a 'take home factor'. Panagioti et al. (2018) stated that physicians who check email regularly, and respond to calls and text messages when they are not at work experience higher levels of burnout.

With all the online duties they now must perform including online case notes, referrals, and frequent interruptions/distractions, many physicians are feeling a cognitive burnout (Shanafelt et al., 2016). While assistance from electronic medical records is welcomed among many physicians, it has also become very burdensome and a contributor to burnout symptoms (Verghese

et al., 2018). Shanafelt et al. (2016) also found in their study that physicians who used electronic health records and computerization methods of patient care had lower job satisfaction as well as increased feelings of clerical burden. Dhande (2016) published an insightful article on his own constant feelings of diminished accomplishment in the profession. Dhande (2016) explained that it was the computer screen that he was using for a greater part of his day that made his heavy workload feel even more burdensome. Time spent away from patients, charting, typing notes and discharge summaries are just a few of the time consuming tasks that contribute to burnout in physicians (Rassolin et al., 2017).

Administrative tasks do not just incorporate tasks related to patients but also to external sources such as policies, regulations, certifications and accreditations (Erickson et al., 2017). Rao et al. (2017) found that time spent on administrative duties had serious consequences to well-being of physicians as well as a contributor to burnout. These duties are taking physicians away from valuable time with their patients. Woolhandler and Himmelstein (2014) found that many physicians spend an average of 1.7 hours a day on administrative tasks, equaling about one-sixth of their working time. Therefore, many physicians are taking this administrative work home with them in order to allow them to see the same number of patients in their regular workday (Panagioti et al., 2018). Rassolin et al. (2017) found that physicians who decreased patient time in order to complete their documentation had increased levels of burnout. Woolhandler and Himmelstein (2014) found similar results with their study showing that the increased time spent on administrative tasks showed a decrease in job satisfaction in physicians. Rassolin et al. (2017) stated that time spent with patients and away from administrative work could be a protective factor against burnout.

Academic physicians, those trying to balance clinical responsibilities with other responsibilities such as teaching and research, are most at risk of administrative burden leading to burnout (Rao et al., 2017). Rao et al. (2017) warned that academic medical centers should be aware that their physicians are at increased risk due to the additional workload they take on with teaching and research, which include large administrative components. In addition to academic physicians, it was also found that primary care physicians are at increased risk of administrative burden and burnout due to the nature of their practice (Rao et al., 2017). Osborn et al. (2015) studied primary care physicians across ten countries, including Canada, to examine the challenges they are facing with patients who have complex care needs. They found themes of frustration with administrative burden across all countries and suggested that primary care physicians need to be examined further to determine ways to reduce the burden currently being felt (Osborn et al., 2015). Primary care physicians face additional documentation burdens for referrals and quality measures, as well as many new online measures increasing the administrative burden on the individual.

While the computerization of medicine has brought many benefits to patient care services, the effects that physicians are feeling, including increased burnout, are threatening the potential benefits of the system. Decreasing the clerical burden physicians are feeling is necessary for physicians' health as well as maintaining quality of services patients are receiving. The first place to start in finding a solution is fully understanding how and why computerization is causing such a burden to physicians. While there could be a generational effect in older physicians due to changes in technology that occurred so rapidly, there are still issues with newer physicians and electronic health records (Verghese et al., 2018). This is a topic future studies should consider.

One of the main concerns moving forward in medicine is the use of artificial intelligence and the effect that will have on physicians. Currently the main concerns surrounding artificial

intelligence include fear of losing trust in the patient-doctor relationship affecting physicians' autonomy, reduced social interactions between healthcare teams, and ultimately replacing many of physicians' day to day tasks (Nundy et al., 2019; Verghese et al., 2018). Artificial intelligence has great potential to positively change the face of medicine, however it also has potential to disrupt and decrease trust between patients and their physicians especially in regards to competency, motive and transparency (Nundy et al., 2019). In addition, over-reliance on automation can lead to deskilling of physicians in these areas causing concern if any of this technology fails or breaks down (Cabitza et al., 2017).

Verghese et al. (2018) raise concerns that artificial intelligence will decrease critical social interactions between colleagues affecting support and patient care. While artificial intelligence to some may seem threatening, it does not reduce the importance of the profession or the competency of physicians as it should be used in conjunction with physicians to provide additional information for better patient care (Stead, 2018). Artificial intelligence has also been referred to in healthcare as 'Augmented intelligence' focusing on the assistive role that artificial intelligence has in enhancing and improving human intelligence rather than replacing it (Crigger and Khoury, 2019). Use of artificial intelligence is quickly evolving in healthcare and should continue to be monitored and researched as to the effects it will have. Since this technology is just emerging, there are many potentially unforeseen and unintended consequences, which may have an effect on physicians' careers and levels of burnout. Exploring computerization and future effects of artificial intelligence will allow interventions to be proactively established to decrease burden of the increasingly electronic care environment, thus still maintaining quality and having a positive effect on physician burnout.

CHAPTER 5: DISCUSSION

SUMMARY OF MY FINDINGS FROM THE BURNOUT LITERATURE

I completed this review to address two research questions 1) What is the definition of 'burnout'? and 2) What are the risk factors associated with 'burnout'? At the end of my literature review, it became apparent that there are many gaps in current research on physician burnout and there is still much work to do in this field.

As I discussed in *Chapter 1: Definition of Burnout*, I found there was controversy surrounding the current definition of burnout. It is now evident through the review that we need a new definition of burnout, and that this new definition should move past Maslach's current definition to consider the lenses of positive psychology and intersectionality. This new definition should encompass the ideals of physicians and consider the many moving parts of an individual's life both inside and outside the profession. This may help encourage research to examine the individual lived experience context, rather than just focusing on the constructs of the profession. Additional research into a new definition may assist in accomplishing these goals and enhance the health and well-being of physicians.

Through the second research question, I examined the primary burnout risk factors affecting physicians. I categorized the factors into the three domains of the Person-Environment-Occupation (PEO) Model (Law et al., 1996): organizational risk factors, environmental risk factors, and personal risk factors. I separated these factors into three chapters, with the findings stated below.

In *Chapter 2: Organizational Physician Factors Associated with Burnout*, I explored risk factors included in the organization and the workplace in which physicians provide services. From the current literature, I found the risk factors that had a profound effect on physicians were disruptive behaviours, organizational climate, workload, job satisfaction, organizational commitment and physician engagement (Hu et al., 2019; Panagioti et al. 2018; Rosenstein, 2015; Shanafelt et al., 2015). I found that the literature in this chapter demonstrated fluidity of factors, which makes them difficult to address in just one domain.

In *Chapter 3: Personal Factors Associated with Physician Burnout*, I explored risk factors that affected physician's day-to-day life both at work and in their personal life. I found that the predominant factors in the literature which affect physicians in this personal domain were; training stage, work-life balance, sex and gender, personality traits, and self-care (Maser et al., 2019; Hu et al., 2019; Gander et al., 2010).

In *Chapter 4: Environmental Factors Associated with Physician Burnout*, I focused on broader risk factors that physicians may not deal directly with every day, but impacts the way in which they can practice medicine. These factors included; professional autonomy, cultural shifts in medicine, perceptions of medicine in society, and advances in medical technology (Honavar, 2018; Brooks et al., 2011; Panagioti et al., 2018).

While there was a multitude of factors, I felt that some factors stood out including work-life balance, feelings of reduced autonomy, young physicians (i.e., encompassing both issues associated with chronological age and career stage) and gender. I found these risk factors were difficult to objectively group into strict independent domains of the PEO Model and there was clear overlap illustrated. As such, I propose that an intersectional lens is a more appropriate

approach to examining burnout. Below I briefly discuss how separating the issue of burnout into separate domains is artificial, why an intersectional approach is warranted and how it may help to create a more concise picture of physician burnout.

Rationale for an Intersectional Approach to Physician Burnout

Currently there are very few instances in healthcare research that approach burnout using an intersectional perspective. The majority of physician burnout research is split into three domains: personal, organizational, and environmental (Mens-Verhulst and Radtke, 2006). Through the literature review, it became evident that this approach was too simplistic and artificially compartmentalized. I found that researchers often focused on an organizational lens when framing and exploring risk factors. This lens places higher importance on the factors affecting the organization often overlooking personal and environmental factors. This is evident in physician burnout research where the majority of research focused on organizational factors (Hu et al., 2019; Panagioti et al. 2018; Rosenstein, 2015: Shanafelt et al. 2015). The research clearly indicated that personal and environmental factors are also important and therefore any framework assessing physician burnout should reflect this. Although the PEO Model considers all three domains, an intersectional approach will allow the three domains to be evenly 'weighted', and more importantly consider their *interacting effects* to ensure a completer and more accurate picture of burnout is established. From the review, it was evident that having equal weight given to each domain was very important. One example of this is the risk factor work-life balance. I had examined this risk factor in the personal domain, however I found it was very intertwined with organizational factors as well. If you were to use an organizational lens on this factor one may choose to focus in on long work hours, work demands, on-call shifts, or work culture (Varpio et

al., 2018). However, this would mean potentially ignoring the interacting issues surrounding family and personal relationships, self-care, and support systems (Shanafelt et al., 2015; Gander et al., 2010) thus oversimplifying our understanding of this risk factor and its relationship to burnout.

The lack of focus on the interactions and clear connections between the three domains of burnout and risk factors was evident in the literature. I found that many, if not most, of burnout risk factors were so interconnected that they could be placed in more than one domain (e.g. work-life balance, young physicians, women, and autonomy) if not all domains. Using an intersectional approach for both formulating a definition of burnout as well as understanding burnout risk may be beneficial, as I will try to illustrate in the example below (i.e., *Example of use of Intersectional Lens*). Further exploration and research into these connections will allow for a more thorough understanding of burnout leading to more effective interventions in the future.

A Brief Overview of Intersectionality

The concept of intersectionality was introduced in scholarly literature in the late 1980's and early 1990's predominantly in feminist theory research (Nash, 2008; Crenshaw, 1989; Collins & Bilge, 2016). The term was coined by Kimberle Crenshaw in order to "understand the multidimensionality of lived experiences, which she felt was often distorted by single-axis analysis" (Crenshaw, 1989, pg. 139). The intersectional approach during this time mainly focused on race, gender, class, and sexuality inequalities designed to combat power imbalances, exclusivity, and marginalization (Nash, 2008). Since then, intersectionality has expanded further being a concept used by scholars, activists, practitioners, policy advocates and others (Collins and Bilge, 2016), to describe the way of understanding and analyzing complex natures of human

experiences. For example, intersectionality was used primarily as an analytical tool in social work to understand both the complex identities and how social structures affect an individual's living conditions (Mattsson, 2014). Mattsson (2014) states that "using an intersectional lens aims to understand and challenge the complexity of different categories which are intertwined and reinforce each other" (Mattsson, 2014, pg. 14). Intersectionality has become the 'gold standard' multidimensional approach used for analyzing individuals' experiences, identity and oppression (Nash, 2008). Collins and Bilge (2016) state that intersectionality helps organizations and individuals understand that social and professional factors in an individual's life cannot be shaped by one factor, instead multiple factors all influencing and reinforcing one another in diverse ways need to be considered to fully understand any given phenomenon (Collins and Bilge, 2016). Using intersectionality as a conceptual model and analytic tool will create a more comprehensive approach to physician burnout and may lead to concise prevention and intervention strategies.

Viewing the Current Literature Review through an Intersectional Lens

Through my literature review, it became evident that research approaches have "chopped up" physician burnout into many pieces, leaving organizations and physicians to only understand their respective piece of the puzzle. It became clear in the review that conceptualizing risk factors as belonging to single domains did not allow development of a full picture of burnout, which ultimately influences policies, intervention strategies, and the health of physicians. For example, workload was primarily framed as an organizational factor, however it was a particularly significant and reinforcing risk for burnout for female and young physicians (Varpio et al., 2018; Honavar et al., 2018) which are both presented as personal factors. Another example was autonomy, which was framed as an environmental factor but was heavily intertwined with other

domains. Autonomy played a large role in burnout in combination with and reinforced by job satisfaction, and physician engagement (Austin and Gregory, 2019), which were both framed as organizational factors. These are just a few examples of the multiple factors that were woven throughout multiple domains, making it difficult to place into one section as well as fully understand, if all domains and their interactions were not concurrently considered. I felt that these difficulties indicated that an intersectional lens needed consideration.

In the following few paragraphs, I will discuss what I think intersectionality brings to physician burnout research, focusing on the health and wellbeing of physicians, and how it may have a positive effect on research moving forward.

Using an intersectional lens to examine burnout literature highlights disconnect between organizations, physicians and their environment often leading to gaps between physicians' perceptions and institutional policies. Organizations are often approaching solutions towards workplace/organizational factors, leaving individual factors up to the physician to be addressed (West et al., 2018). Likewise, individual physicians are often only addressing personal factors, which can adversely affect the organization or environment (Shanafelt and Noseworthy, 2017). If burnout was described and confronted in a way that recognizes the interplay of these domains, it would require organizations and physicians to be on the same page in order to tackle burnout. Today, we know that you cannot dissect a human being's personality, accomplishments, lifestyle, or training into individual domains without acknowledging that they are fluid and dynamic in their own right. With this in mind, interventions, preventative measures, and discussions surrounding physician burnout cannot be standardized. There is no "one size fits all" when it comes to physician burnout. I try to illustrate this point in an example of burnout through an intersectional lens in the next section.

When exploring the definition of burnout, I found that it was too constricted to applications of the work domain and ignored other factors. Through the analysis it was clear that the current Maslach definition does not currently suit the needs of physicians (Doulougeri et al., 2016; Kristensen et al., 2005). Newer research argued that a holistic view focusing on positive psychology and intersectionality was important for the creation of a new burnout definition (Kassam et al., 2015; Williamson et al., 2018). Maslach's definition was restrictive insofar that to be considered "burnt out" the individual must be depersonalized, emotionally exhausted and have feelings of reduced accomplishment (Maslach et al., 1982). Therefore, contributors to burnout such as self-care, well-being and work-life balance were not considered. This definition chops the individual into pieces rather than considering the multiple complex roles of the physician (Varpio et al., 2018). Using an intersectional approach for the definition will allow for consideration of roles inside and outside the work environment. It also allows for consideration of the interacting and mutually reinforcing direct and indirect factors which are not only focused on risk of burnout but also protective against burnout. An intersectional approach with a more holistic approach focusing on the well-being aligns with many recommendations from researchers, which examines all variables that physicians deal with both personally and professionally. (Kassam et al., 2015; Williamson et al. 2018; ; Wallace et al., 2009; Weiner et al., 2001).

Example of use of Intersectional Lens

As stated above interconnectedness made grouping factors into domains very difficult. Female physicians are rather exemplary of this phenomenon as there remain significant barriers, persistent maltreatment, and organizational oversight in their practice of medicine and its balance with personal life. There is a large focus in burnout literature on gender disparity between male

and female physicians (Hu et al., 2019; Panagioti et al., 2018; Jackson et al., 2018), however few studies focus on how different female physicians themselves experience burnout differently. This is a key component missing from burnout literature today, that an intersectional lens can address. While females do face some of the same risk factors, such as overcoming the culture of the medical environment, harassment, and discrimination (Hu et al., 2019), there are additional factors that certain female groups are affected by more than males and also more than other groups of females. The burnout literature examines gender with a comparison of females and males thus assuming that all women and all men have similar risk factors. However, if we dig further into gender, we see that there are additional sub-categories such as age, race, and motherhood that intersect and reinforce one another and affect risk of burnout differently.

Women who were mothers faced additional discrimination and harassment compared to women who did not have children (Templeton et al., 2019). Many women reported that children were a significant source of stress, and resulted in their experiencing professional harassment and discrimination thus leading to burnout (Hu et al., 2019; Templeton et al., 2019). Many female physicians who are mothers face tough decisions once having children, including trying to maintain a work-life balance. As discussed in *Chapter 3: Personal Factors Associated with Physician Burnout*, female physicians found little to no support when it came to balancing their home-life and work-life leading to reduction in work hours, even shifting to part-time work (Jackson et al., 2018). These physicians often had to choose between career advancement or time with children. If we compare mothers to female physicians who do not have children, we can see there is a large disparity in sources of burnout. Female physicians who have children should be explored separately from female physicians who do not have children, as it is evident that there are differences in their sources of burnout.

Age of female physicians can greatly impact their sources and levels of burnout. Research shows that younger physicians report higher rates of burnout then older physicians (Templeton et al., 2019; Peisah et al., 2009). In a study by Peisah et al. (2009), many female physicians over the age of fifty reported feeling more confident, more autonomy over their practice, the ability to say no, and being in charge which has led to decreased levels of burnout. Older more established physicians have more control over their environment as well as have more work-life balance, compared to younger physicians (Peisah et al., 2009). As discussed in *Chapter 3: Personal Factors Associated with Physician Burnout*, young physicians face many factors such as increased workload, work-life balance, power imbalances, abusive behavior, and lack of self-care all contributing to the risk of burnout (Hu et al., 2019; Bates et al., 2018 Raj, 2016). Older, more established physicians have learned how to deal with some of these issues, not having the same issues as they get older. Therefore, while these individuals share the same gender, they have completely different sources of burnout as well as different ways of being able to deal with burnout. This is why understanding the complexity of factors is vitally important.

Another important factor to consider is racial/ethical differences contributing to burnout among non-majority physicians. Corbie-Smith, et al. (1999) conducted a study with all female physicians and their experience with racial/ethnic discrimination. This study found that approximately 60% of non-majority females experience some type of harassment or discrimination. Since this study there have been many initiatives and efforts to reduce and eliminate racial discrimination, however based on the literature, discrimination is still very pronounced in today's medical community (Hu et al., 2019; Nunez-Smith et al., 2009). Non-majority physicians face additional obstacles that increase their risk of burnout compared to

majority physicians (Hu et al., 2019). Race and ethnicity play a large role in a physician's work and home environment, increasing or decreasing their risk of burnout.

When you look at mothers, age, and race separately you can see how it is disadvantageous to the individual. When you start adding together how these factors interact and reinforce one another, you can then see how "the sum of the parts is greater than the whole". Looking at just females as a category can be vague, since there are so many additional influencing issues as depicted above. Examining each sub-category concurrently using an intersectional approach, as we have done above, gives a better understanding of the effects it has on the individual. The parts are not independent and simply additive but rather transformative and should be considered in such a way. A young early career female physician of colour with children, will experience burnout and discrimination in a significantly different way than an older white female physician without children. Both will experience burnout, however understanding the different mechanisms for this burnout is crucial to preventing and understanding burnout.

While female physicians are just one example of intersectionality in the medical field, this review also showed that there are other factors that should be looked at in an intersectional lens such as work-life balance, young physicians and culture to start.

CONCLUSION

Moving forward in physician burnout research there should be some additional research in the area of the burnout definition and examining risk factors through an intersectional lens. As evident through the review provided, using an intersectional lens to assess physician burnout has many benefits that can be useful to all levels of the organization to the physician, placing equal importance on all levels of process. We understand that introducing an intersectional approach into

physician burnout research and practice would require large scale cooperation between regulating bodies, organizations and individuals. Physician burnout is a national threat to the quality of care and wellbeing of physicians and therefore this intersectional approach needs to be at the forefront of research in order to combat this epidemic. Large scales studies are warranted as next steps in researching the effects of an intersectional lens on both the definition and risk factors of physician burnout. I believe this will positively impact many sectors of care including the quality of care of patients, physician health and well-being, safer and informed environments and organizational success.

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