A Study of Mindfulness-Informed Group Process: Towards Burnout Prevention and Treatment

by

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### Approval

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Ethics statement

The author, whose name appears on the title page of this work, has obtained, for the research described in this work, either:

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Abstract

**Background:** Chronic work-related stress, known as burnout, is damaging to patient’s recovery, healthcare professional’s health and the organization’s functioning. Burnout increases medical errors and healthcare costs through a cascade of effects, including a decrease in work quality, job satisfaction, and retention. Prevention and treatment strategies have focused on the improvement of the organizational environment or building individual resiliency. While important, these have not adequately addressed the vital role groups play in the management of stress. I posit the need for new approaches inclusive of innovative group strategies that bring about the co-regulation of stress in work groups. Mindfulness-informed group process is one such approach that appears to improve group functioning through a combination of safe group development infused with mindfulness. **Methodology:** To better understand the principles of mindfulness-informed group process, this research used a constructivist grounded theory methodology to develop a mindfulness-informed group theory. Data was collected using semi-structured interviews, relevant scholarly literature collated through systematic reviews, and additional related published materials. Interviews were conducted with mindfulness-informed group leaders, each with extensive training in a mindfulness-informed practice and group therapy. **Results:** Findings detailed an interlocking process whereby the leader’s mindfulness and the form of the group infuse the interpersonal mindfulness of the group. This creates an interpersonal field where mindfulness is practiced and trained as a skill. Mindfulness-informed group leaders play a vital role in the development of mindfulness-awareness in the group through their openness, genuineness and skillful communication. Interpersonal mindfulness allows for enhanced communication as member’s signal safety facilitated by the skillful articulation of feelings and thoughts in-the-moment within workplace constraints. Members create connections and social support, which appears to allow for increased self-regulation of stress through mindfulness and co-regulation through interpersonal mindfulness. **Discussion:** Mindfulness-informed group theory offers insights into the regulation of stress and burnout for healthcare leaders and professionals in small group environments. It does so by highlighting the development of safe group environments through the practice of interpersonal mindfulness in work interactions. Burnout is best addressed through improving individual resilience, the development of safe interpersonal environments and organizational efforts to support professionals in healthcare delivery.
Keywords: Burnout; Mindfulness; Groups; Prevention; Treatment; Grounded Theory
To SQπ
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Questioning

Buddha nature is not regarded as a peaceful state of mind or, for that matter, as a disturbed one either. It is a state of intelligence that questions our life and the meaning of life. It is the foundation of a search. A lot of things haven’t been answered in our life—and we are still searching for the questions. That questioning is buddha nature. It is a state of potential. The more dissatisfaction, the more questions and more doubts there are, the healthier it is, for we are no longer sucked into ego-oriented situations, but we are constantly woken up.

Chogyam Trungpa, 2016, p. 21
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Healthcare professionals suffer from high rates of chronic work-related stress known as burnout (Gazelle, Liebschutz & Riess, 2015; Maslach and Leiter, 2016; Shanafelt & Noseworthy, 2017; Wallace, Lemaire & Ghali, 2009). Burnout of healthcare professionals leads to increased problems with the quality and safety of healthcare provision, a decrease in patient satisfaction as well as an unhealthy effect on the individual (Dyrbye et al., 2017). Additionally, it results in high costs to the healthcare organization and governments due to issues of turnover, retention and recruitment (Dewa, Jacobs, Thanh & Loong, 2014; Dyrbye et al., 2017; Han et al., 2019).

Burnout is a syndrome of work strain and stress, causing increasing exhaustion, depersonalization and inefficacy (Maslach & Leiter, 2017). Recommendations for the prevention and treatment of burnout focus on organizational changes to burdened workloads, improvements in resource allocation and increased individual control (Swensen & Shanafelt, 2017). Organizations are also encouraged to improve an individual’s resiliency through building stress management, improving communication skills and mindfulness meditation (Swensen & Shanafelt, 2017; West et al., 2016).

Despite these recommendations, there is a lack of effective strategies to prevent and treat burnout (Ahola et al., 2017; Krasner et al., 2009; Luken & Sammons, 2016; Panagioti et al., 2017; Perez et al., 2015; West et al., 2016). This is due to the complex, multidimensional nature of the problem. The prevention and treatment of burnout is related to the demands of the organizational environment, the nature of the group interpersonal field and the characteristics of the individual. Research into the development of healthy healthcare work groups is lacking (see Table 2.3), warranting further study and inquiry.

While researchers acknowledge the need for functional group environments (Epstein & Privitera, 2016; Maslach & Leiter, 2017), research agendas have failed to incorporate the powerful ways groups can both create and regulate the stress-causing burnout. Regulating stress is of vital concern when looking at prevention and treatment strategies. Considering the physiological mechanisms the body uses to regulate stress
(Porges, 2017) clarifies the crucial role that groups play in both the causes of burnout and its prevention and treatment.

My research studies a novel group dynamic that combines the tasks of healthy group development with mindfulness. Mindfulness-informed group process is an understudied approach that uses the unique influences of mindfulness meditation infused with group skills and group process as a possible approach to the prevention and treatment of burnout in individuals. I postulate that the effect of mindfulness meditation on self-regulation of stress and the effect of safe groups on the co-regulation of stress have merits for the prevention and treatment of burnout in healthcare professionals.

To do this, I used a grounded theory methodology to study mindfulness-informed group process. Grounded theory methodology is the specifically recommended choice with under-theorized approaches (Charmaz, 2014). The aim is to address the dire need for more robust conceptualizations of the preventative and treatment methods for healthcare workplace burnout that includes the effects of group interactions (Patal et al., 2018). My research clarifies the impact of burnout on the individual through a theoretical understanding of the individual and interpersonal environmental systems and posits a prevention and treatment process. The principles and working concepts of mindfulness-informed group theory provide valuable insights into the ways leaders and individuals can regulate stress to minimize burnout-producing group environments.

Chapter 1 introduces the relevant background information, including the definition of burnout, how burnout develops in an individual, and the organizational and environmental roots of burnout. It then examines the need and purpose of the study, including the research hypothesis, questions and objectives. I then summarize the research design, including assumptions and limitations.

1.1. Background of the study

The concept of burnout was introduced as a research concept 45 years ago by Freudenberger (1974). The term burnout comes from illegal drug-users before being introduced as a syndrome developing from high-stress situations in new and often poorly funded social service fields (Schaufeli, Leiter & Maslich, 2009). It quickly gained
significant scholarly interest prompting researchers to refine its definition as well as examine its etiology, diagnosis and prognosis.

In human service professions, burnout connects with people’s experience of work as one tends to be emotionally involved with the people they are helping. Such professions also have strong vocational qualities of being a calling (Schaufeli, Leiter & Maslach, 2009). “Thus, from the beginning, burnout has enjoyed a joint recognition from both researchers and practitioners as a social problem worthy of attention and amelioration” (Schaufeli, Leiter & Maslach, 2009, p. 204). As Back, Steinhauser, Kamal, & Jackson (2016) point out, burnout has a universal appeal as an experience to which most working people can relate.

Concurrently to Freudenberger, researchers led by Maslach (1976) were also conducting investigations into exhaustion and burnout in the human service profession (Schaufeli, Leiter & Maslach, 2009). They played a significant role in the definition and measurement of burnout. Maslach, Jackson & Leiter (1996) produced the commonly used definition of burnout as “a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who work with people in some capacity” (p. 4). Their conceptualization of burnout was based on work with human service professionals, medical professionals, educators and university students. They also developed the most commonly used burnout self-report measure instrument, the Maslach Burnout Inventory (Maslach & Jackson, 1996).

The concept of burnout developed over time, influenced by various societal and cultural impacts. Initially seen as arising in American human service professions, the idea of burnout has since expanded to many workplace cultures and differing societies. As these influences have emerged, the burnout syndrome adapted, reflecting the new demands of these differing environments (Schaufeli, Leiter & Maslach, 2009; Demerouti, E., Bakker, Nachreiner & Schaufeli, 2001).

**Burnout defined**

For my research, I use the term “burnout” as defined by the World Health Organization (2018). Burnout is defined as a workplace phenomenon that induces chronic, poorly managed stress characterized by exhaustion, cynicism, and inefficacy (WHO, 2018). Maslach & Leiter (2017) observe that burnout is a psychological
syndrome determined by the interpersonal environment and the “chronic interpersonal stressors on the job” (p. 160). This focus on interpersonal stressors is a crucial component of burnout’s etiology and is a marker of the role it plays in its prevention and treatment.

**Burnout continuums**

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**Figure 1.1. Visualization of the burnout syndrome and its overlapping elements**

Burnout starts with exhaustion, which leads to cynicism, then ineffectiveness (Maslach & Leiter, 2017). These three aspects move along parallel continuums from mild to moderate to severe (see Figure 1.1). With increasing exhaustion, as work demands overwhelm a person’s abilities, one struggles to cope with the increased demands often by working harder and often longer. Maslach & Leiter (2017) highlight that the exhaustion dimension activates a stress response. Stress responses have specific physiological effects with emotional correlates. The individual experiences repeated exposure (whether physical or psychological) to the stressor triggering the stress response (and related sympathetic nervous system [SNS] activation). This triggering releases stress hormones that coordinate the body’s response (Porges, 2011). Stress, especially chronic stress, triggers one of the body’s primary defence systems known as mobilization or “flight or fight”. Porges (2011) reports that this high SNS activation increases the energy available for high metabolic demands while simultaneously draining the body’s resources.
The development of burnout in the individual

With repeated strain activating the stress response and leading to increasing exhaustion, one develops an attitude of cynicism as a protective response to one’s struggles with stress. This change in attitude towards cynicism leads to doubt and distrust of others, causing or exacerbating interpersonal problems, thereby increasing isolation (Maslach & Leiter, 2016). Cynicism and isolation are problematic, as one of the primary ways humans relate to their stress is through social interaction. The social engagement system can down-regulate the body's autonomic SNS defensive system and is a crucial mode humans use to co-regulate their nervous systems (Porges, 2011). The social engagement system slows the heart rate, supports calmness and is vital for social interactions, including play and intimacy (Porges, 2011).

Interpersonally, the individual struggles with the elements of their work and their local social dynamics. But now they must continue with weakened and depleted resources. Being both tired and overworked, they can become isolated. Isolation is often by choice and by the interpersonal feedback cycle that is a fundamental element of interpersonal relationships. Intrapsychically, as one is aware of these changes, they struggle with feelings of self-doubt and self-worth. If the situation continues chronically, these feelings of ineffectiveness lead them to reevaluate their life and career choices (Maslach & Leiter, 2016; Van Mol et al., 2015).

Organizational and environmental causes of burnout

As the stress response overwhelms the person's resources to respond, they may experience burnout as an individual failing or flaw due to the profoundly personal suffering it causes. However, there are strong objections to blaming the individual. Authors note that while certain personalities may be more prone to burnout, organizational and environmental causes play the most significant role (Ahola, Toppinen-Tanner & Seppänen, 2017; Back et al., 2016; Bakker & Costa, 2014; Kreitzer & Klatt, 2017; Maslach & Leiter, 2017; West, Dyrbey, Erwin & Shanafelt, 2016). Maslach and Leiter (2017) clarify how burnout is not the fault of the individual but the responsibility of the organization and the environment that the organization creates. They state:

Burnout is not only a problem of the individual but of the social environment in which they work. The structure and functioning of the workplace shape
how people interact with one another and how they carry out their jobs. When that workplace does not recognize the human side of work, and there are major mismatches between the nature of the job and the nature of people, then there will be a greater risk of burnout. (Maslach and Leiter, 2017, p. 160).

Schaufeli, Leiter & Maslich (2009) and others (Aiken et al., 2002; Amoafo, Hanbali, Patel & Singh, 2015; Bakker & Demerouti, 2007) point out how burnout is increasingly seen as a conflict between decreasing resources and increasing demands. They surmise that this conflict, combined with the changing values of service organizations, has led to an increase in the number of cases of burnout.

1.2. Need for the study

Healthcare provision generally involves high-levels of emotional engagement in a variety of interpersonal interactions, often with individuals in significant distress and heightened emotionality. Healthcare professionals practice in increasingly demanding and complex environments, all of which contribute to the increasing levels of burnout (Kreitzer & Klatt, 2017; Maslach & Leiter, 2017; Perez et al., 2015; Portoghese, Galletta, Coppola, Finco & Campagna, 2014; Smith, 2014). These factors increase the potential for burnout in healthcare professionals, especially in aspects of healthcare, where there are significant emotional interactions with traumatized patients (Luken & Sammons, 2016; Maslach & Leiter, 2016).

There are no consensus treatments to prevent or improve the effects of burnout in individuals (Ahola et al., 2017; Krasner et al., 2009; Luken & Sammons, 2016; Panagioti et al., 2017; Perez et al., 2015; West et al., 2016). Still, there is some evidence that mindfulness meditation is helpful and shows good results (dos Santos et al., 2016; Khoury, Sharma, Rush & Fournier, 2015; Montero-Marin et al., 2015; Regehr, Glancy, Pitts & LeBlanc, 2014; Smith, 2014; West et al., 2016). Additionally, an individual’s group skills can vary significantly but are essential to both prevention and treatment of burnout (Epstein & Privitera, 2016; Maslach & Leiter, 2016; McKinley et al., 2017; Siedsma & Emlet 2015). Because the burnout syndrome is created within a complex interconnected web involving the individual, their social work relationships, the healthcare organization and societal influences, we need to consider these when addressing prevention and treatment. We also need to consider the ways individuals respond to the effects of workplace strain and their stress response.
Strain and Stress

To understand burnout in the individual healthcare professional, it is helpful to review strain and stress and the autonomic nervous system. The problem with the use of the word ‘stress’ is its use as both the cause and condition. Janos Selye (1946) was the first researcher in modern times to define stress, but his definition has led to some imprecision. For clarity’s sake, I will use strain to reflect the cause of the stress response. I define strain in this research as the effort and pressure one experiences in a work activity.

The autonomic nervous system mainly comprises of the sympathetic nervous system (SNS) and the parasympathetic nervous system (PNS). The stress response is associated with the body's activation of the SNS through sympathetic adrenal medullary (SAM) and the hypothalamic-pituitary-adrenal axis (HPA). These address the body's need for increased energy and the corresponding increased metabolic demands (Dana, 2018). The SNS is associated with some perceived threat and is known as mobilization or the “flight or fight” mechanism. The acute stress response is temporary, with minimal negative consequences.

Work strain leads to a condition of stress. Stress, especially high levels of stress and chronic stress, activates our sympathetic nervous system, triggering a cascade of physiological reactions related to arousal and activation. Healthcare professional’s work consists of some physical effort, increasing amounts of mental effort, and an interpersonal emotional component. The autonomic nervous system responds to stress through a “predictable pattern of reactivity” (Porges, 2018a, p. 53), activating one of our primary defence systems either ‘flight or fight’ or ‘immobilization’. With stress indicators that are not overwhelming, it triggers flight or fight, causing activation of SAM and HPA systems. SNS activation leads to rapidly increased mobilization of energetic resources to address increased metabolic demands. And with SNS activation, there is a corresponding decrease in the parasympathetic nervous system (PNS) activity.

The consequences of the chronic activation of the SNS and the chronic arresting of the PNS are suspected of playing a role in many of the diseases related to the burnout syndrome (Dana, 2018). With the activation of the SNS and the corresponding down-regulation of the PNS, the body’s ability for growth and restoration is
compromised. In situations of chronic stress, the body does not have the needed time for the growth and restoration processes weakening the body's ability to maintain health.

The polyvagal theory

The polyvagal theory forms a foundational link between the individual’s stress response, their perceptions, and the group. In essence, it states that people can self-regulate their stress using developed coping skills, and they can co-regulate stress using safe interpersonal settings. The ability to co-regulate stress requires a perception of a safe interpersonal environment. The polyvagal theory states that a significant portion of the physiological response to stress (sympathetic nervous system activation) is down-regulated when the person is within the context of safe interpersonal relationships. It also states that when the person is not in this context, SNS activation intensifies, and one perceives others in a negative and dangerous perspective (Porges, 2011).

A portion of our neurobiology informs our response to situations from a perspective of risk and safety. We process our sensory information with the aid of our nervous system, which plays a significant role in our understanding of our environment, particularly as related to risk assessment. As Porges (2011) notes, “by processing information from the environment through the senses, the nervous system continually evaluates risk” (p. 352). The polyvagal theory maintains that we assess risk in three main categories: safe, dangerous and life-threateningly dangerous.

Specifically, Porges (2011) maintains that there is an evolutionary developed physiological hierarchy to our response to strain, risk and danger. That hierarchy allows for a response for ‘safe’ situations, ‘unsafe’ situations and ‘extremely unsafe’ situations. When we perceive the situation as ‘safe’, our PNS responds to cues of safety through the myelinated ventral vagal pathway causing down-regulation of the SNS with corresponding feelings of calmness, engagement and social connection. The ventral vagal pathway also regulates nerves related to vocal prosody, facial expressions and head movements, all of which signal safety to others.

This down-regulation of the SNS allows for social interactions (see Figure 1.2) and, as a result, allows for the co-regulation of stress. Porges (2011) states, “Thus, the appearance of a friend or caregiver would subdue the neural circuits in the brain that
regulate defensive strategies. As a consequence, closeness, physical contact and other social engagement behaviours become possible” (p. 408).

Defensive strategies involve first the mobilization and activation of the SNS and HPA known as “flight or fight” and second, utilization of the unmyelinated dorsal vagal pathway leading to immobilization.

**Figure 1.2  Polyvagal theory of neuroception**  
*Note.* Adapted from Porges (2012)

**Implications for research**

This model of social co-regulation impacts and clarifies our understanding of burnout in the workplace, the interpersonal field, and the role of social activity. The polyvagal theory (Porges, 2011) provides a physiological model that explains the impact of strain/stress response on the individual while also highlighting the importance of the interpersonal environment in the co-regulation of the strain/stress response. Chronic exposure to stress leads to burnout as described by the continuums of exhaustion, cynicism and inefficacy. The polyvagal theory clarifies the role of the interpersonal environment in the symptoms of burnout as well as offering ideas as to the prevention and treatment of burnout (see Figure 1.3). The interpersonal environment is affected by a variety of factors, including perceived safety, social support, level of interactions with others and social play (Flores & Porges, 2017). These elements can signal safety,
thereby improving the co-regulation of stress. This theorizing provides a basis for both the need for self-regulation and the need for co-regulation. It highlights the need for good group functioning and the role of individuals and leaders in creating a safe interpersonal space. As van der Kolk (2018) states, “as long as one’s social engagement system is fully intact, people rarely develop lasting adverse reactions to potentially traumatizing experiences” (p. 30).

Figure 1.3. Diagram showing the interconnected influences on the individual

The ability to manage strain and stress in individuals is a factor of the demands of the environment, the support of the social environment with its ability to allow for co-regulation of the one’s nervous system and one’s ability to self-regulate. Referring to Figures 1.2 and 1.3, we see the implications involved in the interactions of these areas. The individual affected by strain producing stress becomes activated. This activation can be, to some extent, self-regulated and is, to no small extent, co-regulated in the interpersonal field.

Current models of burnout do not reflect the full importance of the interpersonal environment. The Conservation of Resources (COR) model posits that the motivation of the individual is to stop or minimize the loss of resources (Hobfoll & Freedy, 1993). When a loss of resources occurs, individuals experience increased stress. Papanjaroesin, Patrician and Vance (2017) show that an increase in job control
decreases depersonalization and inefficacy in individuals. While increased job control is crucial, it is reflective of an organizational change and misses the importance of the interpersonal environment in the regulation of stress.

Demerouti et al. (2001) proposed the Job Demands–Resources (JD-R) model in response to the greater acknowledgement of the burnout syndrome in a wide variety of work environments. The model posits that job demands are balanced by the individual with their available resources and that imbalances lead to increased fatigue. As demand increases, the imbalance leads to exhaustion and depersonalization. The JD-R model sees job demand as the effort to meet the physical, social and organizational requirements of work. While acknowledging the importance of the social environment, it does not explicitly consider the importance of the interpersonal environment in the individual’s stress response.

The Areas of Worklife (AoW) model developed by Maslach and Leiter (2017) posits burnout as a consequence of the individual’s fit with the organization. It is a descriptive model that focuses on six areas (workload, job control, reward, civil community, fairness and values) where a poor fit leads to increased strain and, eventually, burnout. It describes overlapping areas of influence and acknowledges the dynamic between the individual and the organization in the production of burnout. There is strong support for the AoW model in the development of burnout and the ways it provides organizations with clear objectives in the reduction of burnout in the healthcare workforce (Portoghese et al., 2014; Shanafelt & Noseworthy, 2017).

One problem is that while organizational environments play a significant role in the development of burnout in the individual, they are difficult to change. Environmental or organizational change is often the area within which one has the least power to make a difference or to manage their stress. Change produced through organization-wide initiatives takes both time and skill to generate. The effects of strain, stress and burnout are more immediate and personal (Engel, 1980). The individual struggling with strain, stress and burnout will use their energies for their self-care. The dilemma for the individual is then how to both prevent and treat burnout in themselves while effectively promoting change in the organizational environment. Dyrbye et al. (2017) argue for a broad research initiative to address burnout in healthcare professions with a critical
factor being “research to improve the work-lives and well-being of health care professionals” (p. 6).

Gerson et al. (2004) define organizational environment or climate (the terms are used interchangeably) by four characteristics, including leadership, group behaviours and relationships, communication and structural aspects. Bronkhorst et al. (2015) refine this definition by excluding “structural attributes as ‘job design’” and elements not related to the “social and interpersonal aspects” (p. 256). This attempts to standardize the terms. Healthcare organizations often include multiple workplace ‘groups’; workplace groups are defined as work units led by a single leader and generally small.

Organizations must change by providing workplace environments that produce functional group environments. These groups would be supportive and allow for meaningful co-regulating interpersonal interactions. But it is just as important that one learns to manage their strain/stress response through careful self-regulation and social co-regulation. Both mindfulness and group skills show potential to prevent and treat burnout in the individual. Mindfulness especially shows promise through the self-regulation of strain and stress (Goleman and Davidson, 2017; Scarlet et al., 2017). Group skills also provide potential strain and stress relief both through the co-regulation described above and through improved management of conflict and communication skills (Ayoko et al., 2008; Schore, 2018). As West, Dyrbye and Shanafelt (2018) note, “individually focused solutions such as mindfulness-based stress reduction and small-group programmes to promote community, connectedness and meaning have also been shown to be effective” (p. 516). The polyvagal theory and the advantages of mindfulness meditation potentially influence the factors affecting burnout. I study one possible method that theorizes how a good interpersonal environment (group) can be informed by contemplative thought (mindfulness meditation). Combining these stress-reducing modalities offers a new positive method to improve the work lives of healthcare professionals.

1.3. Purpose and significance of the Study

This research develops a mindfulness-informed group theory, the principles of which may help individuals and leaders manage strain and stress related to the burnout syndrome. I investigated this topic, starting from the basis of current research into the
efficacy of mindfulness meditation and interpersonal group behaviour and relationships in the prevention and treatment of burnout. Then from the perspective of mindfulness-informed group leaders who have extensive experience in a mindfulness meditation practice, group leadership and mindfulness-informed group process. The principles of mindfulness-informed group theory may be helpful not only to healthcare leaders and healthcare professionals but also to educators and members of other social service professions. This research provides the core concepts that healthcare professionals may consider in their strategies of preventing and treating burnout.

The aim is to address the need for a more robust conceptualization of the prevention and treatment methods of burnout in healthcare professionals. Ideally, one which helps people realistically assess both their resources and capacities, while at the same time also evaluating the social, interpersonal field and the environmental situation. Mindfulness-informed group process incorporates mindfulness within a dynamic work group process, potentially building safety and resiliency, thereby preventing and treating burnout. This research looks at conceptualizing the development of mindfulness-informed group theory through a unique combination of mindfulness and group trained interpersonal skills as one potential solution to the problem of burnout in healthcare.

1.4. Research hypothesis

The research hypothesis proposes that:

1. mindfulness and group-trained interpersonal skills are compatible theoretical and practical approaches that can be integrated into mindfulness-informed group theory, and
2. mindfulness-informed group theory can be expected to improve the individual’s regulation of strain and stress, and therefore merits consideration for the prevention and treatment of burnout in healthcare settings.

1.5. Research questions

The research question addressed through a systematic literature review was:
What is the efficacy of mindfulness meditation and group trained interpersonal skills to the prevention and treatment of burnout in healthcare professionals?

I then addressed a second research question using a constructivist grounded theory approach with semi-structured interviews. This was:

How do mindfulness-informed group process leaders describe the praxis of mindfulness-informed group process for the development of skills in the management of strain and stress in healthcare professionals?

1.6. Research objectives

This research had three objectives that follow from the research hypothesis and the research questions. Below, I list the objectives and discuss the reasoning and methodology for each. The three objectives were:

- Produce a systematic review of the literature on burnout in healthcare professionals focusing on the concepts of mindfulness meditation and group trained interpersonal skills. I use the PRISMA-P 17 item checklist (Moher et al., 2015) to provide an accurate assessment of the current state of knowledge concerning how mindfulness meditation and group trained interpersonal skills affect the prevention and treatment of burnout in healthcare professionals.

- Conduct semi-structured interviews with ten research participants who are experts on mindfulness-informed group process to explore their praxis of mindfulness-informed group process in the training of health care professionals to manage strain and stress. The research participants were mindfulness-informed group leaders having considerable experience in mindfulness-informed group process, a mindfulness meditation practice and group leadership.

- Synthesize this data using a constructivist grounded theory methodology involving an iterative data analysis that integrates the systematic review, interviews with coding and analytic memo writing. This methodology uses a process whereby themes are extracted from raw data. From this, I developed the core concepts and themes of the mindfulness-informed group process, which I formed into a mindfulness-informed group theory.

1.7. Research design

This research used a constructivist grounded theory approach. This approach allowed me to develop this research using sound methodological strategies with strong reflexive positioning. Constructivism involves the blending of the objective world with the
subjective experience of the human meaning-creating world. This construction is evident in the social interactions that play a role in burnout and in a group process.

Using a qualitative, pragmatic paradigm (Charmaz, 2014; Creswell & Poth 2018) allowed me to use a methodology that met the processes involved and directly addressed the research questions. While both mindfulness-informed practices and group processes are well theorized and researched, research on mindfulness-informed group theory is not. As such, this offered a unique opportunity to examine an under-theorized process and suggests a methodology that involves theory building.

A careful review of qualitative research methodologies (Charmaz, 2014; Corbin & Strauss, 2015; Creswell & Creswell, 2018; Creswell & Poth 2018, Janesick, 2015) pointed to exploring this research topic using grounded theory. Grounded theory is useful to create a theory, especially where none exists (Henwood & Pidgeon, 2003, p. 134). A grounded theory methodology offered a systematic research method that focused my understanding of the potential skills developed by mindfulness-informed group theory and the underlying mechanisms of their execution.

Grounded theory “begins with inductive data, involves simultaneous data collection and analysis, relies on comparative methods, specifically focuses on analysis and theory construction, provides tools to study action and process, and contains strategies for developing, checking, and strengthening and original analysis” (Charmaz, Thornberg & Keane, 2018, p.412). The constructivist version of grounded theory assumes that people construct both the studied phenomena and the research process through their actions. This approach recognizes how all historical, social, and situational conditions affect these actions and acknowledges the researcher’s active role in shaping the data and analysis (Charmaz, Thornberg & Keane, 2018, p. 412).

Constructivist grounded theory is inclusive of the researcher’s perspective. It integrates my experience and expertise in both group process and mindfulness-informed group process (Charmaz, 2014). During data analysis, I incorporated my knowledge through the process of analytic memo-writing and used journaling before structured data analysis to bracket and contextualize my role. This helps the reader understand how the researcher influences the research process. As Patnaik (2013) notes, “this involves consciousness of the self by the researcher in order to understand how one’s own
experiential location might influence the choice of subject, methodology and themes” (p. 101).

1.8. Assumptions

Several assumptions underlie the foundation of this research. The first is the assumption of a constructivist paradigm. Positing a constructivist paradigm acknowledges “the standpoints and starting points of the researcher, the influence of the research situation and the controversies about the representation of the research participants, and it emphasizes engaging in reflexivity” (Charmaz, Thornberg & Keane, 2018, p. 416). The constructivist position allows me to develop theory from the words and experiences of the mindfulness-informed group leaders while acknowledging their and my perception as a construction of our backgrounds, beliefs and values.

A constructivist grounded theory uses many of the methodological strategies of Glaser and Strauss’s (1967) grounded theory. Constructivism also involves the creative blending of the objective world with the subjective experience of the human ‘meaning creating’ world. This process parallels the fluid and creative activity of process groups.

Further assumptions are related to the use of mindfulness-informed group process leaders as the basis for the development of a mindfulness-informed group theory. These experts are individuals with expertise in a mindfulness-informed practice, but not all contemplative practices. They have significant years of training and study in their meditative disciplines, which is not necessarily reflective of all contemplative thought or disciplines.

I use a similar assumption concerning their expertise in both group skills and mindfulness-informed group skills. While they have extensive experience in group theory and practice, this may not be representative of all group theories and practices. And while they have extensive experience in mindfulness-informed group process, this may not be representative of all mindfulness-informed group process aspects.

Further assumptions are related to the use of a qualitative paradigm. Data was collected through an interview process which assumes that the interviewees took part fully and honestly. Grounded theory relies on data that is willingly contributed, and that
is valued by the participants. This assumption was confirmed through the interview process and the words of the participants.

1.9. Limitations

A limitation of this research was the use of the researcher as the source of both data collection and data analysis. Researchers can experience preconceptions and partiality based on their perspectives and goals in the research process. Reflexivity was used to address researcher bias. Reflexivity is the process of documenting the researcher’s position, how this influenced the research (prospective reflexivity), and how the research changed the researcher (retrospective reflexivity). Constructivist grounded theory emphasizes returning again and again to the data, the interviewee’s words, meaning and perspective. Doing so, when combined with reflexivity, minimizes researcher bias.

A limitation is the use of a non-probabilistic, purposive sampling of research participants. Interviewees are practice and theoretical experts within three aspects of the topic I am studying. Non-probabilistic, purposive sampling is commonly used in qualitative research when “the common element is that participants are selected according to predetermined criteria relevant to a particular research objective” (Guest, Bunce & Johnson, 2006, p. 61). Interviewees have all taken part in the object of inquiry often from varying positions (i.e. leaders of groups, leaders of healthcare professionals, faculty of students in healthcare professions, leaders of mindfulness-informed group process). These perspectives address the criteria for using a homogeneous, purposive sample.

Interviewees’ unique levels of expertise allow for a small sample size. Guest, Bunce & Johnson (2006) reviewed qualitative literature on sample size. Additionally, they performed two grounded theory studies with larger sample sizes (n = 30, n = 36) and then analyzed when “theoretical saturation” occurred. They determined:

Based on our analysis, we posit that data saturation had for the most part occurred by the time we had analyzed twelve interviews. After twelve interviews, we had created 92% (100) of the total number of codes developed...In short, after analysis of twelve interviews, new themes emerged infrequently and progressively so as analysis continued. Code definitions were also fairly stable after the second round of analysis (twelve
interviews), by which time 58% of all thirty-six definition revisions had occurred...Variability of code frequency appears to be relatively stable by the twelfth interview as well, and, while it improved as more batches of interviews were added, the rate of increase was small and diminished over time (Guest, Bunce & Johnson, 2006, p. 74).

The goal of data analysis is the idea of saturation, which is possible with smaller sample sizes with high levels of competence (Guest, Bunce & Johnson, 2006). Romney, Weller & Batchelder (1986) also note that 12 study participants will produce a “.999 confidence level” (p. 327) in studies involving culture, but only in groups of homogeneous participants, where participants have high levels of competence, and they answer questions independently.

1.10. Organization of the remainder of the study

Chapter 2 integrates an examination of two literature reviews to give both a broad outline of burnout in healthcare professionals and a focused look at the use of mindfulness meditation and group skills in the prevention and treatment of burnout. Chapter 3 describes the methodology and the methodological design of the study. It reiterates the research hypothesis, research questions, as well as explaining the data collection procedures and data analysis. Chapter 4 presents the data analysis and discusses the synthesis of the data forming a mindfulness-informed group theory. Chapter 5 reviews the explorations of the study and gives recommendations for future research.
Chapter 2. Literature Review

2.1. Methods of Searching

This literature review used two methods of searching the literature: First, a targeted review (methodology described in section 2.1.1) to provide a robust, comprehensive overview of burnout in healthcare and; Second, a systematic review (methodology described in section 2.1.2) of mindfulness and group skills as prevention and treatment modalities for burnout in healthcare professionals. I will first specify the parameters for the targeted review and then the systematic review before presenting the results (section 2.2).

2.1.1. Targeted review

I developed this targeted review for mapping and summarizing the research on burnout in healthcare to provide an expansive overview of the topic and to identify gaps in the knowledge for research. Due to the broad applications of the term burnout to a variety of research areas, a targeted review/mapping review format was identified as the best fit. Targeted/mapping reviews are a systematic methodology that guides the researcher when trying to achieve a clearer understanding of a subject (Cantrell, S, n.d.; Grant & Booth, 2009; Wong, 2007). For my purposes, I limited the review to burnout in healthcare professionals.

This targeted review follows an abridged version of the guidelines set out in “PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation” (Tricco et al., 2018). I condensed and abridged several of the reporting elements both to improve the flow of the review while keeping the essence of the transparent and replicable method. Developed as part of an effort to systematize research and reporting methods for scoping reviews, PRISMA-ScR outlines “20 essential reporting items and 2 optional items [...] providing] a rationale and an example of good reporting for each item” (Tricco et al., 2018 p. 1). A table of the essential and optional items is presented in Appendix A.
Objectives and Methods

The goal of the targeted portion of the review was to clarify the pertinent issues as related burnout in healthcare and provide a clearer picture of an extensive field of research. I reviewed both qualitative publications to provide background (i.e. the definition of burnout, origins of burnout) and quantitative publications to complete the representation (i.e. rates of burnout in healthcare professionals, costs of burnout).

Eligibility criteria

This review (see Figure 2.1) is limited to English language publications or publications that were translated into the English language and published during the 11 years (2008 to 2019). Exceptions to the timeframe criterion were publications that were seminal and, therefore, perhaps published before 2009 as well as various original sources for quotes, definitions and explanations. Preference in quantitative publications was given to systematic reviews with meta-analyses and systematic reviews. When these were not available, randomized controlled studies and cohort studies were used. Preference was given in qualitative publications from seminal researchers or that reflected the views of the general state of knowledge. These were as mentioned in meta-analyses and systematic reviews. I used a variety of books to develop the background section and clarify various concepts and definitions.
Figure 2.1. Eligibility flow diagram

Demographics included healthcare professionals working in any healthcare setting. Healthcare professionals are defined as any university degree trained professional working directly in healthcare patient care. This included but was not limited to physicians, psychiatrists, nurses, psychologists, mental health workers and supplementary information from students in university healthcare training programs. It was assumed that healthcare professionals was a sufficiently focused category for this review as the various professions would display similar symptoms. This was confirmed during the review as definitions, rates, and areas of prevention and treatment of burnout were similar for the various groups.

Information sources and review protocol

The initial stages of the review started with a search of basic terms (i.e. burnout, burnout + healthcare, burnout + healthcare professionals) using Google Scholar. This was to establish baseline themes and terms to identify the research questions. As new terms were identified, I repeated this process iteratively to provide a comprehensive overview of the topic (Arksey & O’Malley, 2005). The search strategy then used the identified terms in Medline, Cinahl and Google Scholar.
I reviewed publications according to the CRAAP test (Meriam Library, California State University, 2010). CRAAP is an evaluation mnemonic for currency, relevance, authority (peer-reviewed), accuracy and purpose. The last search associated with this review was completed on October 20th, 2019.

Using the established baseline themes and terms, I reviewed publications to develop a full and rich picture of burnout in healthcare professionals. Additional themes and terms were explored as they appeared when adding to this description. Table 2.1 identifies these themes and terms, highlighting the source of information from peer-reviewed studies. This information is presented below, showing the strength of the analysis.

### Table 2.1. Breakdown of burnout publications for the targeted review

<table>
<thead>
<tr>
<th>Name</th>
<th>Qualitative</th>
<th>Systematic review with meta-analysis</th>
<th>Systematic review</th>
<th>Literature review</th>
<th>Cohort study/RCT</th>
<th>Files</th>
<th>Codes</th>
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<tr>
<td>History</td>
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<td></td>
<td></td>
<td></td>
<td>1</td>
<td>4</td>
<td>23</td>
</tr>
<tr>
<td>Burnout defined</td>
<td>9</td>
<td>3</td>
<td>7</td>
<td>3</td>
<td>6</td>
<td>28</td>
<td>91</td>
</tr>
<tr>
<td>Syndrome</td>
<td>2</td>
<td></td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Effects</td>
<td>8</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>10</td>
<td>28</td>
<td>62</td>
</tr>
<tr>
<td>Drivers and causes</td>
<td>8</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>14</td>
<td>33</td>
<td>74</td>
</tr>
<tr>
<td>Healthcare</td>
<td>12</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>28</td>
<td>54</td>
<td>112</td>
</tr>
<tr>
<td>Costs</td>
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<td>3</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>16</td>
<td>30</td>
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<tr>
<td>Rates</td>
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<td>2</td>
<td>5</td>
<td>14</td>
<td>31</td>
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<tr>
<td>Engagement</td>
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<td></td>
<td>3</td>
<td>4</td>
<td>13</td>
<td>21</td>
</tr>
<tr>
<td>Prevention</td>
<td>11</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>10</td>
<td>29</td>
<td>71</td>
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<tr>
<td>Treatments</td>
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<td>1</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>20</td>
<td>49</td>
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<tr>
<td>Organizational</td>
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<td>1</td>
<td>4</td>
<td>9</td>
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<td></td>
<td>3</td>
<td>7</td>
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<tr>
<td>Resiliency</td>
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<td>2</td>
<td>12</td>
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<tr>
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<td></td>
<td></td>
<td>4</td>
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<tr>
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<td>14</td>
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<td>2</td>
<td>6</td>
<td>29</td>
<td>53</td>
<td>113</td>
</tr>
</tbody>
</table>
2.1.2. Systematic review

I used systematic review procedures to address the supplementary research question, “What are the relationships of mindfulness meditation and group skills to the prevention and treatment of burnout in healthcare professionals?” Moher et al. (2015) state, “Systematic reviews are the reference standard for synthesizing evidence in health care because of their methodological rigor” (p. 1). A systematic review supported this research by providing a more complete picture of the relevant literature. “Systematic reviews seek to draw together all known knowledge on a topic area” (Grant & Booth, 2009, p. 26).

A systematic review can be a pivotal component of a grounded theory study. As Charmaz, Thornberg & Keane (2018) state, “familiarity with relevant literatures can enhance sensitivity to nuances in data, generate concepts for making comparisons with fresh data, stimulate analytical and critical questions, and suggest areas for possible conceptual development” (p.419). In addition, doing a literature review earlier allows for the development of a critical grounded theory. Researchers:

- can compare their emerging analyses with these discourses (familiarity with studies in the field) through memo writing while engaging in constant reflexivity to assess if and to what degree extant concepts fit the data and ongoing analysis… Grounded theorists write their comparative memos from the position of doubt, which underlies theoretical agnosticism (Charmaz, Thornberg & Keane, 2018, p. 420).

Using the PRISMA-P criteria, this systematic review developed procedures for the “identification, selection, synthesis, and summary of [the] studies” (Moher et al., 2015, p. 3). See Appendix B for PRISMA-P criteria, descriptions and relevant page
numbers. Research databases included: Medline (PubMed), CINAHL complete, and the Cochrane Database of Systematic Reviews. Publications were reviewed according to the CRAAP test (Meriam Library, California State University, 2010). I searched the literature for the past ten years, using English language or translated articles.

**Objectives and Methods**

The objectives of the systematic review were to provide a clear and thorough synthesis of the current state of knowledge concerning the prevention and treatment modalities of mindfulness meditation and group skills in the burnout of healthcare professionals. This provides a starting point of the research study, which later enhances data collection in the interviews and data analysis (Charmaz, Thornberg & Keane, 2018; Lockwood & Oh, 2017).

I performed the review using three main search engines. PubMed to search MEDLINE databases for biomedical journal articles. CINAHL, the Cumulative Index of Nursing and Allied Health Literature, to search their database. And Ovid EBMReviews which searched the following seven databases:

- Cochrane Database of Systematic Reviews
- Cochrane Central Register of Controlled Trials (CENTRAL)
- Cochrane Methodology Register
- Database of Abstracts of Reviews of Effects (DARE)
- ACPJournal Club
- Health Technology Assessment
- NHSEconomic Evaluation Database

**Eligibility criteria**

The systematic review was limited to English language publications or publications that were translated into the English language and published during the ten years (2009 to 2019). Within the last ten years, both the quality of the research and the number of studies have improved. There were limited exceptions to the timeframe criterion involving publications that appeared seminal. These were reviewed if they met
the other criteria. As with the targeted review, preference was given to systematic reviews with meta-analyses and then systematic reviews.

The demographics were healthcare professionals working in any healthcare setting. Healthcare professionals are defined as any university degree trained professional working directly in healthcare patient care. This included but was not limited to physicians, psychiatrists, nurses, psychologists, social workers, mental health workers with supplementary information from students in university healthcare training programs.

**Information sources and review protocol**

The initial stages of the review started with a search of basic terms (i.e. mindfulness meditation [with variations] + burnout + healthcare [with variations], group skills [with variations] + burnout + healthcare) using Google Scholar. Variations for mindfulness meditation were included. Variations for group skills included group, group process, group therapy, group psychotherapy, group counselling, group training. Keywords were searched as they became available, making this an iterative process. This was to establish baseline themes and terms with reference to the research questions. As new terms were identified, I repeated this process iteratively to provide a comprehensive overview of the topic (Arksey & O’Malley, 2005). The search strategy then used the identified terms in Medline, Cinahl and Ovid EBMReviews (see Appendix H Study Search Terms).

Again, publications were reviewed according to the CRAAP test (Meriam Library, California State University, 2010). The last search associate with this review was completed on October 20th, 2019. This researcher reviewed articles. Relevant, peer-reviewed articles were included and reviewed. I summarized data on a systematic results table (see Table 2.3 and 2.4).

### 2.2. Review of the Literature

Healthcare professionals suffer from exceptionally high rates of chronic work-related stress known as burnout (Gazelle, Liebschutz & Riess, 2015; Maslach and Leiter, 2016; Shanafelt & Noseworthy, 2017; Wallace, Lemaire & Ghali, 2009; Williams et al., 2010). Because of the lack of effective strategies the need for new prevention and
treatment interventions is pressing (Ahola et al., 2017; Krasner et al., 2009; Luken & Sammons, 2016; Panagioti et al., 2017; Perez et al., 2015; West et al., 2016). Models on the development of burnout fail to account for the complex ways humans manage strain and stress. Healthcare professional's ability to incorporate a holistic perspective that includes both their individual needs, the small group dynamics, organizational demands and societal influences allows for improved management of overall stress. It is significant when managing burnout producing situations. The leader's and individual's understanding of how strain and stress affect the person, the work group and the organization leads to a richer understanding of the development of burnout.

Mindfulness-Informed group theory provides insights into the management of the burnout syndrome by introducing categories and their relationships that allow both leaders and members of work groups to function in a more engaged manner. Using the theory from this unique process that combines mindfulness meditation and group skills opens possibilities for improved self-regulation and co-regulation through the use of the social engagement network as well as skills for organizational change.

This research studies the viewpoints of leaders of mindfulness-informed group process to theorize improvements to workplace mental health and resiliency. Mindfulness-informed group process combines the principles of mindfulness meditation with some tenets derived from the study of group process. The research project examines 1) the complex interconnected individual, social and environmental webs that contribute to burnout; 2) the principles and relationships that reduce burnout; and 3) the potential impact mindfulness-informed group theory has on the individual's physiological responses, interpersonal interactions and overall group awareness. The aim is to address the dire need for a more robust conceptualization of the preventative and treatment methods for healthcare workplace burnout. My research clarifies the impact of burnout on the individual through a theoretical understanding of the social and environmental workplace systems and posits a treatment process.

2.2.1. Background

**Burnout history**

Burnout is a complex workplace syndrome that affects healthcare professionals. To understand the problem of how burnout affects individuals as well, it is essential to
understand the definition of burnout, the effects of burnout, rates of burnout and the costs of burnout.

The concept of burnout was introduced as a research concept 45 years ago by Freudenberger (1974). It was initially used in the illegal drug-using culture of 1970s America before Freudenberger introduced burnout as a form of high stress in social service fields (Schaufeli, Leiter & Maslich, 2009). It gained significant scholarly interest. Back, Steinhauser, Kamal, & Jackson (2016) point out that burnout has a universal appeal and is relatable to most working people. It caught the attention and interest of researchers, causing them to refine its definition and examine its etiology, diagnosis and prognosis. Burnout connects with people’s experience of work, especially in human service professions where individuals are emotionally involved with the people they are helping and occupations which have strong vocational qualities (Schaufeli, Leiter & Maslich, 2009). “Thus, from the beginning, burnout has enjoyed a joint recognition from both researchers and practitioners as a social problem worthy of attention and amelioration” (Schaufeli, Leiter & Maslich, 2009, p. 204).

Concurrently to Freudenberger, researchers led by Maslach (1976) were also conducting research into exhaustion and burnout in the human service profession (Schaufeli, Leiter & Maslich, 2009). They played a significant role in the definition and measurement of burnout. Maslach, Jackson & Leiter (1996) produced the most commonly used definition of burnout as “a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who work with people in some capacity” (p. 4). They based their conceptualization of burnout on work with human service professionals, medical professionals, educators and university students. They also developed the Maslach Burnout Inventory to measure burnout (Maslach & Jackson, 1986).

**Burnout defined**

For my research, I use burnout as defined by the World Health Organization (2018). This is the most used definition of burnout in the research literature. Burnout is defined as a workplace phenomenon that induces chronic, poorly managed stress characterized by exhaustion, cynicism, and inefficacy (WHO 2018). Maslach & Leiter (2017) observe that burnout is a psychological syndrome determined by the interpersonal environment and the “chronic interpersonal stressors on the job” (p. 160).
Burnout starts with exhaustion which leads to cynicism then inefficacy (Maslach & Leiter, 2017). In addition, these three aspects move along parallel continuums from mild to moderate to severe (see Figure 1.1). The majority of scientific research uses the three-dimensional description of exhaustion, cynicism, and inefficacy evident in the Maslach Burnout Inventory (MBI–Maslach and Jackson, 1981). Schrijver, Brady, & Trockel (2016) succinctly describe Maslach, Jackson & Leiter’s tripartite definition of burnout as:

The three domains include: (1) “Emotional exhaustion,” reflecting feeling drained or loss of enthusiasm for work; (2) “Depersonalization,” which can manifest as cynicism or uncaring behavior towards others; and (3) a “Low sense of personal accomplishment,” associated with a perceived loss of meaning in the work and feelings of ineffectiveness. (p. 2)

This definition is generally recognized (Schaufeli, Leiter & Maslich, 2009) and shows how burnout is a complex issue of which exhaustion is but one component. Schaufeli, Leiter & Maslich (2009) refer to the etiology of burnout as follows:

As a metaphor for the draining of energy, burnout refers to the smothering of a fire or the extinguishing of a candle. It implies that once a fire was burning but the fire cannot continue burning brightly unless there are sufficient resources that keep being replenished. Over time, employees experiencing burnout lose the capacity to provide the intense contributions that make an impact. If they continue working, the result is more like smoldering–uneventful and inconsequential–than burning. (p. 205)

Maslach & Leiter (2017) point out that the three dimensions of burnout are interrelated and reflect a progressive deterioration with the final stage representing symptoms of a more chronic condition. Initially, an individual will struggle with work by trying to work harder using their physical and emotional resources to address the demands of the system. Burnout starts with increasing exhaustion as work demands overwhelm a person’s abilities. The individual struggles to cope with the increased demands often by working harder and longer. Physiologically, the individual experiences repeated exposure to the stress response (sympathetic nervous system activation) throughout the day, triggering stress hormones that coordinate the body’s response (Porges, 2011). Stress, especially chronic stress, triggers one of the body’s primary defence systems known as “flight or fight”. Porges (2011) reports that SNS activation increases metabolic demands draining the body’s resources. Extremely high stress triggers the body’s other primary defence systems, whereby the parasympathetic
nervous system responds with its reduced metabolic demands and causing immobilization (Porges, 2011).

Maslach & Leiter (2017) describe people struggling with emotional exhaustion as “feel[ing] drained and used up, without any source of replenishment and recovery. They lack enough energy to face another day or another problem” (p. 160). If the demands continue, this stage produces additional symptoms leading to depersonalization and cynicism.

As burnout progresses, the individual both withdraws from interpersonal relationships and becomes increasingly negatively predisposed (cynicism) towards the work situation (Maslach & Leiter, 2017). This depersonalization occurs as the individual proceeds from task to task, no longer engaging in the needed nurturance and care of important interpersonal relationships (depersonalization). Overall, the effect is, as Maslach & Leiter (2017) describe, “as cynicism develops, people shift from trying to do their very best to doing the bare minimum” (p. 160).

The individual is aware of their increasingly negative feelings about work, their inefficiencies and especially in healthcare, their lack of caring. And even if they know of the system-wide causes related to their increasing feelings of burnout, their suffering is personal. As the elements of negative self-judgement strengthen, the individual questions their career choices and their self-worth. Maslach & Leiter (2017) describe it as,

[A] sense of inefficacy may make burned-out workers feel that they have made a mistake in choosing their career path and often makes them dislike the kind of person they think they have become. Thus, they come to have a negative regard for themselves, as well as for others. (pp. 160-61)

This profoundly personal progression of burnout shows its etiology but also highlights another cost of burnout to the system. If the organization does not respond with appropriate care both for the individual and the system of care that has produced this burnout effect, many individuals question the situation and themselves. As Maslach & Leiter (2017) note, “instead of healthcare work bringing the greatest satisfaction, fulfillment, and confirmation of one’s identity, work becomes a joyless burden to be minimized, avoided, and escaped” (p. 161). The individual may choose either a different position or a different career.
It is important to note that burnout varies in its intensity, both daily and over time, and that not all studies measuring burnout measure the same thing (Ahola et al., 2017; Bakker & Costa, 2014). Burnout is often determined using a screening instrument. “The most frequently used [screening instruments] are the Maslach Burnout Inventory (MBI) and the Tedium Measure, later renamed the Burnout Measure (Kaschka, Korczak & Broich, 2011, p. 786). Although alternative burnout instruments have appeared on the scene, such as the Copenhagen Burnout Inventory (Kristensen et al., 2005) and the Oldenburg Burnout Inventory (Demerouti et al., 2001), the MBI remains the standard approach to assess burnout (Kaschka, Korczak & Broich, 2011).

As we can see, burnout is often experienced as an individual failing or flaw because of the profoundly personal suffering it causes. However, there are strong objections to blaming the individual. Authors note that while certain personalities may be more prone to burnout, organizational and environmental causes play the most significant role (Ahola, Toppinen-Tanner & Seppänen, 2017; Back et al., 2016; Bakker & Costa, 2014; Kreitzer & Klatt, 2017; Maslach & Leiter, 2017; West, Dyrbye, Erwin & Shanafelt, 2016). Maslach and Leiter (2017) demonstrate how burnout is not necessarily the fault of the individual but significantly the responsibility of the organization and the environment that the organization creates. They state:

Burnout is not a problem of people but of the social environment in which they work. The structure and functioning of the workplace shape how people interact with one another and how they carry out their jobs. When that workplace does not recognize the human side of work, and there are major mismatches between the nature of the job and the nature of people, then there will be a greater risk of burnout. (Maslach and Leiter, 2017, p. 160)

Schaufeli, Leiter & Maslich (2009) and others (Aiken et al., 2002; Amoafio, Hanbali, Patel & Singh, 2015; Bakker & Demerouti, 2007) point out how burnout is seen as a conflict between decreasing resources and increasing demands. They point out that this conflict, combined with the changing values of service organizations, has led to an increase in the number of cases of burnout.

As the scrutiny of burnout continued, researchers simultaneously looked for ways to both prevent and treat it. Maslach and Leiter (1997) introduce the inverse correlation of burnout and engagement to form a continuum. As Schaufeli, Leiter & Maslich (2009) show, worker engagement arose near the time that concepts related to positive
psychology stated the importance of positive factors to health. The idea of burnouts juxtaposition to engagement was born. Schaufeli, Leiter & Maslich (2009) report:

In order to thrive, organizations need engaged employees who are motivated, proactive, responsible, and involved. Instead of just “doing one’s job,” employees are expected “to go the extra mile”. So, for today’s organizations burnout prevention is replaced by the promotion of work engagement. Preventing burnout is not enough, it is necessary to go further to foster work engagement. (p. 216)

While there is some disagreement about the definition of engagement, most researchers agree that it is helpful to view burnout/engagement as a continuum. Shanafelt & Noseworthy (2017) define it as: “Engagement is the positive antithesis of burnout and is characterized by vigor, dedication, and absorption in work” (p. 129). Black et al. (2016) take this idea one step further. Speaking for palliative care physicians but characteristic of the research in general, they state:

In this new paradigm, sustainable clinical PC [palliative care] is the result of individual clinicians who have well-developed resilience skills working in a system that is designed to maximize work engagement. This meets the proposed “quadruple aim” of healthcare that adds clinician well-being to the usual focus on costs, population health, and patient experience. (p. 287)

Using a model whereby burnout is seen as a resource issue, Schaufeli, Bakker & Van Rhenen (2009) theorize that lack of work resources places an increasing strain on workers leading to burnout. They use Demerouti, Bakker, Nachreiner & Schaufeli’s, (2001) definition of workplace engagement as related to improving job resources by, “(1) reduce job demands and the associated physiological and psychological costs, (2) be functional for achieving work goals, or (3) stimulate personal growth, learning, and development” (Schaufeli, Bakker & Van Rhenen, 2009, p. 894).

Others posit that burnout forms a continuum with ‘wellness’ (Panagioti, Geraghty & Johnson, 2017; Dyrbye et al., 2017). Healthcare professional wellness is described as:

not just the absence of distress or illness but also emotional wellbeing, physical health, and social relationships…Professional fulfillment, a construct we conceptualize within the positive domain of physician wellness, includes dimensions of happiness, self-worth, self-efficacy, and satisfaction at work. (Schrijver, Brady & Trockel, 2016, p. 2)
Wellness and well-being appear to be used interchangeably in these articles. Kreitzer & Klatt (2017) assess wellness/well-being as arising out of the interconnected domains of “health, relationships, security, purpose, community and environment” (pp. 155-56) and helps prevent and treat burnout.

Maslach & Leiter (2017) describe burnout as a syndrome “that involves a prolonged response to chronic interpersonal stressors on the job” (p. 160). Typically, a syndrome is defined as “a group of signs and symptoms that occur together and characterize a particular abnormality or condition” (Merriam-Webster, 2018). In their thoughtful and concise critical review of research on burnout, Kaschka, Korczak & Broich (2011) report that while burnout is prevalent and costly in healthcare systems both in Europe and North America, what burnout is is still being debated. Eckleberry-Hunt, Kirkpatrick & Barbera (2018) state that while physician and medical student exhaustion is a problem, many of the difficulties with the research relating to burnout involve differing conceptualizations of the condition and failures to measure the same condition. This is addressed to some extent by the World Health Organization. The World Health Organization created the International List of Causes of Death (ICD-11) for the “identification of health trends and statistics globally, and the international standard for reporting diseases and health conditions. It is the diagnostic classification standard for all clinical and research purposes” (WHO, 2018). Burnout is defined as a workplace phenomenon that induces chronic, poorly managed stress characterized by exhaustion, cynicism, and inefficacy (WHO 2018). This is Maslach and Leiter’s definition.

In addition, several authors have argued that burnout is not a syndrome in and of itself but rather better described by existing disorders, most often depression (Bianchi, Schonfeld & Laurent, 2015; Kaschka, Korczak & Broich, 2011; Wurm et al., 2016). Burnout is conceptualized as distinct from depression being related to the conditions of the work situation (Maslach & Leiter, 2016). However, Bianchi, Schonfeld & Laurent (2015) show that while the research evidence supports the idea that burnout and depression are separate conditions, a:

close scrutiny of the available literature, however, suggests that the evidence for the singularity of the burnout phenomenon is inconsistent. The paucity of research on the relationship between the state of burnout and clinical depression and insufficient consideration of the heterogeneity of the spectrum of depressive disorders constitute major limitations to current
knowledge and prevent any definite conclusion regarding the burnout–depression overlap. (p. 35)

**Costs and rates of burnout in healthcare**

Healthcare professionals practice in increasingly demanding and complex environments (Kreitzer & Klatt, 2017; Maslach & Leiter, 2017; Perez et al., 2015; Portoghese, Galletta, Coppola, Finco & Campagna, 2014; Smith, 2014). Healthcare generally involves high-levels of emotional engagement in a variety of interpersonal interactions, often with individuals in significant distress and heightened emotionality. This increases the potential for burnout in healthcare, especially in fields with strong emotional attachment with traumatized patients (Luken & Sammons, 2016; Maslach & Leiter, 2016).

Physicians are the most thoroughly researched group in terms of burnout in the healthcare system. However, research studies point to similar concerns across disciplines. Research for nurses, psychologists, mental health workers and other healthcare professionals found that these professionals suffer from similarly high levels of stress, exhaustion and burnout (dos Santos et al., 2016; Kamal et al., 2016; Raab, 2014; Smith, 2014; Van Bogaert et al., 2014).

Burnout is expensive for both the individual and the organization. Many authors point out the importance of immediate action to address burnout as the costs to the individuals, and their associated organizations are potentially quite high (Epstein & Privitera, 2016; Kreitzer & Klatt, 2017; Maslach & Leiter, 2017; West et al., 2016). Dewa, Loong, Bonato, Thanh & Jacobs (2014) report that physicians are less productive due to high stress and burnout. Shanafelt, Goh, & Sinsky (2017) state the organizational rationale for actively managing burnout in physicians. Their logic applies to any healthcare professional:

> The business case to address physician burnout is multifaceted and includes costs associated with turnover, lost revenue associated with decreased productivity, as well as financial risk and threats to the organization's long-term viability due to the relationship between burnout and lower quality of care, decreased patient satisfaction, and problems with patient safety. (Shanafelt et al., 2017, p. 1826)

The costs of burnout in healthcare are difficult to calculate. A 2014 study by Dewa, Jacobs, Thanh & Loong (2014) estimates the "total cost of burnout for all
physicians practicing in Canada … to be $213.1 million ($185.2 million due to early retirement and $27.9 million due to reduced clinical hours) (p. 1). This does not consider the many hidden costs to the individual, patients and organizations associated with staff burning out. A recent analysis by Han et al. (2019) looks at the cost of physician turnover, including reduced hours nationally and at an organizational level. They state that:

on a national scale, the conservative base-case model estimates that approximately $4.6 billion [USD] in costs related to physician turnover and reduced clinical hours is attributable to burnout each year in the United States…At an organizational level, the annual economic cost associated with burnout related to turnover and reduced clinical hours is approximately $7600 [USD] per employed physician each year. (Han et al., 2019, p. 1)

Additional costs are related to the effects of burned-out staff on the quality of healthcare accessed by patients, including increased patient recovery time, decreased patient safety, reduced service availability and problems with organizational integrity (Epstein & Privitera, 2016, p. 2216).

Burnout rates are high and increasing (see Figure 2.2). Burnout rates fall between 17% to 68% for all healthcare professionals (Gazelle, Liebschutz & Riess, 2015; Maslach and Leiter, 2016; Shanafelt & Noseworthy, 2017; Wallace, Lemaire & Ghali, 2009; Williams et al., 2010). Shanafelt et al. (2015) report that the physician burnout trend is increasing. 30% to 68% of US physicians are suffering from burnout (Gazelle, Liebschutz & Riess, 2015, Williams et al., 2010) and it is estimated that 25% to
60% of physicians and psychiatrists worldwide are suffering from burnout (Maslach and Leiter, 2016; Shanafelt & Noseworthy, 2017; Wallace, Lemaire & Ghali, 2009). Kamal et al. (2016) report that 62% of palliative care and hospice physicians are reporting burnout, with 50% expected to leave their jobs in the next ten years. Additionally, 17% to 67.8% of pediatric residents struggle with burnout (McKinley et al., 2017) while 49% of medical students do, and 60% of residents do (Chaukos et al., 2017; Dyrbye & Shanafelt, 2016). Montero-Marin et al. (2015) report that 38% of primary care personnel suffer from burnout, with nursing burnout rates hovering at 40% (Duarte & Pinto-Gouveia, 2016).

Healthcare professionals experience stressors from burnout that take observable tolls on their bodies, minds, and relationships affecting their ability to lead or be a member of work teams (Ahola et al., 2017; Salvagioni et al., 2017). Salvagioni et al. (2017) report the costs of burnout to the individual as:

[Physical health effects including increases in] hypercholesterolemia, type 2 diabetes, coronary heart disease, hospitalization due to cardiovascular disorder, musculoskeletal pain, changes in pain experiences, prolonged fatigue, headaches, gastrointestinal issues, respiratory problems, severe
injuries and mortality below the age of 45 years. The psychological effects were insomnia, depressive symptoms, use of psychotropic and antidepressant medications, hospitalization for mental disorders and psychological ill-health symptoms. Job dissatisfaction, absenteeism, new disability pension, job demands, job resources and presenteeism were identified as professional outcomes. (p. 1)

Van Mol, Kompanje, Benoit, Bakker & Nijkamp (2015) note that compassion fatigue plays a significant role in the emotional distress healthcare professionals experience related to burnout. Bakker & Costa (2014) point out how “chronic burnout strengthens the loss cycle of daily job demands, daily exhaustion, and daily self-undermining” (p. 112). Burnout is also seen as contagious (Portoghese et al., 2014) as one person’s declining work performance produces more work for other members of the work unit or team. Additional effects of burnout include but are not limited to: anxiety, depression, drug use disorders, suicidal ideation and suicide attempts (Bragard, Dupuis & Fleet, 2015; Sapolsky, 2004; Wild et al., 2014).

2.2.2. Prevention and treatment of burnout in healthcare

Maslach & Leiter (2017) point out that burnout and its improvement are the responsibility of both the organization and the individual. This section looks at both individual and organizational prevention and treatment approaches. Swensen & Shanafelt (2017) argue that organizations have the responsibility to encourage not only a healthy social and civil workplace environment but to reduce the organizational causes of burnout identified as workload, resources and control while building resiliency in their employees. Swensen & Shanafelt (2017) show the “value in fostering communication, instituting structural changes, cultivating teamwork, supporting stress management tactics, enhancing job control, and focusing on leadership skills” (p. 5).

Individual prevention and treatment

Authors point out that there are no consensus treatments to prevent or improve the effects of burnout in individuals (Ahola et al., 2017; Krasner et al., 2009; Luken & Sammons, 2016; Panagioti et al., 2017; Perez et al., 2015; West et al., 2016). They note that many of the studies on treating burnout struggle with design flaws related to small sample sizes, of limited duration and with insufficient control groups. Several authors point out that prevention is both more efficient and effective than the treatments of burnout (Back et al., 2016; Dyrbye & Shanafelt, 2016; Raj, 2016). The prevention of
burnout at the individual level needs to strengthen a person’s skills as related to strain and stress management negating the need to treat the secondary symptoms of burnout in their physical or mental health (Dyrbye et al., 2017; Sapolsky, 2004). The focus then changes from mental “illness” to the development and strengthening of mental “health.” Chaukos et al. (2017) report that their research on medical residents shows that the most valuable skills to develop are mindfulness and coping skills. They define coping skills as self-awareness of your physical/emotional/mental body, stress management, relaxation skills, cognitively working with negative thoughts, and communication skills (Chaukos et al., 2017). Wild et al. (2014) report that relaxation skills improve “cognitive and emotional burnout stress” (p. 1).

It is also important to note that while treatments are unclear, the recommendations for prevention and treatment of burnout highlight two points that relate to my research area: mindfulness is helpful and shows fair to good results, and group skills vary but are important to both prevention and treatment of burnout. This, combined with organizational change, is necessary to address the burnout syndrome. Organizational interventions would focus on workload issues, control issues, reward and compensation, civility among workers, fairness among a team and organization-wide, and the values of the organization (Maslach & Leiter, 2017).

Several authors point out teachable skills can improve that burnout (Back et al., 2016; Maslash & Leiter, 2017; Van Mol et al., 2015; Wilkinson et al., 2017). Dyrbye & Shanafelt (2016) recommend students and trainees in healthcare professions have treatment and support available to them outside of their educational structures. They state that students need to “obtain treatment for mental or emotional concerns” (Dyrbye & Shanafelt, 2016, p. 141). Education is vital in the development of the complex coping skills needed in a rapidly changing work environment with its fluid social dynamics (Maslash & Leiter, 2017; Van Mol et al., 2015; Williams, Tricomi, Gupta & Janise, 2015).

Mindfulness and group skills are positive traits and protective factors in an individual’s struggle with burnout. Several authors point out the importance of engagement, wellness and resiliency as the counter to burnout and state the importance of organizations engendering these skills in employees (Mckinley et al., 2017; Panagioti et al., 2017; Schrijver et al., 2016; West et al., 2016).
Organizational remediation

To proactively address the potential for burnout in healthcare staff, organizations need to engage their employees actively. Too often, large modern organizations have overlooked the staff dimension of healthcare, focusing instead on efficiency and monetary costs. However, the danger in doing so is to undervalue the human costs. These human costs, initially hidden, end up becoming explicit costs affecting health and effectiveness in a variety of ways. As we have seen, decreases in staff commitment result in increased healthcare costs (Portoghese et al., 2014; Swensen & Emlet 2015).

Additionally, increased symptoms of burnout are associated with decreases in patient safety and quality of care and increases in healthcare costs (Shanafelt & Noseworthy, 2017; Van Bogaert et al., 2014). Healthcare is a human endeavour, and as such, organizations need to consider the human needs of healthcare professionals to encourage engagement and enhance effectiveness (Epstein & Privitera, 2016; Hakanen, Schaufeli & Ahola, 2008; Swensen & Shanafelt, 2017). Human limitations, social needs and organizational vision matter and need to be addressed (Epstein & Privitera, 2016).

Maslach & Leiter (2017) highlight the social environment in both the development and the prevention and treatment of burnout, emphasizing the importance of “civil, respectful social encounters” (p. 160). They note that civility is a trainable skill. As a method to understand and arrest burnout, Maslach & Leiter (2017) propose that healthcare organizations engage in the following:

- Know the problem: Get educated about what burnout is and what to do about it.
- Enhancing team perspective: Developing skills to work well with others.
- Build a culture of appreciation: Giving and receiving recognition.
- Realistic recovery: Strategies and support for restoring energy. (p. 160)

There is overwhelming support in the literature for a multilayered approach considering organizational change, individual training and healthcare student education to preventing and addressing burnout in the workplace (Back et al., 2016; Dyrbye & Shanafelt, 2016; Epstein & Privitera, 2016; McKinley et al., 2017; Panagioti et al., 2017; Schrijver et al., 2016; Williams et al., 2015). The research literature shows that it is an educational and organizational responsibility to do something now to meet current and
future demands for healthcare professionals (Haramati, Cotton, Padmore, Wald & Weissinger, 2017). Ahola et al. (2017) conclude that organizations need to methodically approach the remediation of burnout and burnout, causing factors in their organizations. Maslach & Leiter (2017) recommend that “specifically, the effectiveness of both the academic content and supervised practice would be enhanced by giving a greater emphasis to the social dynamics of healthcare teams” (p. 160).

2.2.3. Models of burnout

Various models of burnout have been proposed. I review the three most dominant models: the conservation of resources model, the jobs demand–resources model and the areas of worklife model.

**Conservation of Resources Model**

The Conservation of Resources (COR) model is a theory of stress within which individuals are primarily motivated to stop the loss of resources (objects, conditions, personal characteristics and energies) or gain resources to minimize potential loss (Hobfoll, 1989; Hobfoll & Freedy 1993). “COR theory is a basic motivational theory, and it is postulated that when this basic motivation [loss minimization] is threatened or denied stress ensues” (Hobfoll & Freedy, 1993, pp. 115-116). Resources include objects (material items), conditions (employment, stable leadership, social relationships), personal characteristics (skills, quality of health, individual traits) and energies (health, time, money) (Hobfoll & Freedy, 1993; Prapanjaroensoin, Patrician & Vance, 2017).

As a motivationally based psychological theory, it proposes that individual’s experience stress when their resources are drained or when workplace demands overwhelm them. COR suggests interventions that enhance an individual’s control of their work situations. “COR theory suggests that intervention should be based on enhancing resources and eliminating vulnerability to resource loss” (Hobfoll & Freedy, 1993, p. 125). Investigations from Park, Jacob, Wagner & Baiden (2014) and Prapanjaroensoin, Patrician & Vance (2017) support the COR model’s basic premise by showing a strong relationship between loss of job control and increasing depersonalization (cynicism) and personal accomplishment (inefficacy).
While the COR model is reflected in the symptoms of burnout, it provides limited mechanisms for the individual. A potential problem is the way it focuses on organizational concepts (i.e. job control), not on the actual strain/stress reaction in the individual. In this example, while job control does improve a healthcare professional's overall stress level, this is an organizational perspective. Most healthcare professionals do not have the ability to increase/decrease their job control.

**Job Demands-Resources Model**

The Job Demands–Resources (JD-R) model (Demerouti, Bakker, Nachreiner & Schaufeli, 2001) redefines the burnout syndrome with the intent to make it more accurate and to broaden the definition to all types of workplaces and work situations. Developed in response to problems with defining burnout as related to human services professions, it focuses on the exhaustion and depersonalization aspect of burnout. It characterizes exhaustion as including fatigue, the stress reaction, as well as the components of emotional exhaustion. Depersonalization is viewed as a “specific kind of withdrawal or mental distancing from recipients, which in other jobs may manifest itself as alienation, disengagement or cynicism” (Demerouti, Bakker, Nachreiner & Schaufeli, 2001, p. 500). JD-R is seen as a mechanism that individuals use to protect against job stressors. The concept of inefficacy is not seen as a “core” component of burnout and not correlated with exhaustion and depersonalization (Demerouti, Bakker, Nachreiner & Schaufeli, 2001).

Stress is seen as a “disruption of the equilibrium of the cognitive-emotional - environmental system by external factors (Demerouti, Bakker, Nachreiner & Schaufeli, 2001, p. 501). The term ‘stressors’ is used in a negative sense only. The JD-R model is based on two interacting but different processes related to job demands and job resources. Job demands are “those physical, social or organizational aspects of the job that requires sustained physical or mental effort and are therefore associated with certain physiological and psychological costs (e.g. exhaustion)” (Demerouti, Bakker, Nachreiner & Schaufeli, 2001, p. 501). The individual attempts to manage these demands through conscious efforts and by sympathetic nervous system activation. The effect of this is fatigue and, eventually, exhaustion.

Work engagement is a psychological state that mediates the impact of job resources and personal resources on organizational outcomes (Schaufeli & Bakker,
“Stressors or demands are related more to exhaustion because they lead to the development of fatigue. Job resources are linked more to disengagement (or alternatively, engagement) because they facilitate the use of effective coping skills and subsequently promote good health” (Park, Jacob, Wagner & Baiden, 2014 p. 609).

The JD-R model provides a good background for understanding the individual’s response to strain and the development of the stress response. The model focuses on how external forces produce strain/stress and how external forces can be used to manage stress. It uses job resources as motivation, providing effects that activate engagement. The JD-R fits well with the Areas of Worklife (AoW) model discussed below in that if the individual is able to access sufficient resources, their dedication and vitality increase, thereby decreasing stress and burnout. These resources are identified by the AoW.

While the JD-R focuses on the costs related to producing work and the benefits derived from work (Hakanen & Roodt, 2010), it supplies no regulatory mechanism besides a cost/benefit analysis. While this is useful, it is also not typically how people respond. This is especially true in periods of high-stress response when an individual’s emotional and mental reaction changes due to the nature of the stress response. Without a self-regulatory or co-regulatory mechanism, the individual may not identify the resources they require for vitality and, thereby, engagement.

Areas of worklife model

The Areas of Worklife (AoW) model was developed by Maslach & Leiter (2017) and attempted to “recognize that both the person and the organization have a role to play in improving the workplace and people’s performance with in it” (p. 161). It is a job-person-fit model that looks at six areas of worklife in an attempt better to match the person to the requirements of the job. Maslach & Leiter (2016) argue that imbalance or fit between the individual, the job and the organization is most predictive of where the person will fall on the burnout/engagement continuum. They describe six “Areas of Worklife” (see Figure 2.3) to consider when assessing the needs of the individual to the organization’s needs: manageability of one’s workload, ability to control decisions in one’s worklife, reward and recognition of one’s work, higher quality civil relationships and community, fairness in the workplace environment, and an alignment of values between the organization and individual (Maslach & Leiter, 2017, p. 161-62). Many studies
endorse Maslach and Leiter’s AoW framework as a useful approach to the issue of burnout, especially on the organizational level (Back et al., 2016; Epstein & Privitera, 2016; Portoghese et al., 2014; Shanafelt & Noseworthy, 2017).

The strength of the areas of worklife model lies in the way it focuses on burnout prevention and treatment as the responsibility of both the individual and the organization. It provides organizational categories (the six areas of worklife) that can be used to assess burnout producing problems. This allows for each situation to be evaluated uniquely with interventions specific to that situation. In addition, “any of the six AW [areas of worklife] have a potential role to play in preventing burnout” but only with the active participation of both the individual professionals and the organizational leadership (Maslach & Leiter, 2017, p. 163).

2.2.4. The polyvagal theory

Stress

To understand stress, occupational stress and burnout, it is useful to look at what is meant by stress. Dewe, O’Driscoll & Cooper (2012) point out there have been varying definitions of stress over time, which often reflect the dominant paradigm at the time or needs of theorists and researchers. Departing from a stimulus-response model, they note that current definitions of stress reflect a more sophisticated understanding of the
ways stress affects the individual through the interaction with the environment. The transactional model of stress first articulated by Holroyd & Lazarus (1982) notes that stress arises from this interaction between the individual and their environment where the interaction is “interpreted” as a potential threat by the individual. This threat induced stress response relies on the individual’s interpretation and, therefore, greatly depends on the individual’s assessment of the situation. Dewe, O’Driscoll & Cooper (2012) state, “capturing the meaning individuals give to stressful encounters cannot, of course, be separated from measurement” (p. 36).

Meaning places stress not only within the realm of physiological response but also within the realm of the individual’s complex psychological makeup. An individual’s psychological functioning influences a variety of factors, including their personal history, the social context within which they find themselves, and the environment. The environment is influenced by our societal dynamics.

Occupational stress can be understood as stress within the context of an individual’s occupation or work environment. Burnout, as I have defined it, then arises from three potential and interconnecting sources: the person’s intrapsychic experience, their interpersonal social context and the organizational environment in which they are working. By adopting this perspective, we see the causes of burnout and its prevention and treatment in a new light. We can view models of the production of burnout as explaining how these various perspectives influence an individual’s increasing strain leading to a stress response. Repeated or long-term exposure to these influences creates a condition of heightened or chronic stress response leading to exhaustion and the corresponding effects of the burnout syndrome.

The individual’s psychological interpretations influence their physiology as it occurs within the complex interconnected context of the individual, the group and the environment. Any of these contexts can be both stress-inducing or stress relieving. For example, when considering the interpersonal context, it can be stress-inducing (i.e. poor interpersonal communication, bullying) or stress-relieving (i.e. supportive interpersonal team, friendly check-ins). The causes of burnout can be viewed from the context of an individual’s functioning, their and their team’s interpersonal functioning, organizational functioning and goals, and societal demands (Demerouti et al., 2001; Maslach & Leiter, 2017; Schrijver, Brady & Trockel, 2016).
Workplace models emphasize different aspects of the individual's intra-psyche functioning, interpersonal functioning and organizational functioning. Schrijver, Brady & Trockel (2016) use the term “wellness”, which means “not just the absence of distress or illness but also emotional well-being, physical health, and social relationships” (p. 3). They acknowledge the importance of cultivating resilience; however, they do not theorize the relationship between well-being and resilience except to say they are both “important components of effective burnout prevention” (p. 15). Wellness is characterized as an umbrella term that encompasses resiliency, institutional culture and expectations, as well as “work motivation, fulfillment and quality” (Schrijver, Brady & Trockel, 2016, p. 15).

Eley et al. (2013) state, “The well-being of physicians is crucial for their professional effectiveness as well as for the resilience of their own health and happiness” (p. 2). They note that resilience is a "process of adaptation and stress management" (p. 2), a key determinant of health, and a series of coping mechanisms. They note the importance of resilience in responding to the complex healthcare environments within which healthcare professionals are practicing. Their study highlights the dynamic nature of resiliency, which affects the individual's personality traits, learning and environment (p. 3). They conclude that the personality traits associated with resiliency are "high levels of self-directedness, cooperativeness, and persistent, low levels of harm avoidance " (p. 8). Low levels of harm avoidance indicate an ability to accept risk without excessive worry and anxiety. They posit resiliency as a series of personality traits that enhance through the development of specific coping mechanisms and which is a vital component of overall wellness. They point out that wellness in the workplace is “negatively affected by resource issues, suboptimal communication, perceived limited autonomy in the practice environment, a feeling of not belonging, and a lack of visible appreciation” (p. 14).

The polyvagal theory

affect the individual and the importance of both self-regulation and co-regulation through others.

The autonomic nervous system consists primarily of the SNS and PNS, which typically regulates a variety of involuntary functions related to heart rate, breathing, digestion and sexual arousal. They also mediate the individual's response to stress. As discussed above, the SNS mobilizes the body's arousal providing energy to meet perceived strains and stress. The PNS is mainly responsible for rest, repair and growth. Dana (2018) states, “The autonomic nervous system responds to the challenges of daily life by telling us not what we are or who we are but how we are” (p. xvii).

The Polyvagal Theory states that the vagal nerve pathways of the PNS play two very different role functions related to our evolutionary development (see Figure 2.4). These are two response pathways; one myelinated with greater specificity and speed and one unmyelinated, which responds during life-threatening situations. Porges (2018) states the myelinated ventral vagal pathway is primarily associated with the organs above the diaphragm, including the heart and lungs. In addition, it also regulates the striated muscles of the head, face, larynx and middle ear.

The unmyelinated dorsal vagal pathway also regulates the heart and lungs and the organs below the diaphragm (Porges, 2018). This unmyelinated dorsal vagal pathway is related to a more primitive defence response modulated by the PNS, which is commonly described as the “freeze response”.

One autonomic nervous system function is to assess stress and risk, providing three possible patterns of response (see Figure 2.5). First is a social engagement system (named socially engaged) whereby the ventral vagal pathway of the PNS down-regulates the SNS allowing for social interactions when safety is perceived. The systems of defence are restrained, supporting calmness, social interactions, social play and safe intimacy (Porges, 2018, p.54). The social engagement system allows humans to co-regulate each other by supporting calmness and social interaction (Porges, 2018, p. 54). As van der Kolk (2014) states in Porges’ (2014) book:

Thus, the mammalian myelinated vagus functions as “an active vagal brake that supports rapid behavioral mobilization, as well as the capacity to physiologically stabilize an individual by means of interoceptive visceral awareness, as well as social interaction.” According to Porges, this
evolutionary development allows social interactions to stabilize physiological arousal by means of facial expressions, speech and prosody. When the environment is appraised as being safe, the defensive limbic structures are inhibited. This makes it possible to be socially engaged with calm visceral states. (p. 132)

![Vagal pathways diagram]

**Figure 2.4** Myelinated and unmyelinated vagal pathways
*Note. Adapted from Porges, 2011*

This social engagement network allows individuals to support each other in interpersonal environments perceived as ‘safe’. This is determined by interpersonal environments where individuals mutually exchange the facial expressions, speech and prosody of safety and calmness. As van der Kolk states, “we continue to depend on each other for safety, security, predictability, and meaning. We are social creatures through and through (van der Kolk, 2018, p. 30).

The second pattern of response (named mobilization) is the SNS response described earlier. This SNS response engages the SAM and HPA systems for increased mobilization of immediate energy in the body for action.

The third pattern of response (named immobilized) involves the dorsal vagal pathway of the PNS. Here the dorsal vagal pathway responds to the perception of extreme or life-threatening danger with “immobilization, death feigning and passive avoidance” (Porges, 2007, p. 120). The body freezes.
The autonomic nervous system is assumed to be phylogenetically hierarchical, meaning the newer response strategies activate first (Porges, 2007). If successful, this mediates the need for the other responses. When an individual’s body responds to strain and stress without conscious self-regulation and co-regulation, it initiates a defensive reaction related to ‘flight or fight’ or ‘immobilization’.

The polyvagal theory explains the prosocial and defensive behaviours of people from a detailed neurobehavioural perspective. It describes how we assess risk in our environments and predicts our body’s responses, primarily as related to the assessment of safe and unsafe interpersonal environments. This points to a critical element of burnout developing through exhaustion. Developing safe interpersonal environments acts to co-regulate the members of that environment, allowing for the down-regulation of the SNS for improved social and shared task interactions. This allows for the rest and restoration of the body’s resources. When the environment is perceived as unsafe, the defensive SNS response complicates interpersonal interactions. The person experiencing a SNS response of flight or fight sees others as unsafe and responds accordingly. The other or others also perceive this and may begin their own
corresponding SNS response. This dangerous interpersonal environment can be considered a key element in the development of burnout. The individual struggles with the overuse of their body's demand for high levels of energy due to the activation of the SAM and HPA systems. This may lead to exhaustion and the other characteristics of burnout.

2.2.5. Mindfulness meditation

Mindfulness is a central aspect of the phenomenon that I am studying and has been described as a state, a trait and a practice that influence each other (Jamieson & Tuckey, 2017; Sutcliffe et al., 2016). State mindfulness refers to a person engaging in the act of mindfulness, while trait mindfulness is related to how often and with what intensity a person engages in mindfulness. The practice of mindfulness comprises the activities which a person uses to develop mindfulness.

I am using a particular conception of mindfulness, namely Kabat-Zinn’s definition, as I situate my work within the contemporary, empirical paradigm of health and wellbeing, which primarily uses this definition. Brito (2014) notes Kabat-Zinn’s role in providing “the scientific foundation for empirical research” (p. 355). In healthcare research on mindfulness, Kabat-Zinn’s definition of mindfulness is overwhelmingly used as the basis for comparison. A majority of the studies use Mindfulness Based Stress Reduction, developed by Kabat-Zinn, as the significant variable or Mindfulness Based Cognitive therapy, which also uses Kabat-Zinn’s definition of mindfulness.

It is important to note that there are other conceptions of mindfulness. Shaw (2020) notes the foundational role mindfulness plays in Buddhist dharma, Buddhist psychology and western psychological formulations. Sutcliffe et al. (2016) make a careful review of the definitions of mindfulness in organizational psychology and note that “mindfulness does not have a single, universally accepted definition” (p. 57). This debate concerning the definition of mindfulness leads to increased ambiguity in mindfulness research places a limitation on the interpretation of results. However, Sutcliffe et al. (2016) also conclude that “definitions of individual mindfulness are more convergent than divergent” (p. 57).
Definition of mindfulness

Kabat-Zinn (1994) defines state mindfulness as “a quality of consciousness or awareness that arises through intentionally attending to the present moment experience in a nonjudgmental and accepting way” (p. 2). Mindfulness can be viewed as a human quality (i.e. awareness) that is developed and encouraged by mindfulness meditation. However, some view mindfulness as an integral human state uncovered by mindfulness meditation (Jamieson & Tuckey, 2017) or as Brito (2014) notes an attentional state versus a mode of being. Roeser and Eccles (2015) note that mindfulness is a skill that involves both “the self-regulation of attention… and an orientation toward experience in the present moment” (p. 2).

Kabat-Zinn’s definition is used consistently in studies on the outcomes of mindfulness on burnout in healthcare professionals. It views mindfulness meditation as a highly trainable skill that requires systematic practice and ongoing discipline to produce lasting effects (traits) of mindfulness in a person’s life. Systematic practise usually consists of daily meditation practice for a set time (10 minutes or more) whereby the practitioner sits in a prescribed manner call the form (i.e. upright, relaxed, open chested). Discipline consists of two aspects: the discipline of practicing meditation regularly and the discipline of engaging the instructions of meditation (i.e. attending to the outbreath, focusing on a candle).

Trait mindfulness needs time and regular practice to develop. As Trungpa and Gimian (2016) note, “to benefit from meditation, you need more than a taste of it. You need to train yourself over a period of time” (p. 5). Goleman and Davidson (2017) note that the concentration, awareness of the present moment and emotional stability, which first develop through mindfulness meditation, “gradually spills over into everyday life” (p.89). Buddhist meditation instruction typically involves a practice of two main parts: mindfulness/calm abiding meditation known as samatha (Pāli) and awareness/clear seeing meditation known as vipassanā (Pāli) (Ferguson, 2018; Thanissaro, 2011). Research generally focuses on samatha meditation as seen in Shapiro, Brown & Astin (2011) who note that mindfulness meditation involves witnessing events and experiences with focused non-analytical attention, a conscious openness and attention to the present moment, and an acceptance of thoughts and feelings that arise in the present moment (pp. 7-8).
In mindfulness meditation studies, measurements often involve either psychological health self-report measures (i.e. Maslach Burnout Inventory, Mindful Attention Awareness Scale) or physical health measures that note changes in the physiological functioning of the individual (i.e. cortisol levels, hypertension). In correlating the response of burnout symptoms to mindfulness meditation, Goodman & Schorling (2012) note a typical manner in which these studies proceed. First, participants are given the MBI, and then mindfulness meditation is taught. This is a defined form of mindfulness meditation, usually Mindfulness Based Stress Reduction (MBSR), which was developed by Kabat-Zinn. MBSR is then practiced for a period (8 weeks in most cases), and then individual participants are retested using the Maslach Burnout Inventory. Researchers then correlate the changes in burnout symptoms to mindfulness meditation if all other variables remain stable. Causation is more challenging to establish.

Recent studies show that the practice of mindfulness meditation reduces stress, increases present moment awareness, increases self-control and increases emotional stability (Goleman & Davidson, 2017; Sahdra et al., 2011; Taylor et al., 2011). It appears that the amygdala, part of the brain circuitry determining if situations are dangerous or safe, is less reactive during periods of mindful attention when participants are shown disturbing images (Goleman & Davidson, 2017, p. 97). Participants practicing mindful attention were aware of their disturbed emotions related to these images, and this suggests that mindful awareness supports calmness through the acceptance of emotional states.

As we understand from above, individuals who practice mindfulness meditation learn more than just concentration and stress relief. They understand that emotions come and go with increased openness, curiosity and emotional regulation (Jamieson & Tuckey, 2017; Sutcliffe et al., 2016). Individuals learn to embrace their feelings while limiting their reactivity, and this allows for improved executive functioning, including problem-solving (Goleman & Davidson, 2017, p. 97). This way of engaging and inhabiting the fullness of our emotional self reduces the struggle in our experience of events.
Origins of mindfulness meditation

Mindfulness meditation is an essential practice and concept in the Buddhist religious tradition developed during the 5th century B.C.E. (Lomas, 2017). The Satipatthana sutta is a foundational text reflecting the words of the Buddha describing the practice of meditation to develop mindfulness (Hanh, 1990; Hanh, 2015; Thanissaro, 2018). The sutta provides instructions for the development and practice of mindfulness meditation focusing on the body, feelings, mind and mental qualities (Thanissaro, 2018, p. 1). As a foundational text, it is a central step on the Buddhist path towards the cessation of suffering. As Thannissaro (2018) notes, “The activity of satipatthana, however, definitely has a motivating agenda: the desire for awakening, which is classed not as a cause of suffering, but as part of the path to its ending” (p.1).

“Satipatthana plays a role in many formulations of the path to awakening. In the noble eightfold path, it is the seventh factor, following on right effort and leading to right concentration” (Thannissaro, 2018, p. 1). The ultimate goal is the awakened state of mind (Trungpa, 2010). It is precisely that this awakened state of mind that releases us from existential suffering (Dukkha). This kind of suffering is a part of what healthcare professionals aim towards in the context of health. The lessening of suffering is of great interest to health provision both for the health of patients and for the wellbeing of providers.

As Wilson (2018) states, “Buddhism provides resources for scientists, doctors, psychologists, and self-help authors, who extract from it practices and ideas that can be subjected to scientific testing” (p. 65). Buddhist concepts have been used by researchers for health improvement using scientifically understandable and testable approaches. “Investigating science and Buddhism’s convergences and divergences on health sheds light on the relationship between the two fields, which are not monolithic unchanging entities” (Cheung, 2016, p. 6). It is important to note that this approach has been successfully used in the adoption of mindfulness meditation, producing an ever increasing robust body of scientific knowledge (Gu, Strauss, Bond & Cavanagh, 2015; Gyatso, 2005; Williams & Kabat-Zinn, 2011). Samuel (2014) states, “that genuine progress is most likely to come if we recognize the differences between Buddhist thought and contemporary science, and take them as an opportunity to rethink scientific assumptions” (p. 1).
Mindfulness, as practiced within the context of health and wellbeing promotion, provides an example of how to integrate some Buddhist contemplative practices within the western scientific paradigm. Mindfulness is acknowledged as Buddhist in origin and as having ongoing religious connections, including a spiritual dimension for many users. Scientific research on mindfulness meditation has taken the elements of a traditional Buddhist practice and reduced it to components that are then used to define it. Gu, Strauss, Bond & Cavanagh (2015) note that one must “operationally define” the experience and then “integrate the essence” into “contemporary psychological practice in order to improve psychological functioning and well-being” (p. 2). Once the phenomenon has been objectively defined, it can then be measured.

**Mindfulness and burnout**

Mindfulness appears a highly researched intervention to burnout. Many studies explore the effects of Mindfulness Based Stress Reduction (MBSR) training, a structured eight-week course that involves educational, experiential, and discussion-based components. Several studies highlight the effectiveness of training staff in mindfulness-based programs (dos Santos et al., 2016; Khoury, Sharma, Rush & Fournier, 2015; Montero-Marin et al., 2015; Regehr, Glancy, Pitts & LeBlanc, 2014; Smith, 2014; West et al., 2016).

However, in its health context, mindfulness meditation has been shown to evoke the relaxation response, is used for stress management and increases in focus and concentration (Cardoso, de Souza and Camano, 2009; Foureur et al., 2013; Goyal et al., 2014; Towbridge & Lawson, 2016). Mindfulness is helpful both as a practice, which develops self-awareness and concentration and, in effect, as an individual becomes aware in a sustained way of what is happening inside themselves, in relation to others and in the environment when in an interpersonal social context. “The basic pattern of mindfulness practice remains throughout: being in the present, knowing what is happening, and proceeding accordingly” (Analayo, 2018, p. 2). This use of mindfulness, noting what arises in oneself, in others and in the environment, plays an important role in mindfulness meditation.

A careful and systematic review of the literature (see Figure 2.6) on mindfulness meditation as an intervention to prevent and or treat burnout in healthcare professionals shows that there is moderate to strong evidence that mindfulness meditation is helpful
when addressing burnout (see Table 2.2). Overall, the studies reviewed were systematic reviews or systematic reviews with meta-analysis following well-established protocols and were presented clearly and with transparency as to methods. Sample

sizes were large, though all studies recommended further research involving randomized controlled trials with larger sample sizes and more rigorous use of control groups.

Mindfulness has a moderate to strong effect in reducing stress in individuals, increasing self-awareness and concentration in individuals (Lomas et al., 2018; Luken &
Sammons, 2016; West et al., 2016) and a moderate effect increasing an individual's ability to emotionally regulate (Jackson-Koku & Grime, 2019; Lamothe et al., 2016).
<table>
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<tr>
<th>Citation</th>
<th>Design</th>
<th>Treatment strategies</th>
<th>Study population</th>
<th>Number of studies</th>
<th>N#</th>
<th>Primary Results</th>
<th>Analysis</th>
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<tbody>
<tr>
<td><strong>Interventions to prevent and reduce physician burnout: a systematic review and meta-analysis (2016)</strong> West et al.</td>
<td>Systematic review with meta-analysis–The Lancet</td>
<td>Any intervention</td>
<td>Physicians</td>
<td>15 RTC studies and 37 observational studies</td>
<td>2914</td>
<td>• Strong evidence for both individual and organizational strategies. &lt;br&gt; • All studies reported a significant reduction in emotional exhaustion and depersonalization. &lt;br&gt; • Report a combination strategy of mindfulness, stress management and group discussion may be effective.</td>
<td>It is noted that no intervention appears ‘better’ than another due to the nature of the available studies.</td>
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<tr>
<td><strong>A systematic review of the impact of mindfulness on the well-being of healthcare professionals (2018)</strong> Lomas et al.</td>
<td>Systematic review–The Journal of Clinical Psychology</td>
<td>Mindfulness-based interventions</td>
<td>Healthcare professionals</td>
<td>81 studies</td>
<td>3805</td>
<td>• A strong significant effect reducing stress, &lt;br&gt; • A moderate effect reducing anxiety and depression &lt;br&gt; • A small effect in reducing burnout. &lt;br&gt; • The results relating to burnout were equivocal. &lt;br&gt; • The effects were similar across professions.</td>
<td>There appears to be a need for large scale RCTs addressing stress, anxiety, depression, burnout and wellbeing.</td>
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<td>Citation</td>
<td>Design</td>
<td>Treatment strategies</td>
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<td>Emotion regulation and burnout in doctors: a systematic review (2019),</td>
<td>Systematic review–Occupational</td>
<td>Emotional regulation interventions</td>
<td>Physicians</td>
<td>14 studies</td>
<td>4708</td>
<td>• A strong inverse correlation between emotional regulation and burnout.</td>
<td>Overall, the studies are of good quality and methodologically sound.</td>
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<td>Jackson-Koku &amp; Grime</td>
<td>Medicine</td>
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<td></td>
<td>including RCTs</td>
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<td>• Mindfulness was the most robust intervention to improve emotional regulation.</td>
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<td></td>
<td>and other</td>
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<td>• Self-regulation was determined to be a taught practice.</td>
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<td>quantitative</td>
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<td>Road to resilience: a systematic review and meta-analysis of resilience</td>
<td>Systematic review with meta-</td>
<td>Measurable resilience improving</td>
<td>General workforce</td>
<td>17 studies</td>
<td>5651</td>
<td>• A strong positive effect on resiliency due to mindfulness or CBT interventions.</td>
<td>Overall, this study is unique in that it focuses on measurable scales of resilience though they are</td>
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<td>training programmes and interventions (2018) Joyce et al.</td>
<td>analysis–BMJ Open</td>
<td>interventions</td>
<td>but highlighting results to medical providers and first responders</td>
<td>with 11 RCTs</td>
<td></td>
<td>• Both are trainable skills that have a positive effect on stress management.</td>
<td>mostly self-report. Studies are of fair to good quality.</td>
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• Mindfulness-based interventions significantly reduce stress and stress-related symptoms. | Studies were of fair to good quality. The studies did not specifically focus on performance but on the reduction of stress, anxiety and depression. |
| Brief mindfulness practices for healthcare providers—a systematic literature review (2017) Gilmartin et al. | Brief mindfulness interventions                                        | Nurses, physicians, student nurses, or medical trainees | 14 studies with 7 RCTs            |                   |     | • Positive results reducing both stress and anxiety for brief training interventions.  
• The focus on brief interventions was both financial and time-related and suggested that these were more important than the type of intervention. | While results were positive for stress and anxiety, they varied when considering burnout and resiliency. |
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| Outcomes of MBSR or MBSR-based interventions in health care providers: A systematic review with a focus on empathy and emotional competencies (2016) Lamothe et al. | Systematic review - Complementary Therapies in Medicine | Mindfulness-based stress reduction         | Healthcare professional and related students | 39 quantitative studies including 14 RCTs | 2378 | • Strong effects in overall improvements to mental health with no counterintuitive results.  
  • MBSR appears to improve the identification of feelings in self and others and acceptance of these feelings. | Studies appear to measure various aspects of emotional regulation focusing on empathy |
  • All MBIs reduce stress, not just MBSR interventions.                | A careful look at high-quality studies. However, there continues to be a need for larger, more rigorous RCTs. |
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<th>Citation</th>
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<th>Treatment strategies</th>
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<tr>
<td>Systematic review of mindfulness practice for reducing job burnout (2016), Luken &amp; Sammons</td>
<td>Systematic review - The American Journal of Occupational Therapy</td>
<td>Mindfulness-based interventions</td>
<td>Healthcare professional and teachers</td>
<td>8 RCT studies</td>
<td></td>
<td>• Strong evidence for mindfulness-based interventions reducing burnout in HCPs.</td>
<td>Fair to good quality studies with an unknown number of participants. No follow-up information provided.</td>
</tr>
<tr>
<td>Mindfulness-based interventions with social workers and the potential for enhanced patient-centered care: A systematic review of the literature (2016) Trowbridge &amp; Lawson</td>
<td>Systematic review--Social Work in Health Care</td>
<td>Mindfulness-based interventions</td>
<td>Social workers</td>
<td>10 studies including qualitative studies, RCTs, surveys and pre/post studies</td>
<td>494</td>
<td>• Low quality evidence for mindfulness-based interventions in social workers.</td>
<td>Few studies were able to meet the selection criteria, and those that did were of low quality. Conclusions are of limited value.</td>
</tr>
</tbody>
</table>
Mindfulness meditation reduces anxiety, reduces the symptoms of depression and improves an individual's overall resiliency (Gilmartin et al., 2017; Guillaumie et al., 2017; Joyce et al., 2018; Lomas et al., 2018; Shanafelt & Noseworthy; 2017). Mindfulness has a strong effect on stress, which may indicate that it has a greater use for the prevention of burnout than the treatment of burnout (Luken & Sammons, 2016; Lomas et al. 2017). Guillaumie et al. (2017) state that mindfulness improves communications with patients and colleagues, helps individuals feel calmer and has a positive effect on team dynamics. Burton et al. (2017) note that there is a significant reduction in stress in individuals from all forms of mindfulness-based interventions, not just MBSR. Lamothe et al. (2016) found an increase in an individual's ability to identify their feelings as well as an increased ability to identify the feelings of others.

Additionally, they found that mindfulness meditation increased an individual's acceptance of their feelings. Both of these findings show mindfulness meditation's ability to improve emotional regulation. These results are consistent throughout all healthcare professional populations (Burton et al., 2017). Shapiro, Brown & Astin (2011) note that training in meditation would have immediate benefits to students and the stresses they encounter.

Systematic review mindfulness meditation

- Highly researched intervention for the prevention and treatment of burnout.
- Moderate to strong evidence that mindfulness meditation is helpful when addressing burnout.
- Reduces anxiety, depression and improves overall resiliency.
- Strong stress reducing effect.
- Improves communications with patients and colleagues.
- Increased ability to identify feelings of self and others.

Figure 2.7 Summary of systematic review of mindfulness meditation
2.2.6. Group work

Humans are inherently social creatures that spend large portions of their lives interacting in a group context. This includes but is not limited to familial interactions, social interactions, play interactions and work. Surprisingly, despite what we know about the causes of strain, stress and burnout in work situations, there is little research on what is a ‘good’ group and what are the effects that lead to ‘good’ group work. As posited by the polyvagal theory, interpersonal interactions can have a positive co-regulating impact on the individuals producing calm and supporting social engagement. The literature review shows a paucity of research on group functioning, the elements of a good group and its effects on burnout. Since no models of ‘good’ group exist within the context of burnout and healthcare, I use a group therapy model to highlight ways of thinking about a group and group trained interpersonal skills, principles to manage a group to the best effect and the benefits of doing so.

To focus this study, I will limit my investigation to psychodynamic group theory versus a comprehensive review of all group theory. There are several reasons for doing so that relate to the interpersonal dynamics that are at the core of this research. Psychodynamic group theory applies to the research topic as much of it focuses on the interpersonal group dynamics and skills, especially when considering the broader category of group theory. As noted, the healthcare professional work group is affected by the interpersonal dynamics, especially as related to strain and stress. Polyvagal theory (Porges, 2011) clarifies the importance of group dynamics in the co-regulation of strain and stress in small team groups. The understanding and application of psychodynamic group theory emphasizes the interpersonal group environment that in work teams regulates burnout. This is not to say that work groups, which have an exogenous goal, would have the same goal as a psychotherapeutic group. I am culling the elements related to good interpersonal functioning from psychodynamic group theory to apply them to the healthcare professional work group. It is important to note that work groups have different goals that are determined by the organization as well as hierarchies of power that influence what can and cannot be said. These constraints influence this entire work and are elaborated upon in Chapter 5. Psychodynamic group theory does offer major considerations to the leadership of the healthcare professional work group that this research attempts to underscore and incorporate.
The expertise of the interviewee group lay with interpersonal interactions that are prevalent in psychodynamic groups and that are inclusive of other skills derived from different types of groups. They are, at times, supportive and educational while allowing for more flexibility in the interactions. This differs from other types of groups, such as peer groups or psychoeducational groups, where the focus is on just support or education. The systematic review searched terms related to all aspects of group including but not limited to group process, group skills, group interventions, group leadership, etc. (see Appendix H).

This section looks at the origins of group theory, the benefit of group work from a group therapy perspective and the outcomes of a systematic review of the research evidence on group in the prevention and treatment of burnout in healthcare professionals.

**Origins of group theory**

Writings on group therapy within a western therapeutic tradition start during 1895 with the works of Gustav LeBon and his formulation of the “group mind” (Rutan, Stone & Shay, 2014). LeBon observed “the ways groups influence individuals potentially degrading their civilized behaviours” (Rutan, Stone & Shay, 2014, p. 9). Another European, William McDougall theorized the positive potential of groups on individuals balancing LeBon’s formulations (Rutan, Stone & Shay, 2014). Freud (1955), in “Group Psychology & the Analysis of the Ego”, theorizes on the ways groups impact the individual and offers an implicit endorsement of the potential of groups to have a positive influence on the individual's development (Frosh, 2016, p. xxiii). Meanwhile, several authors in the U.S.A., Pratt, Lazell and Marsh, Moreno and Slavson, developed parallel theories on group therapy during the early decades of the 1900s (Rosenthal, 1994, Rutan, Stone & Shay, 2014).

The development of group therapy and theory rapidly increased after World War II as the number of psychologically damaged people overwhelmed mental health systems (Rosenthal, 1994). Group therapy was increasingly seen and theorized as a viable modality for the efficient treatment of multiple individuals (Rosenthal, 1994; Schlapobersky, 2016). In addition, group therapy was not just seen as an enhancement of individual therapy but as adding benefits outside the scope of individual therapy.
Definition

Group therapy runs the gauntlet from support groups to psychoeducational groups to hybrid groups to process-oriented groups. Psychodynamic groups are a form of group psychotherapy wherein the group members engage in spontaneous interpersonal interactions facilitated by a group leader towards the explicitly stated goals of the group. This form of group work can take a variety of theoretically well-established forms: analytic group therapy, group analysis, interpersonal group psychotherapy, modern analytic group therapy, systems-centred group therapy and relational group therapy (Rutan, Stone and Shay, 2014). The purpose of the group is manifold. It is a unique space that allows members to examine and try to understand what is happening inside themselves (intrapsychic), in their interactions with others (interpersonal) and in the ways they affect the group and the group affects them (group-as-a-whole) (Rutan, Stone and Shay, 2014). Often this relates to feelings that arise in situations and needs of the individual and group that can be obscure and complex. The group space becomes the medium where members can dig deeper, learning about their roles, and playing different roles to examine the effects (Ormont, 1992). They can learn from the experiences of others. They can practice, and they can learn the value of kindness and generosity (Alonso & Swiller, 1993).

Group trained interpersonal skills is best defined by Ormont (1992) in his description of the benefits of group therapy:

the group itself, when used effectively, is a vehicle for people to identify and deal with their own emotional blocks and limitations. The successful group member finishes not simply with a superior capacity to relate to others, but also with more inner comfort and with a far better ability to realize his or her own potential...In short, effective group treatment should enable people to make inner adjustments and use themselves effectively on Earth - so that they are better able to love and to work. (pp. 1-2)

Other benefits of group trained interpersonal skills include group members being better able to respond and adapt to changes in their environments, with increased clarity into interpersonal events, increased frustration tolerance, and an improved ability to experience and learn from their emotions rather than acting on them (Bernard et al.,
The mechanisms of change in a group are related to and are a direct consequence of the multiple relationships that the members have with each other and the leader in the context of interpersonal safety. This allows for multiple perspectives on any problem, primarily as related to feelings and their meanings (Ormont, 1992; Rutan, Stone & Shay, 2014; Yalom & Leszcz, 2005; Zeisel, 2011). Members learn through vicarious learning, role flexibility, interpersonal learning and altruism (Bernard et al., 2008, p. 465).

The leader creates and maintains the group space. The goal is to create a safe, working environment within which the members can engage and of which they take responsibility (Bernard et al., 2008; Cohn, 2005; Schlapobersky, 2016). The leader uses the same contract with each group member that is designed to create this safe working group space and incubate the group process towards the group goals (Bernard et al., 2008; Ormont, 1992; Schlapobersky, 2016). This is an active process, and the leader’s job is to hold to this contract with the group’s goals in a kindly manner with gentle discipline. This clarity facilitates the member’s progress, and therefore, the group leader’s “self-awareness and self-care are crucial” (Bernard et al., 2008, p. 496).

The group is a place of resistance to change (Rosenthal, 1994). Members agree to the contract, and then consciously and unconsciously begin to resist certain aspects of it (Ormont, 1992). The contract and resistance to the contract form an essential cornerstone of the group space. The group leader plays a vital role in both the management of these resistances and setting the “tone” of the group. Bernard et al. (2008) report four main aspects of the role of the group leader:

Executive function—This relates primarily to the maintenance of the boundaries of the group.

Caring—This is based on the level of trust in the group and the group leader, how helpful the group is two members regarding the common good, and how the leader sets the emotional tone of the group.

Emotional stimulation—refers to the tension or stimulation level of the group. Groups are fueled by the energy of emotional freedom and hindered when resistances predominate. The group leader attempts to manage the tension in the group for the care growth of the members.

Meaning—attribution—The group leader (and hopefully the members) help the group members understand what is happening intrapsychically, interpersonally and in the group-as-a-whole. (pp. 503-04)
Additionally, each member is a vital part of the whole group, with each member’s success being necessary to the success of the group (Bernard et al., 2008; Nitsun, 1998; Ormont, 1992). This integrative and whole-group approach helps members work with complicated feelings, projective defences and scapegoating.

**Group trained interpersonal skills**

Psychotherapeutic group therapy has some powerful benefits that I am defining as group trained interpersonal skills. Several authors report that members are better able to respond and adapt to changes in their environments, develop increased clarity into events, increased ability for frustration tolerance, improved ability to experience and learn from their emotions rather than acting on them (Bakali, Baldwin & Lorentzen, 2009; Burlingame et al., 2013; Heifetz, 1994; Ormont 1992; Leszcz, 2018). “Group sessions were seen as enabling the expression and understanding of problems such as mistrust, anger, and dependency” (Roth & Fonagy, 2013, p. 12). These benefits mirror what we see in the development of resiliency.

The individual moves through junctures during their time in psychotherapeutic group therapy in which they initially repeat the same behaviours that have been problematic for them in their lives (Ormont, 1992; Rosenthal 1994, Rutan, Stone & Shay, 2014). Sometimes through insight, but more often with the help of the group members, they become aware of themselves engaging in the problematic behaviour in-the-moment. Then, with the help of the group, they can understand why they are participating in this behaviour and what purpose it serves for them. Finally, they can practice gaining control over their behaviour, engaging in behaviours more in line with their values and the situation in the moment (Ormont 1992).

Group therapy is a powerful method of training and treatment that supports the development of resiliency in individuals. As the AGPA Science to Service Task Force on groups reports, one can “recommend [group therapy] with confidence” (Bernard et al., 2008, p. 471). Burlingame, Strauss & Joyce (2013) performed an extensive review of the literature, looking at the efficacy of various forms of group psychotherapy. Their work is a most comprehensive look at group therapy, showing positive and lasting effects, especially with anxiety and mood disorders, stress and anger management, substance use disorders and trauma/Post Traumatic Stress Disorder (Burlingame et al., 2013).
Group therapy has a cascading effect of benefits, including an increase in feelings of support and affiliation with corresponding decreases in feelings of isolation, an increase in feelings of empowerment and resourcefulness all leading to an improved sense of self-worth and enhanced psychosocial functioning (Bernard et al., 2008; Burlingame et al., 2013; Leszcz, 2017). The effectiveness of psychotherapeutic group therapy is tempered by the reality that groups are “part of the solution or part of the problem for your patient” (Leszcz, 2017, p. 6). Gold, Goldman & Schwenk (2016) point out that healthcare professionals and physicians, in particular, resist acknowledging their suffering if it may lead to a mental health diagnosis and are therefore hesitant about engaging in any type of therapy.

**Group and burnout**

Maslash & Leiter (2017) make a strong case for the development of increased awareness of social behaviours, including one’s impact on others. They note that healthcare professionals need to improve their emotional intelligence. Research shows it is each individual’s shared responsibility to maintain a healthy workplace group culture (Epstein & Privitera, 2016; Maslach & Leiter, 2016; McKinley et al., 2017; Siedsma & Emlet 2015). Leiter & Maslash (1988) state, “interpersonal contact with personnel in the organization was related to the development of burnout at each stage” (p. 298). They note how interpersonal communications either accelerate burnout or hinder it. This recommendation is supported by several researchers (Van Bogaert et al., 2014; West et al., 2016).

There are benefits to developing group skills, especially as related to the prevention and treatment of burnout. Perez et al. (2015) and Van Mol et al. (2015) state that group skills improve setting boundaries, develop increased self-awareness, help individuals seek social and emotional support, and enhance emotional intelligence. Others note that the improvements to burnout symptoms with group skills are related to time and conflict management, and working with negative thoughts and actions (Maslach & Leiter, 2016; Wilkinson et al., 2017).

Mindful communication improves both a person’s wellbeing and their care of patients (Krasner et al., 2009; Van Mol et al., 2015). Several researchers note the need to train leaders to enhance their communication skills both to better support their team members, communicate with their patients and as an intervention to decrease burnout.
(Bakker & Costa, 2014; Dyrbye & Shanafelt, 2016; Van Bogaert et al., 2014). This view highlights the importance of the social perspective and the value of giving and receiving emotional support.

A careful and systematic review of the literature (see Figure 2.8) on group skills as an intervention to prevent and or treat burnout in healthcare professionals shows that there is moderate evidence that relationships and group behaviours are the most helpful

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**Figure 2.8 PRISMA Flow Diagram of Group-Based Interventions**

when addressing burnout (see Table 2.3). Overall, the quality of evidence in the reviewed studies was poor. All authors recommend that more extensive and better designed studies were needed to understand which group treatments of burnout in healthcare professionals were most effective. The studies reviewed were systematic reviews or systematic reviews with meta-analysis following well established protocols and were presented clearly and with transparency as to methods. These reviews noted that there were varying criteria for study populations though the majority came under the umbrella of healthcare professionals. A few also included managers and administrative staff. The sample sizes also varied widely.

There is moderate quality evidence that burnout and depression are directly affected by the organizational climate, leadership and supervision, and group behaviours and relationships (Bronkhorst et al., 2015; Lau et al., 2016). Good organizational climate is related to improvements in burnout symptoms as well as communication and team-wide participation. Group behaviours and relationships were strongly related to good mental health (Bronkhorst et al., 2015; Gillman et al., 2015). There is also some evidence that fostering connections within the team, stress management, and emotional processing and affect regulation help address burnout and allow individuals to learn from their experiences (Bronkhorst et al., 2015; Gillman et al., 2015).
<table>
<thead>
<tr>
<th>Citation</th>
<th>Design</th>
<th>Treatment strategies</th>
<th>Study population</th>
<th>Number of studies</th>
<th>N#</th>
<th>Primary Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intensive care nurses’ well-being: A systematic review (2020), Jarden R et al.</td>
<td>Systematic review - Australian Critical Care</td>
<td>Team commitment, emotional well-being, spiritual well-being and the effects of a mindfulness</td>
<td>Nurses</td>
<td>4 primary research studies</td>
<td>387</td>
<td>• Need for more research due to a lack of studies and variability among studies.</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>• Notes the importance of relationships in two of the studies.</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Problems with generalizability and small sample sizes</td>
</tr>
<tr>
<td>Communication skills training for healthcare professionals working with people who have cancer (2018), Moore P et al.</td>
<td>Cochrane systematic review with meta-analysis</td>
<td>Communication skills training</td>
<td>Healthcare professionals</td>
<td>15 RCTs</td>
<td>1147</td>
<td>• Communication skills training (CST) was helpful for information gathering and supportive skills</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Studies showed no “evidence of beneficial effect” on burnout of HCPs who work with people who have cancer</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Review focuses on the benefits of communication skills to patient satisfaction, not issues related to burnout</td>
</tr>
<tr>
<td>Citation</td>
<td>Design</td>
<td>Treatment strategies</td>
<td>Study population</td>
<td>Number of studies</td>
<td>N#</td>
<td>Primary Results</td>
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<td>------------------------------------------------------------------------</td>
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</tr>
</tbody>
</table>
| Experiences of Physical Therapists Working in the Acute Hospital Setting: Systematic Review (2016), Lau et al. | Systematic review - Physical Therapy | Physical therapists  | 8 qualitative studies     | 81                |     | • High-quality studies highlighting the importance of strong and supportive interprofessional relationships.  
• Noted the importance of professional pride, interprofessional friendships and cohesiveness |
| Improving the wellbeing of staff who work in palliative care settings: A systematic review of psychosocial interventions (2016), Hill R et al. | Systematic review - Palliative Medicine | Relaxation training, education, support training and cognitive training | Palliative care staff including nurses, SW, hospice staff | 9 studies including RCTs, non-RCTs and evaluation | 547 | • Quality of the studies was poor  
• Unable to establish the effectiveness of any of the interventions |
<table>
<thead>
<tr>
<th>Citation</th>
<th>Design</th>
<th>Treatment strategies</th>
<th>Study population</th>
<th>Number of studies</th>
<th>N#</th>
<th>Primary Results</th>
</tr>
</thead>
</table>
| Strategies to promote coping and resilience in oncology and palliative care nurses caring for adult patients with malignancy: a comprehensive systematic review (2015), Gillman L et al. | Systematic review - JBI Database of Systematic Reviews & Implementation Reports | Cognitive and emotional management strategies           | Nurses           | 20 studies including RCTs, pre/post-interventions, surveys, qualitative and mixed-method studies | 1283 | • Recommend learning from experiences:  
  • foster connections within the team,  
  • stress management and  
  • emotional processing and affect regulation  

Though 20 studies were included, their recommendations are mainly derived from three studies.
<table>
<thead>
<tr>
<th>Citation</th>
<th>Design</th>
<th>Treatment strategies</th>
<th>Study population</th>
<th>Number of studies</th>
<th>N#</th>
<th>Primary Results</th>
</tr>
</thead>
</table>
| Organizational climate and employee mental health outcomes: A systematic review of studies in health care organizations (2015), Bronkhorst B et al. | Systematic review–Health Care Management Review | Strategies affecting organizational climate | Employees working in a health care organization | 21 studies with quantitative and empirical evidence | 40,812 | - Burnout and depression are directly affected by the organizational climate, leadership and supervision, and group behaviours and relationships.  
  - Good organizational climate is related to these areas, as well as communication and participation.  
  - Group behaviours and relationships were strongly related to good mental health.  
  - Most of the studies focused on burnout or emotional exhaustion. |
<table>
<thead>
<tr>
<th>Citation</th>
<th>Design</th>
<th>Treatment strategies</th>
<th>Study population</th>
<th>Number of studies</th>
<th>N#</th>
<th>Primary Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preventing occupational stress in healthcare workers (2015), Ruotsalainen J et al.</td>
<td>Systematic review - Cochrane Database of Systematic Reviews</td>
<td>Work- and person-directed interventions compared, CBT, mental and physical relaxation, changing work conditions</td>
<td>Healthcare workers</td>
<td>58 studies including RCTs (54), organizational interventions, before and after studies</td>
<td>1698</td>
<td>• CBT and physical relaxation have a moderate ability to lower stress</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Changing work schedules reduces stress</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• The quality of the recommendations is not improving over previous reviews.</td>
</tr>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Conclusion reports that most of the studies and outcomes were of poor or low quality with no clear effects besides relaxation training to lower stress or burnout.</td>
</tr>
</tbody>
</table>
It can be noted that there is a conflation of organizational climate and group environment among the publications. Group environment is often considered an aspect of the organizational climate and one factor affecting the role of the organizational climate in the development of burnout. For example, Bronkhorst et al. (2015) note that both “leadership and group dimensions” affect “hospitals with good working environments” (p. 216). Later they discuss a study that associates team climate and communication with organizational climate.

Systematic review group skills

- A paucity of research on group functioning, the elements of a good group as related to burnout in healthcare professionals.
- Overall, the quality of evidence in the reviewed studies was poor.
- Burnout and depression are directly affected by the organizational climate, leadership and supervision, and group behaviours and relationships.
- Group behaviours and relationships were strongly related to good mental health.
- Some evidence that fostering connections within the team, stress management, and emotional processing and affect regulation help address burnout.

![Figure 2.9](image.png)  Summary of the systematic review of group skills

2.2.7. Analysis

Maslach & Leiter (2016) note that burnout is more than just the exhaustion continuum. Exhaustion has both interpersonal and intrapsychic consequences, as cited in the cynicism continuum and the efficacy continuum. With increasing fatigue and emotional exhaustion, the individual struggles with the elements of the social dynamics of the work group but now with weakened and depleted resources. They become isolated often by choice and certainly by the interpersonal feedback cycle that is a fundamental element of interpersonal relationships. Intrapsychically, exhaustion and isolation lead to struggles with self-doubt and self-worth, often causing individuals to reappraise their life and career choices (Maslach & Leiter, 2016; Van Mol et al., 2015).

This points to a need for a more multifaceted understanding of the context within which burnout arises. A context that involves the individual’s intrapsychic functioning,
the interpersonal dynamics and the organizational/environmental field. This allows one to realistically assess both their resources and capacities, while also assessing the social dynamics and the environmental situation. The question then becomes, how can one learn to practice their profession while also understanding how one is affected and affects the complex interconnected social and environmental webs within which we are embodied? This paradox, both our singularity and our interconnection, is the baseline from which we exist and function. It is also the place we can learn valuable information about the prevention and treatment of burnout for our own well being and the well being of others.

The models of burnout address different drives related to the individual's functioning within the organization. They rightly posit the responsibility of the management of burnout primarily on the organization with some responsibility related to the individual. Missing from these models is the profound ways groups affect individuals and organizations (and vice versa) (see Figure 1.2), especially in terms of co-regulation. The polyvagal theory (Porges, 1995) places individual relationships and relationships among members in work groups at the centre of strain/stress management, emotional regulation and adaptation to burnout producing situations.

There is moderate to strong evidence supporting the use of mindfulness meditation for healthcare workers related to burnout by improving concentration and self-awareness, lowering stress, improving emotional self-regulation, decreasing anxiety and depression (Gilmartin et al., 2017; Guillaumie et al., 2017; Joyce et al., 2018; Lomas et al., 2018; Luken & Sammons, 2016; Reid, 2009; Shanafelt & Noseworthy; 2017; West et al., 2016). While there is less evidence for its use as a treatment for burnout in healthcare workers, these outcomes support its use as a preventative measure.

Group trained interpersonal skills and group processes are poorly studied despite strong theoretical indications they play a significant role in the causation of burnout. Maslach & Leiter (2017) observe that burnout is a psychological syndrome determined by the interpersonal environment and the “chronic interpersonal stressors on the job” (p. 160). There is moderate evidence supporting the use of group skills and group climate for healthcare workers. Evidence suggests that improvements in relationships and group behaviours through leadership and supervision improve communication skills,
stress management, emotional processing and mental health (Bronkhorst et al., 2015; Gillman et al., 2015; Lau et al., 2016).

To steer healthcare work groups, I propose a mindfulness-informed group process that combines mindfulness-based contemplative principles with principles derived from psychodynamic group theory. These principles focus on the work group’s interpersonal dynamics allowing for improved communication, while at the same time respecting the boundaries of the work environment. The work group leader is not acting as a therapeutic group leader, but applying techniques from psychodynamic group theory to address and improve safety within the work group context. This will address the needs for careful self-regulatory behaviours and skillful co-regulatory social interactions. It can provide both a preventative effect and a positive treatment outcome improving a holistic resiliency in individuals. When integrated, mindfulness principles and group trained interpersonal skills address the unpredictability of social contexts. This gives individuals confidence and guidance in addressing the social environment productively.

Healthcare organizations often overlook the human dimensions of providing healthcare focusing instead on the growing demands, efficiencies and monetary costs. This undervalues the human costs and often adds significant additional stress to healthcare professionals. These human costs, largely hidden, end up becoming explicit affecting health and effectiveness in a variety of negative ways. Healthcare professionals experience burnout stressors that take observable tolls on their bodies, minds, emotions, and relationships, affecting their ability to lead and be productive members of treatment teams (Ahola, Toppinen-Tanner & Seppänen, 2017; Salvagioni et al., 2017). In addition, burnout is expensive for both the individual and the organization. Burnout increases healthcare costs (Stammen et al., 2015). It leads to a cascade of effects including a decrease in work quality, job satisfaction, and retention, as well as an increase in medical errors, and a reduction in job satisfaction and retention (Hall et al., 2016; Panagioti, Geraghty & Johnson, 2017; Van Bogaert et al., 2014).

I suggest that this dynamic approach presents significant principles that provide access to conscious and purposeful self and co-regulatory behaviours to address the needs of the whole individual. Mindfulness-informed group process is an undertheorized but potentially useful work group modality that combines the contemplative science of
the mind and training concepts, especially mindfulness, with principles from psychodynamic group process structure and techniques. Perhaps more importantly, it offers indications as to the principles needed by leaders and individuals to prevent or treat burnout producing situations more successfully. By combining social care training and cognitive restructuring of an interpersonal group dynamic with mindfulness based benefits including self-awareness, emotional regulation and calmness, it provides a robust regulatory mechanism to address stress and burnout.
Chapter 3. Methodology

Chapter 3 reviews the research hypothesis, questions and objective then describes how I used the research design, data collection procedures and data analysis to address the second research question. It provides the methodological rationale as well as the stages of the research procedures to enhance transparency and replicability.

The individual needs a holistic model for addressing strain/stress/burnout for both prevention and treatment. Mindfulness-informed group process is a creative approach to preventing and treating burnout in the individual that employs both mindfulness (for self-regulation) and group trained interpersonal skills (for social regulation). However, mindfulness-informed group process is un-theorized. The goal of this research was to generate a theory that identifies and explains the principles of mindfulness-informed group process to provide healthcare professionals with a framework to prevent and treat strain/stress/burnout in themselves. This also provides a theoretical structure for future quantitative research.

The focus of this part of the research was on experts in mindfulness-informed group process with extensive training in a mindfulness meditation practice and group therapy. Data was collected using semi-structured interviews of said experts and relevant scholarly literature collated through a targeted review and a systematic review (Chapter 2), the identification of additional related materials during interviews with experts, and analytic memo journaling.

In this section, I detail the research hypothesis, questions and objectives. I then explain the research design, the choices made during this process and the reasons why. I end with ethical considerations, the limitations of the research and a summary.

3.1. Research hypothesis

Qualitative research is often the process of hypothesis building rather than hypothesis testing. Using both the targeted review and the systematic review discussed in the literature review (Chapter 2), I propose the following:
1. mindfulness and group-trained interpersonal skills are compatible theoretical and practical approaches that can be integrated into mindfulness-informed group theory, and
2. mindfulness-informed group theory can be expected to improve the individual's regulation of strain and stress, and therefore merits consideration for the prevention and treatment of burnout in healthcare settings.

3.2. Research question

How do mindfulness-informed group process leaders describe the praxis of mindfulness-informed group process for the development of skills in the management of strain and stress in healthcare professionals?

3.3. Research objectives

The research objectives follow from the research hypothesis and the research questions. The first research question and objective are presented in the literature review in Chapter 2 and form the justification for the second research question and objective. The second and third objective was to understand the praxis of mindfulness-informed group process and how it connects to the training of strain and stress management in healthcare professionals and then to synthesize this data to develop a mindfulness-informed group theory. I conducted ten semi-structured interviews with research participants who are leaders of mindfulness-informed group process. I used a constructivist, grounded theory methodology. The interview data and analytic memo writing were coded using an iterative data analysis to produce core concepts and themes which fashioned a mindfulness-informed group theory.

3.4. Research design methodology

This research used a constructivist grounded theory approach focusing on a continuous iterative cycle of data acquisition and data analysis (Charmaz, 2014, p. 1). Charmaz (2014) offers an epistemological perspective in line with my understanding by positing the research in a constructivist paradigm which allows for the acknowledgement of "multiple realities, the researcher and research participants respective positions and
subjectivities, and situated knowledge [that] sees data as inherently partial and problematic" (Charmaz, Thornberg & Keane, 2018, p.417). A constructivist grounded theory uses many of the methodological strategies of Glaser and Strauss's (1967) grounded theory, which allowed me to develop this research using sound methodological strategies. It adds a robust reflexive positioning, which I included by making transparent my experiences, beliefs and values.

Constructivism also involves the blending of the objective world with the subjective experience of the human meaning creating world. Creativity, our very human gift, constructs, and imbues our ideas of the world. However, as Crotty (1998) notes, “there is an ‘exactness’ involved, for we are talking about imagination being exercised and creativity invoked in a precise interplay with something” (p. 48). This construction is evident in the social interactions that play a role in burnout and in a group process.

As I am attempting to explore an under-conceptualized segment of the prevention and treatment of the burnout syndrome, using a qualitative, pragmatic paradigm (Charmaz, 2014; Creswell & Poth 2018) allowed me to focus on “benefit, respect, reflexivity and fairness” (Corbin & Strauss, 2015, p. 82) during the research process. These values are in line with the stated goals of the interviewees and my own academic and personal beliefs. I used a grounded theory methodology as “grounded theory refers to a theory developed from successive conceptual analyses of empirical materials” (Denzin & Lincoln, 2018, p. 317). Since I was studying mindfulness-informed group process, I needed a methodology that met the processes involved and directly addressed the research questions. As Charmaz, Thornberg & Keane (2018) state, “essentially grounded theory is a flexible, systematic, comparative method of constructing theory from data and supports the studying of social and social psychological processes” (p. 411).

While both mindfulness meditation practices and group process are well theorized and researched, research on mindfulness-informed group theory is not. As such, this offered a unique opportunity to study an undertheorized process and suggests a methodology that involves theory building. After a careful review of qualitative research methodologies, (Charmaz, 2014; Corbin & Strauss, 2015; Creswell & Creswell, 2018; Creswell & Poth 2018; Glaser & Strauss, 2017; Janesick, 2015), it became clear that the leading methodological choice available for this research was grounded theory.
The research questions are what ultimately drive the methodology (Creswell & Poth, 2018, p. 2). Grounded theory is useful in the development of theory, especially where none exists (Henwood & Pidgeon, 2003, p. 134). A grounded theory methodology offered a systematic research method that focused my understanding of the potential skills developed by mindfulness-informed group theory and the underlying mechanisms of their execution. Grounded theory “begins with inductive data, involves simultaneous data collection and analysis, relies on comparative methods, specifically focuses on analysis and theory construction, provides tools to study action and process, and contains strategies for developing, checking, and strengthening and original analysis” (Charmaz, Thornberg & Keane, 2018, p.412).

Constructivist grounded theory is an optimal methodology for several reasons. First, group process and mindfulness-informed group process are inherently constructivist. Process groups are a co-created environment that explores change through safety, words, stories and social interaction. Group process is an intersubjective process that is congruent with constructivist grounded theory. Using constructivist grounded theory uses a parallel process in which the research methodology is in line with the researched phenomenon.

The constructivist version of grounded theory assumes that people construct both the studied phenomena and the research process through their actions. This approach recognizes how all historical, social, and situational conditions affect these actions and acknowledges the researcher’s active role in shaping the data and analysis. (Charmaz, Thornberg & Keane, 2018, p. 412)

Secondly, constructivist grounded theory is inclusive of the researcher’s perspective (Charmaz, 2014). My experience and expertise in group process and mindfulness-informed groups informs this research at several stages. For example, I used knowledge of group process and mindfulness-informed groups to frame the questions during the construction of the semi-structure interview questions. This allows the questions to precisely address the needs of the study (Kallio et al., 2016). With data analysis, I integrated my knowledge through the process of analytic memo-writing and used journaling before structured data analysis to bracket and contextualize my role provide transparency as to how the researcher influences the research process.
Reflexivity and the role of the researcher

Reflexivity is of strategic importance in constructivist grounded theory. It inherently requires self-awareness and acknowledges the bidirectional nature of this research. Reflexivity increases its reliability by overtly documenting the researcher’s position, how this influenced the research (prospective reflexivity), and how the research influenced the researcher (retrospective reflexivity). “Constructivist grounded theory acknowledges the standpoints and starting points of the researcher, the influence of the research situation, and controversies about the representation of research participants, and it emphasizes engaging in reflectivity” (Charmaz, Thornberg & Keane, 2018, p. 416).

Reflexivity helps to control for researcher bias through transparency by documenting the researcher’s process through self-reflection and journaling. While issues of validity can remain, this process acknowledges and makes transparent areas where they exist. Research is bracketed through a three-tiered approach whereby the researcher journals before the data collection (pre-journaling), in-the-moment (“in-action” journaling) and afterward (“on-action” journaling) (Patnaik, 2013). During the journaling, I reflected on my impact on the research process and research subject, including my historical associations with the research participants. This process requires a focus on self-awareness and is similar to some aspects of a mindfulness approach.

Reflexivity ultimately helps the researcher identify their preconceptions that may influence the data analysis. In a constructivist grounded theory, the researcher works to become aware of their preconceived ideas concerning the research. They do this by returning again and again to the interviewee’s words and descriptions of the studied phenomenon. In the data, researchers stay with the interviewee’s portrayal of their experience, focusing on described actions and processes. Charmiz (2014) warns that “if you reframe participant’s statements to fit a language of intention, you are forcing the data into preconceived categories–yours, not theirs” (p. 159).

3.5. Data collection procedures

The interview procedures are presented following the Equator Network’s recommended guidelines for qualitative interviewing entitled, “Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus
groups” adapted from Tong, Sainsbury & Craig (2007). The COREQ criteria represent an opportunity to present qualitative interview data and analysis in a transparent and replicable manner for critical review by readers (Moher, Schulz, Simera & Altman, 2010; Tong, Sainsbury & Craig, 2007).

Interviews took place a minimum of once per participant, but in some instances, member-checking was used to capture emergent patterns of effect. The research participants (n=10) are mindfulness-informed group leaders that are topic experts and who have considerable experience in mindfulness-informed group process, contemplative practice and a group leadership practice. They have led mindfulness-informed process groups for years and taught extensively. Contemplative practices require both time and training for their full realization. They need an understanding of the theory and techniques in a particular contemplative tradition, as well as years of actual practice, to deepen the experience of the contemplative experience and thought. Similarly, the development of group process leadership skills requires significant training and long-term practice to master. Group process leaders often study group theory both during their university education and then for many years afterwards combined with the supervision of their practical experience of running groups.

**Interview sample characteristics**

I used a non-probabilistic, purposive sampling of research participants who are homogeneous in composition and theoretical experts on the topic (Creswell & Poth, 2018, p. 149). Non-probabilistic, purposive sampling is used when “the common element is that participants are selected according to predetermined criteria relevant to a particular research objective” (Guest, Bunce & Johnson, 2006, p. 61). The research participants have extensive experience in conducting a mindfulness-informed group process. “In a grounded theory study…they [the research participants] need to be individuals who have participated in the process or action the researcher is studying” (Creswell and Poth, 2018, p. 153).

The total potential sample size was small. I contacted all potential participants and was able to interview 10 of the 12 individuals. Two dropped out for reasons unrelated to the research. This leads to a male bias in the sample, with eight of the ten interviewees being male. This bias is weighed against the appropriateness of the
sample to the topic and research question. As Morse (2011) notes, interview participants in a grounded theory sample need to be ‘excellent informant[s]’.

Participants must therefore be experts in the experience of the phenomena under investigation; they must be willing to participate, and have the time to share the necessary information; and they must be reflective, willing, and able to speak articulately about the experience (Morse, 2011, p. 231).

All members of the sample met these criteria through their extensive experience in group theory, mindfulness, training of healthcare professionals and leadership in healthcare teams. This specific sample was particularly productive and informed related to the research question (See Table 4.1). The mean experience in group leadership with 30.2 years with the median being 29.0 years. Interviewees had an average of 36.2 years of contemplative practice experience, with the median being 36.5 years. And participants had a mean of 24.2 years experience in mindfulness informed group process with a median of 22.5 years experience. As content experts, the interviewee’s unique, active and long-term experiences related to the research question showed them to be ‘excellent informant[s]’ and a concentrated source of knowledge for this novel approach to the prevention and treatment of burnout.

**Homogeneous, purposive sample size**

The interview is standard practice in qualitative research within health sciences research (Kallio et al., 2016). “We assume a certain degree of participant homogeneity because in purposive samples, participants are, by definition, chosen according to some common criteria. The more similar participants in a sample are in their experiences with respect to the research domain, the sooner we would expect to reach saturation” (Guest, Bunce & Johnson, 2006, p. 76). In qualitative research, sample size varies according to methodology (Guest, Bunce & Johnson, 2016). The general guideline is to determine the sample size is when emergent themes have been illuminated through the research process. As noted by Guest, Bunce & Johnson (2006), “The majority of articles and books we reviewed recommended that the size of purposive samples be established inductively and sampling continue until ‘theoretical saturation’ (often vaguely defined) occurs” (p. 61).
Guest, Bunce & Johnson (2006) reviewed qualitative literature on sample size. Additionally, they performed two grounded theory studies with larger sample sizes (n = 30, n = 36) and then analyzed when “theoretical saturation” occurred. They determined:

Based on our analysis, we posit that data saturation had for the most part occurred by the time we had analyzed twelve interviews. After twelve interviews, we had created 92% (100) of the total number of codes developed...In short, after analysis of twelve interviews, new themes emerged infrequently and progressively so as analysis continued. Code definitions were also fairly stable after the second round of analysis (twelve interviews), by which time 58% of all thirty-six definition revisions had occurred...Variability of code frequency appears to be relatively stable by the twelfth interview as well, and, while it improved as more batches of interviews were added, the rate of increase was small and diminished over time. (Guest, Bunce & Johnson, 2006, p. 74)

Additionally, they note that with higher levels of competence, saturation is achieved with an even smaller sample size (Guest, Bunce & Johnson, 2006). Romney, Weller & Batchelder (1986) also note that 12 study participants will produce a “.999 confidence level” (p. 327) in studies involving culture, but only in groups of homogeneous participants, have high levels of competence and answer questions independently. Charmaz concurs, but with some hesitation, “the 12 interviews suffice for most researchers when they aim to discern themes concerning common views and experiences among relatively homogeneous people” (Charmaz 2014, pp. 106–07).

Guest, Bunce & Johnson (2006) conclude “if the goal is to describe a shared perception, belief, or behavior among a relatively homogeneous group, then a sample of twelve will likely be sufficient” (p. 76). But they add a note of caution.

At the same time, we want to caution against assuming that six to twelve interviews will always be enough to achieve a desired research objective or using the findings above to justify “quick and dirty” research. Purposive samples still need to be carefully selected, and twelve interviews will likely not be enough if a selected group is relatively heterogeneous, the data quality is poor, and the domain of inquiry is diffuse and/or vague. (Guest, Bunce & Johnson, 2006, p. 79)

Charmaz (2014) agrees, “A very small sample can produce an in-depth interview study of lasting significance” (p. 107). She notes that this requires the interviewees to be topic experts with experience in the studied phenomena. “Grounded theorists often embark on their research journeys with plans to interview people whose experiences can illuminate the topic they wish to study” (Charmaz, 2014, p. 55). This research is
designed to help understand if mindfulness-informed group process develops the skills that may prevent or treat the symptoms of burnout. Interviewing experts is one of the primary elements of data collection. “In a grounded theory study, the researcher chooses participants who can contribute to the development of the theory…This begins with selecting and studying a homogeneous sample of individuals” (Creswell & Poth, 2018, pp. 156-157).

**Interview preparation**

Interview participants (interviewees) were contacted by me through email and invited to participate in this research. The interviewees were known to me professionally to be content experts, and this was confirmed during our phone conversations and again during the interviews. All interviewees accepted the invitation, but only 10 out of the 11 were able to participate. One interviewee dropped out due to a scheduling conflict. Their data was not included in this study.

After their agreement via email, I talked by telephone with each interviewee to explain the purposes and procedures of the research according to the Study Telephone Script (see Appendix C). All interviewee questions were answered to their satisfaction. After scheduling our meeting, I sent each person the Study Details (see Appendix D), Study Consent Form (see Appendix E), the Interview Questions Guide (see Appendix F) and the Minimal Risk Approval before the interview for their examination and made myself available if they had additional questions.

**Interview setting**

The construction of data during the interview process begins with our meeting, our relationship, location, and levels of trust and familiarity. Brinkmann & Kvale (2015) note that the interview is a fluid interactional space. This is a place of many subtle and semi-conscious cues, as the two participants, interviewer and interviewee, use each other to assess reality, confirming and disconfirming many interpersonal signals, such as safety, familiarity, trust, etc. I interviewed each participant in person at a location of their preference, both for their convenience and familiarity. I met eight interviewees at their offices and two in their homes. All interviews consisted of just the interviewee and interviewer.
**Interview process**

All data were collected, transcribed and stored in accordance with the Data Management Plan developed for this research and approved by SFU’s Office of Research Ethics (see Appendix G).

I used semi-structured interviews of individuals with extensive experience in mindfulness-informed group process to address the research question, “How do mindfulness-informed group process leaders describe the praxis of mindfulness-informed group process for the development of skills in the management of strain and stress in healthcare professionals?” As stated earlier, data was collected using the following modalities: relevant scholarly literature collated through a systematic review of the literature, semi-structured interviews, and analytic memo journaling.

Interviewing is a crucial feature of qualitative research. “The structured or standardized research interview has for long been a customary method, but also the qualitative research interview, with its much more flexible and dialogical form, has become widespread” (Brinkmann, 2018, p. 577). Semi-structured interview questions provide a format for the consistency of the interview process while allowing for the flexibility needed to explore new and interesting ideas as they emerge. Brinkmann (2018) notes that they:

make better use of the knowledge-producing potentials of dialogues by allowing much more leeway for following up on whatever angles are deemed important by the interviewee, and the interviewer has a greater chance of becoming visible as a knowledge-producing participant in the process itself. (p. 579)

The role of the interviewer is acknowledged as being a significant part of the research produced. In a grounded theory methodology, the researcher notes their role repeatedly before, during and after both the interview and the data analysis (reflexivity). Rigorous qualitative interviewing recognizes and accepts that “the interviewer has a greater chance of becoming visible as a knowledge-producing participant in the process itself” (Brinkmann, 2018, p. 579).

**Interview question guide**

Interviewing using a semi-structured approach relies upon careful construction of the interview question guide to assure the interview data addresses the research
question. Interview questions were “open-ended and participant-centered” (Charmaz, 2014, p. 18) and were guided by the discussion guide (see Appendix F) then converging on developing concepts and themes. The interviews lasted approximately 1.0 to 2.0 hours and were all conducted in person. The interview questioning worked to “open [an] interactional space for ideas and issues to arise” (Charmaz, 2014, p. 58).

During the interview, active listening by the researcher is vital to promote an interactive and engaging dialogue with the goal of elucidating the research topic. Many of the skills necessary to a good interviewer are the same or similar to the skills acquired by me in my professional capacity as a psychotherapist and counsellor. “The role of the interviewer as a person also is decisive in the psychotherapeutic interview…where the relevant data are constituted by the interaction itself, in the specific situation created between interviewer and interviewee” (Kvale & Brinkmann, 2009, p. 84).

The interview

The interviews were fascinating discussions with experts with extensive careers on the practice of mindfulness-informed group process. I found them universally engaging and deeply thoughtful on the topics of mindfulness meditation, group trained interpersonal skills and mindfulness-informed group process, especially as related to burnout in healthcare professionals. The interviewees endeavoured to answer the questions posed in a meaningful manner drawing from their wide-ranging experiences in a way that seemed genuine and authentic. Overall, the process of interviewing left me with a multifaceted and rich source of data that I was able to draw upon again and again in the various stages of data analysis.

All the research participants were known to me professionally beforehand. As professional peers, we have encountered each other in a variety of settings (i.e. conferences, educational seminars, faculty). These connections informed the research process, allowing bonds of trust to be quickly built. As the participants knew me, we quickly established a trusted association, and these elements formed the starting point of the research interviews. I perceived this to influence the data collection positively, allowing interviewees to explore their thoughts on the research topics responsively.

In each interview, I explained the purposes of the research and reviewed what would be expected of them. I explained their ability to withdraw from the study and/or
not answer any question that made them feel uncomfortable. I also checked in during the interview process to assess the emotional safety and help participants take time to evaluate for themselves the level of revelations with which they felt comfortable.

3.6. Data analysis

Data analysis of the interviews consists of analytic memo writing, the transcription process, initial coding and focused coding and final theoretical analysis. The following is a description of the process.

Analytic memo writing initially occurred during the fieldwork process of obtaining the interviews. I pre-journaled before each meeting, reflecting on my preconceptions, expectations and thoughts on the research topic. This process provided an opportunity for me to become more self-aware of my current emotional and mental state, allowing for an openness to the interview process and where it would take us. Like a journey on an unknown path, pre-journaling allowed me to see each interview as a potentially interesting series of experiences in which I did not know the destination. Each interview was unique and unexpected, showing me new conceptual ideas within the context of a warm conversation.

After each interview, I reviewed both the pre-journing, the notes I took during the interview then analytic memo writing my ideas and impressions of the process. These were reviewed and used both in the transcription process and in later coding.

The transcription process is usually considered the first step of data analysis. Transcription is the process of translating from an oral, intersubjective experience to the written language. This document is constructed through careful consideration of the interviewee’s words and meaning. It is through the transcription process that the words become “abstracted and fixed in a written form” (Kvale & Brinkmann, 2009, p. 177-78).

This researcher performed all the transcriptions. “There is one basic rule in transcription, state explicitly in the reports how the transcriptions were made” (Kvale & Brinkman, 2009, p. 180). I avoided “Umh’s” and other conversational fillers unless deemed relevant to the meaning of the statement. Some contextual nonverbals were added if necessary to assist the tone of the translation (i.e. laughter, pauses). Grammar was inserted to reflect the meaning of the speaker best, as interpreted by the researcher.
NVivo 12, a qualitative software program, was used in the initial stages of data analysis, mainly due to its ability to help query and visualize the data. Bazeley & Jackson (2013) note that NVivo does not replace data analysis but instead supplements it by “increase[ing] the effectiveness and efficiency of such learning” (p. 2). I queried both individual transcripts and all the transcripts as a data set using both word frequency queries and cluster analysis queries. This allowed for a fresh look at the raw data based on the interviewees’ words. I have included several of these queries. I then noted the categories that were emerging and considered them during initial coding (see Figure 3.1). “Visual summaries of data…help us see patterns and relationships in data” (Bazeley & Jackson, 2013, p. 217). In addition, NVivo was used to visualize some results of the data analysis using its modelling function.

Data analysis used a continuous iterative cycle of data acquisition through the process of interviewing and analysis through the process of analytic memo writing, initial coding (see Figure 3.1) and later focused coding (see Figure 3.2). Initial coding involved a line-by-line review of interview transcripts focusing on “bits of data according to what they indicate[d] for conceptual development” (Charmaz, 2014, p. 19). These provisional
labels were again compared against the interviewee’s words to stay close to their theoretical meaning.

I used analytic journaling or memo writing to reflect deeply on the data and emerging labels and codes, thereby refining the categories of information and focusing on the strength of the concepts as they occurred in my conversations with informants (Creswell and Poth, 2018).

Figure 3.2  Focused Coding process (salient codes)
*Note.* Adapted from Charmaz, 2014.

Focused coding involved identifying principal codes that transcended the interviews using concepts that were indicative of more significant themes. As part of the iterative cycle, coding is the “pivotal link between collecting data and developing an emergent theory to explain these data” (Charmaz, 2014 p. 113). As Charmaz (2014) states,

Grounded theory methods consist of systematic, yet flexible guidelines for collecting and analyzing qualitative data to construct theories from the data themselves...grounded theory begins with inductive data, invokes iterative strategies of going back and forth between data and analysis, uses comparative methods, and keeps you interacting and involved with your data and emerging analysis.  

(p. 1)
This “focused coding” helps build “an analytic skeleton” (Charmaz, 2014, p. 19) from which I honed initial codes into the theoretical properties of mindfulness-informed group theory. Memos allow for ongoing analysis and function as part of the continuous cycle between the data, developing theory, back to the data, etc. (Charmaz, 2014). “By writing memos, you construct analytic notes to explicate and fill out categories” (Charmaz, 2014, p. 162). Memos and analytic journaling provide a record of the analysis, increasing reproductivity, trustworthiness and reliability.

Returning to select interviewees, I explored the emergent themes and their relationships to each for further refinement while also increasing validity through review and clarification (Creswell & Poth, 2018). Member checking also allows for interviewees to re-explore the data now inclusive of the comments and thoughts of other experts. This allows new data to emerge in the interaction creating a more vibrant, more descriptive theoretical interplay.

3.7. Ethical considerations

These interviews were undertaken in the highest ethical manner; the spirit of which is captured by the American Psychological Association’s ethical principles of “increasing knowledge of human behavior and of people’s understanding of themselves and others, and to utilizing this knowledge for the promotion of human welfare” (Kvale & Brinkman, 2009, p. 62). Security, consent and privacy were foremost at each stage of the research process with particular attention placed on a clearly articulated and rigorously followed data management plan. Quotes were verified with interview participants and only used with the explicit permission of the interviewee. Care was also taken during the interview process to make sure the interviewees remained comfortable and unstressed by the questions and process. All the interviewees answered all the questions posed despite repeated assurances that they could pass at any time.

All appropriate SFU Office of Ethics Research (OER) requirements were strictly observed, including study details and consent forms (see Appendixes D & E). All participants in the research were informed that they could withdraw from the project at any time without prejudice and that their data would then be promptly be deleted. One participant withdrew due to being unable to schedule for unrelated reasons. Their data was not included in any stage. In addition, as the research was of minimal risk and
involved interviewee’s discussing their mastery and expertise, participants were offered the choice of anonymity or attribution of their contributions. All interviewees chose anonymity except in the cases of specific quotes.
Chapter 4. Presentation of the Data

The purpose of this research was to expand the understanding of the principles of mindfulness-informed group theory from the perspective of experts of mindfulness-informed group process and their experiences training and working with healthcare professionals. It is proposed that the phenomenon was largely uninvestigated in the literature, and the intent was to provide insight into a combined process whereby the self-regulatory aspects of mindfulness meditation and the co-regulatory aspects of good group process address a gap in burnout research. This knowledge is critical in creating awareness and moving towards prevention and treatment strategies that will help advance the mental health of healthcare professionals. A grounded theory methodology provided a systematic approach to answer the research question and assist with the emergence of a mindfulness-informed group theory. This was done through qualitative data collection involving a targeted review of the burnout literature, a systematic review of mindfulness and group skills in the prevention and treatment of burnout in healthcare professionals and exacting interviews with mindfulness-informed group process experts. Data analysis utilized a constructivist grounded theory approach using the expert’s words and meanings to build codes, themes, and the relationships between them.

Throughout the following sections, I use the term group and team somewhat interchangeably. I define the group as “formal grouping of personnel within an organization” (Fry & Slocum, 1984, p. 222). In a team, this group unit has a specific work designated task or people working together to achieve something. The principles of a mindfulness-informed group theory are derived from aspects of work teams, group psychotherapy and training groups all with healthcare providers.

Chapter 4 starts with the researcher’s role and interest in the project and the phenomenon. It then describes the interview participants followed by the constructivist grounded theory methodology that was applied to the process of data analysis. The research question is explored through the data. The data is presented through the initial codes, focused codes and themes using the raw data, analytic journal writing and the literature review. This provides transparency to the process of data analysis and the steps used to arrive at the conclusions.
4.1. Introduction: The study and the researcher

My experience in leadership, groups, and mindfulness meditation plays a pivotal and significant role in my interest in the causes, prevention and treatment of burnout in healthcare professionals. Working with teams both privately and within large healthcare provider organizations has piqued my curiosity into the role of the individual, group and organizational environment in the production of the burnout syndrome. I am uniquely placed as a researcher due to my training and clinical experience in these areas, and this deeply informs my work. Constructivist grounded theory acknowledges the researcher’s positionality within the development of theory and allows for researcher bias through careful acknowledgement of my researcher/clinician/leadership experience (Charmaz, 2014).

I have practiced yoga for 40 years and have studied and practiced mindfulness meditation for 30 years. During that time, I have continued my investigations into the effects of mindfulness meditation both in individuals and groups, reviewing the ever increasing literature on its benefits and limitations.

After obtaining my master’s degree in psychology and psychotherapy, I had the good fortune to engage in an extensive training period of over 15 years. I was able to learn both didactically and experientially the skills of leadership in running teams and groups. This extensive training involved over 800 hours of clinical education and included over 700 hours of individual and group supervision of my work. During this time, I led a wide variety of groups, including psychoeducational groups, psychodynamic and process-oriented therapy groups, training groups, supervision groups and healthcare professional treatment teams. My direct client group therapy experience is easily over 15,000 hours. I became a Licenced Professional Counsellor, a Licenced Addiction Counsellor, a Domestic Violence Treatment Provider, and a Registered Clinical Counsellor. I was also designated an expert witness in clinical matters and conducted countless clinical assessments for probation and the courts.

Upon arrival in British Columbia, I led healthcare professional treatment teams in frontline inner-city centres and clinics. I joined the leadership of a mental health and substance use hospital during its start-up and development year. After this experience, I built an outpatient public clinic for mental health and substance use that provided a full
range of outpatient services with low barrier access, including vibrant group treatment programs. During these experiences, I was able to learn, through both successes and failures, how to build and maintain a high functioning healthcare professional treatment team. What struck me in these experiences was the lack of care and consideration that both senior leadership, peer leaders and the staff gave to the development and principles of a well-functioning team. Highly trained leaders and individuals often gave little deliberation to their stress and the ways it affected their bodies and minds.

Healthcare agencies often put little effort or training into the development of work teams, promoting leaders of these teams based seemingly on their project management skills but not their skills developing working teams. Little attention was given to the composition and care of the members of the teams. Often, a team member’s input into the team’s goals or how to achieve them went unsolicited. Burnout in healthcare has been associated with Maslach & Leiter’s (2017) six ‘Areas of Worklife’: control, reward, civil relationships, fairness and values. I repeatedly witnessed conflicts in these areas and their effect on staff.

I could also see firsthand the costs to individuals, their work team and, most importantly, to clients of staff experiencing burnout. Clients would lose their therapists to burnout, receiving sub-optimal care or, at times, no care at all. Often, this meant they would lose hope and connection drifting back into the haze of mental illness and substance use. Staff would pay heavily in suffering and anguish due to the effects of burnout. Sometimes they would act out in uncharacteristic ways, creating major interpersonal conflicts and drama. Other times, they would suffer through health problems. Work groups would begin to feel overwhelmed by these experiences. Often caring and supportive team members attempted to ‘do more’ by taking on excess clients, subsequently becoming exhausted in the process.

My present education, with its researcher based training as well as my past education, training, and experience underpins my ability to collect, analyze, and interpret the data adequately. This experience reflects my researcher position and allows me to bring a unique perspective to a new functional theory that addresses the research question. The research plan highlights the systematic, procedural grounded theory model that Charmaz (2014) describes as necessary for a study of this type.
4.2. Description of the Sample

The sample consisted of ten mindfulness-informed group process leaders with extensive experience leading groups and work groups, leading mindfulness-informed process groups and each with a personal mindfulness based contemplative practice. All participants had over 12 years of experience leading mindfulness-informed process groups as well as the didactic and experiential training leading groups and teams. The participants included in the study all met the inclusion criteria. Eight of the participants were male and two were female. All participants have educational credentials of a master’s degree in psychology, with three having Ph.D.’s in clinical psychology. The age range of the participants was from 50 to 73 years of age (see Table 4.1).

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The sample size initially planned for 12 participants based upon the research evidence that this was the potential point of theoretical saturation. One participant (011) dropped out due to a scheduling conflict, and the other was unavailable. It was deemed that data saturation was complete due to the ten interview participant’s extensive experience and expertise in the related subjects. All participants but one had recently led mindfulness-informed groups or teams.

4.3. Research Methodology Applied to the Data Analysis

Data analysis followed the guidelines outlined in Charmaz’s (2014) “Constructing Grounded Theory”. I used a constructivist, grounded theory methodology. Data analysis
used a continuous iterative cycle of data acquisition through the process of interviewing and analysis through the process of initial coding, focused coding and analytic memo writing (Charmaz, 2014). The analysis started in the interviews through analytic memo writing, continued during the transcription process progressing to initial coding, then focused coding and final theoretical analysis. Analytic memo writing is the process of noting and analyzing ideas “to develop their codes into categories” throughout the research process (Charmaz, 2014, p. 343).

All interviews were audio-recorded on MPEG-4 formats and transcribed to a text format (.txt). I performed all the transcriptions. The transcription process was the translation of the intersubjective experience into the written language. As noted earlier, I avoided “Umh’s” and other conversational fillers while including some contextual nonverbalas if necessary to assist the tone of the translation (i.e. laughter, pauses). On some occasions, I inserted grammar to best reflect the meaning of the speaker. The recorded interviews were reviewed several times and compared to the transcriptions to assure the accuracy of the interviewee’s words. The multiple reviews, as well as multiple readings of the transcripts, allows for deeper immersion in the data (Charmaz, 2014).

**Analytic memo writing**

Analytic memo writing plays a crucial role in the development of the data analysis leading to the theoretical constructs. Analytic memo writing occurred both during and after interviews, during the transcription process, after line-by-line coding, during and after initial coding and during and after focused coding. Analytic memo writing is the process of examining the data in detail to concentrate and refine analytic reasoning (Charmaz, 2014). Analytic memo writing initially occurred during the fieldwork process of obtaining the interviews. During interviews, I wrote memos of the ideas being discussed, my impressions of the process and salient concepts. These were later used in the coding process. For example, one of my memos after an interview (#4) was, “more on the mechanisms of change, this time from the perspective of space, emptiness and field”. This memo highlights the words of the interviewee, providing essential clues to codes conceptually linking space, emptiness and field.

Analytic memo writing acts both to build the analytic framework of a grounded theory as well as a record of my process in building it as a researcher. This record
provides a connection to the analytic structure as it developed, and as I reviewed the data repeatedly. It also formed the basis of the presentation of the data below.

**Initial coding**

In initial coding, the researcher creates an analytic space where the data (interviews, writings and field memos) are subjected to analytic inquiry (Charmaz, 2014). This starts with a line-by-line review and analysis of the data to consider “their analytic import” (Charmaz, 2014, p. 109). This is also known as early coding, a prequel to initial coding. It includes selecting, sorting, summarizing and, most importantly, examining the data in detail to discover their meaning. “Grounded theory coding is the process of defining what data are about” (Charmaz, 2014, p. 111). I also used the analytic memos to capture critical ideas both in the moment during interviews and directly afterwards, as I considered the import that the interview revealed. I continued the method of writing analytic memos during each stage of the data analysis process (i.e. transcriptions, line by line coding, initial coding and focused coding). Data analysis started with the first interview and continued during each stage of the research process.

During the initial coding, all the data was analyzed and coded. This was done line by line with open coding, a process which sorts and selects the data. Open coding is then methodically scrutinized through analytic memo writing to form broader categories of data. These categories form the initial codes. Initial codes capture the fullness and richness of the interviews, which involved a complex interplay of practical observations, contemplative Buddhist concepts and pragmatic group dynamic theorization. This level of coding is detailed and pain-staking. It produces a systematic and robust analysis where early codes lead to initial codes then readily to focused codes (Charmaz, 2014).

These initial codes are provisional labels, which I compared multiple times against the interviewee’s words to stay close to the interviewee’s theoretical meaning. The early and initial coding involved long periods of reflection on the data and the process. This was then recorded in memos.

The extraordinary deep level of understanding and expertise of the research participants afforded a beneficial immersion into the concepts of the contemplative group process. Each interviewee approached our time together with focus, precision, and
dedication. Their enthusiasm helped create a robust intersubjective process during the interviews. An intersubjective process involves the interaction between people where they intermingle their lived experiences to co-create the endeavour (Stern, 2005). This process moved quickly due to the depth of knowledge of the interviewees, their curiosity and my familiarity with contemplative thought, group therapy theory and mindfulness-informed group process. Interviewees expressed pleasure in the interview process stating, as one participant noted, “I learned things I didn’t know I knew”.

**NVivo 12**

In order to see the data from varying perspectives, I used NVivo 12, a qualitative software program. NVivo assisted my data analysis by visualizing the data from two aspects. It supplemented the initial coding by showing both the frequency of words in a visual form (word frequency query) and various structures and relationships within the data (cluster analysis query). This also allowed for the comparison between interviews and within all the interviews to note consistency between interviewees (Saldana, 2016). When I noticed variations, I was able to review the data to consider other emerging potential codes and categories. Software programs like NVivo 12 can help in qualitative inquiries to visualize the data and see potentially hidden patterns (Brazely & Jackson, 2013). An example of this can be seen in the word frequency queries below (Figures 4.1, 4.2 & 4.3).

As can be seen in Figures 4.1 and 4.2, there are significant similarities between the aggregate of all the interviews and interviewee 009. This helped focus on the early emergence of key concepts in the thinking of the participants. I used the word frequency
The word frequency query of interviewee 010 (see Figure 4.3) shows some discordance with the aggregate of all the interviews (see Figure 4.1). This allowed me to go back to interview 010, both listening to it again and reviewing the transcript and coding. For example, the focus on the “personal” and “subjectivities” is a clue to the personal process of mindfulness-informed group process and the leader's interpretation...
of these “subjectivities”. I compared this to categories of “feel” and “feeling” that were prominent in other interviews analyzing how feeling relates and varies from “personal” and “subjectivities” to inform the category of leadership.

Figure 4.3 Word frequency query–interviewee 010
Note: Three plus letter words with generalizations

I used analytic journaling or memo writing to reflect deeply on the data and emerging labels and codes, thereby refining the categories of information and focusing on the strength of the concepts as they occurred in my conversations with informants (Creswell and Poth, 2018).

**Focused coding**

Focused coding involved identifying major codes that transcended the interviews using concepts that were indicative of more significant themes. As part of the iterative cycle, coding is the “pivotal link between collecting data and developing an emergent theory to explain these data” (Charmaz, 2014, p. 113). As Charmaz (2014) states,

> Grounded theory methods consist of systematic, yet flexible guidelines for collecting and analyzing qualitative data to construct theories from the data themselves….grounded theory begins with inductive data, invokes iterative strategies of going back and forth between data and analysis, uses comparative methods, and keeps you interacting and involved with your data and emerging analysis. (p. 1)

This “focused coding” helps build “an analytic skeleton” (Charmaz, 2014, p. 19) from which I honed initial codes into the theoretical properties of mindfulness-informed group theory. Memos allow for ongoing analysis and function as part of the continuous cycle between the data, developing theory, back to the data, etc. (Charmaz, 2014). “By
writing memos, you construct analytic notes to explicate and fill out categories” (Charmaz, 2014, p. 162). Memos and analytic journaling provide a record of the analysis, increasing reproductivity, trustworthiness and reliability.

An example of this is seen in the focused codes for the theme of the interpersonal field (note: This will be further described below in section 4.4 Presentation of data and results). Interviewees were attempting to describe the characteristics of the group and its structure, which were reflective of the interpersonal field. I initially developed the focused code ‘form’ to reflect one aspect of the group. ‘Form’ is derived from interviewees’ words coded as ‘intention’, ‘structure of the group’, ‘container’, ‘tasks’ and ‘focus’. Through the constant comparative method and analytic memo writing, I theorized that the ‘interpersonal field’ more accurately captured the meaning across interviews. The focused code ‘form’ was then refined to configured as the theme ‘interpersonal field’.

Returning to select interviewees, I explored the emergent themes and their relationships to each for further refinement while also increasing validity through review and clarification (Creswell & Poth, 2018). Member checking also allows for interviewees to re-explore the data now inclusive of the comments and thoughts of other interviewees. This allows new data to emerge in the interaction, creating a more productive, more descriptive theoretical interplay.

This process, creating the analytic space, early and initial coding, and analytic memo writing, allows the researcher to break apart the data probing for compositional elements. Focused coding further clarified themes and started the process of building an analytic framework. Returning to the data, I pondered connections but, most importantly, reviewed all the analyses from varying perspectives. As Charmaz (2014) notes, “The acts involved in theorizing foster seeing possibilities, establishing connections, and asking questions” (p. 244). It is from this final stage of analysis that a mindfulness-informed group theory was developed.
4.4. Presentation of data and results of the analysis

Early coding

Data analysis used a continuous iterative cycle of data acquisition and analysis leading through the phases of early coding to the initial coding to focused coding. The purpose of coding is to develop an analytic framework of themes derived from focused coding (Charmaz, 2014). Early coding involved a line-by-line review of interview transcripts focusing on their theoretical meaning as related to the research question and central phenomenon. I used analytic journaling or memo writing to reflect on the data and emerging labels and codes, thereby refining the categories of information and focusing on the strength of the concepts as they occurred in my conversations with informants (Creswell and Poth, 2018). The process of analytic memo writing occurred both during and after interviews, as well as during and after each stage of coding until the process was complete.

In Tables 4.2 and 4.3, I show examples of early coding as a line-by-line process. The value of line by line coding is developing a familiarity and intimacy with the interview data. While not all the early codes were used as initial codes, we can see the emergence of the initial codes and underlying analytical process even at this stage.
Table 4.2  Example 1 of initial coding using transcript data

<table>
<thead>
<tr>
<th>Transcript data</th>
<th>Early and initial coding</th>
</tr>
</thead>
</table>
| Interviewee 001: I mean, this brings up my upbringing. You know, I had two parents who were very responsible and loving to me, and I felt cared for and held and protected. And so, when I come across somebody who gives me that feeling, I have no problem being, you know, being under their care. And in the therapy group that I'm in, it's proven to be a wonderful experience. I haven't had a problem with it. I can tell the group leader that I don't like what he just said, or I can disagree, and it's fine. You know, there's no, there no breaks in our relationship or no threat to the relationship. So that's really wonderful. You know, I found somebody who's really good and who I, I work well with and so it's been a great experience. I mean, I would have left 20 years ago if it wasn't. | Loved  
Cared for, protected  
Trusting  
Using words/Free expression  
Continuity of relationship  
Trust  
Great experience |
| Interviewer: The other phrase you've used a couple times, especially in relation to the group and as a group leader is 'what to put into words'. So in the group, you're saying you put it into words, and as a group leader, you have to decide what to put into words? |                           |
Interviewee 001: Right. Well, when being a group member, I get to say anything and everything I want, which is really a fantastic opportunity to hear myself and to get a handle on what I'm saying and get feedback about it. So that when the time comes to decide whether I should say something or not, I've had all this practice saying everything. Hopefully, I'm also learning, Oh, I know what I'm about to say. Do I want to say that? So I can be much more discriminating in what I choose to say, what I can't say. It can be a choice more than it used to be. About what I say and what I don't say.

As we can see from Table 4.2, the interviewee is describing the method by which they develop insight and awareness into their internal process and, by extension, their interpersonal process. They talk about how this process, of being in the group and being able to stay in relationship while practicing expressing themselves developed trust, self-awareness (mindfulness), and knowledge about how and when to say things. Self-awareness (mindfulness) and knowledge were themes that occurred in all the interviews, as well as learning to trust themselves (which falls under genuineness). The early codes from this interview were demonstrated and strengthened in subsequent interviews. The initial codes are reflective of this accumulative effect when related to the research question and central phenomenon.

The interviewee then switches hats applying what they have learned to their role as a group member to their role as a group leader. Their practice and awareness help them have a choice in their interpersonal interactions. This awareness and choice they then use to similar purposes in their groups. If we consider the definition of mindfulness as paying attention on purpose, we see that this participant is describing the use of the group to develop mindfulness first in themselves and then, as a leader, applying this mindfulness in their groups.
In Table 4.3, we see how this interviewee frames connection and the importance of connection in the group through an awareness of their feelings. This same mindfulness is applied to the group, especially in relation to the expression of emotions. Again they are using feeling-based words to express themselves and connect with others. The interviewee connects this expression and sharing of feeling based words with a sense of being connected, the antidote to feelings of isolation and alienation. We see how they lay out the process of the sharing of feelings in the group leading to a sense of connection.

Here the interviewee lays out the process by which their awareness of their feelings develops through the expression of feelings interpersonally, especially in a group. The effect of the sharing of feelings in an interpersonal setting is a sense of connection between people. The interviewee describes it as the “goal” of the process. One which is powerful in its effect. They intimate that it is hard to learn to express their feelings well, and they need to practice it rigorously.

<table>
<thead>
<tr>
<th>Transcript data</th>
<th>Early and initial coding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviewee 001: Well, for me, it’s, it’s a practice of trying to find words that can express my feelings. I think it’s really important because, jeezs, I’ve said this a million times in groups that I think it’s my view on this is that it’s through our feelings that we connect with other people. I use the example of in sports, you know, if something happens that’s very exciting to me, and I get excited about it, I think that leaves an opportunity for the person that I’m talking with to connect with me over that, not over the score or who won or who lost, but over my excitement. If I say that, you know, the [sports team] won yesterday, that’s one thing. But if I get excited about it, your eyes just</td>
<td></td>
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<tr>
<td>Awareness</td>
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<td>Use of words</td>
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<td>Expression of feelings</td>
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<td>Feelings connect people</td>
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<tr>
<td>Excitement through relationship</td>
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<tr>
<td>Connected</td>
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<tr>
<td>Relationship through words and feelings</td>
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</table>
opened up. We can connect over the [sports team]. We can connect over that. It's the feelings, and if I can communicate my feelings, that gives me the opportunity to connect with another person. I think that is just gold, gold. So many people grew up not connecting and feeling alone and isolated. And that is, to me, just awful. And people express that, you know, the loneliness, the sadness. So if I can help people talk about their feelings, I think creates a great opportunity to connect with other people and not feel so alone and really feel more enriched. I think it's important. It's important to practice that. And I think groups are a great place to do that because there are so many feelings that happen in a group and, therefore, so many opportunities to practice saying what those feelings are. I said before about in supervision when I, when a therapist wants to talk about their client, I say, “okay, that's great, and the client is going through this and that, but how is it making you feel? How does it affect you? And let's talk about you and your feelings and putting that into words”. So there is the benefit of not acting. I mentioned this before about not acting on the feelings, but also of practicing, connecting with another person. I don't think it needs to be a cold, separate exercise. It can be something done.
together and have the feeling of doing it together. That's a feeling. And I think it's really important. I think that's really the goal of therapy. The gold, the gold.

<table>
<thead>
<tr>
<th>Interviewer:</th>
<th>What do you mean by that?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviewee 001:</td>
<td>That is where the growth can happen. That's where you can learn new things about yourself through the emotional experience and where a connection can happen. I think without connection, it's really hard to learn anything, to tell you the truth. To learn something out of a book is one thing. But to learn it when you're in an interaction with a person, I think it's much more powerful.</td>
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<td>Growth, Learning, Connection and learning, Experiential</td>
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The initial coding was an outgrowth of the line by line early coding process. After line by line coding each transcript and often several times within a transcript, I engaged in analytic memo writing to reflect upon and question the meaning and import of the data. I included some of my early analytic thoughts in the descriptions above. The process of initial coding and analytic memo writing is part of the iterative process of a constructivist grounded theory (Charmaz, 2014).

**Initial coding**

Initial coding is the process of studying “fragments of data—words, lines, segments, and incidents—closely for their analytic import” (Charmaz, 2014, p.109). It is a process of sorting, reflecting and re-sorting in an attempt to develop the early stages of the analytic outline. I used analytic memo writing to work through the early coding fragments developing initial codes that reflect the research question: How do mindfulness-informed group process leaders describe the praxis of mindfulness-informed group process for the development of skills in the management of strain and stress in healthcare professionals?
I reviewed and analyzed the interview data, early codes, and previous analytic memos to understand the underlying processes of mindfulness-informed group process. I also looked for their relationships with each other. In initial coding, I looked for concepts that occurred frequently and had analytic import. Table 4.4 describes the initial codes, their definitions, selected quotes to illustrate some of the sources from the interviews and examples of the early codes that flush out the qualities of each particular initial code.

Initial coding is a process of looking at the data, the early codes and beginning to structure them to look for the underlying processes. I extracted from the interview data the nine primary initial codes that reflected the interviewee’s described experience of mindfulness meditation and mindfulness-informed group process. Interviewees endeavoured to clarify how their mindfulness practice affected themselves and their role in work groups. The initial coding reflects ideas that repeated in each of the interviews.

Mindfulness meditation created a variety of effects on interviewees. They reported the practice as “working with the moment” nonjudgmentally by “coming back, coming back to the sensation of breathing, posture, mental discipline, you just keep coming back”. This process of coming back developed into a familiarity with oneself and “of your full humanness”. Interviewees were confident that this is a practice that starts in themselves and then progresses to their groups.

Self-acceptance was seen as a major benefit of an established mindfulness meditation practice. It involves understanding how your body/feelings/mind works, what it does, and how it does it. As one interviewee put it, “because of practice, we’re taught that there’s nothing wrong with any of these feelings because they’re transparent. They’re gonna come, and they’re gonna go. Nothing’s permanent.” This self-acceptance extends from the leader to the individuals in the group. “So you’re training in having a relationship with yourself, and you can do that with others. Let them be who they are; don’t be threatened by them.”

This practice of mindfulness was a discipline both in themselves and in their groups. It involves intention, practice, effort and focus. These qualities extended into the group. The group’s mindfulness was a “skill, to build the awareness muscle”. But to do so required the intention in the group. This effort, first by the group leader and then
over time by the group members. But the group also requires a sense of safety and task.

This sense of safety is in the domain of the leader. Leadership involves not just the process of being mindful and helping members be mindful but also developing a sense of safety and task in the group. That groups are not necessarily safe environments is amply demonstrated in this research. But the leader’s task is to attempt to manage safety and train members to manage the safety of the group. As one interviewee put it, “You don’t promise safety, but you try to maintain safety. Like this idea that we’re going to have a safe group. I usually refute that with people. Groups are not safe, so let’s not pretend”.

Leaders also focus the group on tasks as a part of their discipline. Healthcare tends to have a task-driven focus. People seek out healthcare for a purpose. Mindfulness-informed groups seek to meet this purpose, but the focus is different from traditionally oriented treatment teams. The accomplishment of the task is seen as an outcome of the group process. “There are the tasks that are at hand and have to be addressed. It’s important for the group leader to track that. But as I’ve been telling my students, only give that about 20% of your attention, the other 80% of your attention should be tracking the group process”. The group leader and the group use mindfulness to manage the safety of the group through skillful communication. This allows for a more successful accomplishment of the task as members can devote their energies to their jobs and not defensive strategies managing strain and stress.

Mindfulness-informed group process is a training in skillful communication. This can mean a lot of things, but interviewees report that mindfulness influences communication in a specific manner. In the group, leaders first help members express themselves and their experience. Words are primary in a mindfulness-informed group process. So, if “nobody’s saying it. They need to say it”. But skillful communication informed by mindfulness is much more. It is an instruction. It “requires you to think about what your thoughts, your feelings and your impulses are in order to put them into words rather than just do them. So that’s already an awareness instruction…for someone who has been reacting to switch into saying, ‘I really want to yell at you right now, I have these various strong feelings’. They’re really modelling the development of the skill.”
<table>
<thead>
<tr>
<th>Initial code (references in interviews)</th>
<th>Definition</th>
<th>Description</th>
<th>Examples</th>
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</thead>
<tbody>
<tr>
<td>Mindfulness (286)</td>
<td>The awareness that emerges through paying attention, on purpose, and nonjudgmentally to the unfolding of experience moment by moment**</td>
<td>“Being mindful of your full humanness rather than just mindfulness of attention that is directed and focused” **Mindfulness as a kind of cornerstone, as a reference point. By its very nature, you keep coming back, coming back to the sensation of breathing, posture, mental discipline, you just keep coming back”</td>
<td>The present  Here and now  Self-reflective  Positionality  Consciousness  Noticing the body/emotions/mind  Mindfulness is relational</td>
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<tr>
<td>Initial code (references in interviews)</td>
<td>Definition</td>
<td>Description</td>
<td>Examples</td>
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<td><strong>Discipline (33)</strong></td>
<td>Training that produces self-control in a particular area of study*</td>
<td>“Making the intention to be aware and conscious of your thought as an object of focus. That's where I try to train my mind to go and land on and stay more or less stay with”</td>
<td>Practice, Focus, Effort, Flexibility, Intention, Structure of the group, Concentration, Creating a container, Tasks, Training the mind, training the group, Form as practice</td>
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<tr>
<td></td>
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<td>“I think it’s implicit in what we’re saying is it’s a discipline. It’s training being in a contemplative group and doing contemplative practices”</td>
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<td>And I’m running a tight ship. I told him that if he wanted to ridicule anybody in this room, he had to leave”</td>
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<td><strong>Self-acceptance (140)</strong></td>
<td>The act or state of understanding and recognizing one's own abilities and limitations*</td>
<td>“So you’re training in having a relationship with yourself and you can do that with others. Let them be who they are, don’t be threatened by them”</td>
<td>Comfort with yourself, Openness to your mind and your experience, Heartache, Inviting and an invitation to the experience, Settled, Stillness, Self-care, Self-kindness, Friendliness to your mind, Embodiment of selfness</td>
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<td></td>
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<td>“Because of practice, we’re taught that there’s nothing wrong with any of these feelings because they’re transparent. They’re gonna come, and they’re gonna go. Nothing’s permanent”</td>
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<tr>
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<tr>
<td>Leadership (130)</td>
<td>“My job is to keep it safe in here. In here we have rule of conduct”</td>
<td>“The first thing you work with is the moment”</td>
<td>Leaders</td>
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<td></td>
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<td>“And create safety, which can mean all kinds of things. You don’t promise safety, but you try to maintain safety. Like this idea that we’re going to have a safe group. I usually refute that with people. Groups are not safe, so let’s not pretend”</td>
<td>Leadership</td>
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<td>“There are tasks that are at hand and have to be addressed. It’s important for the group leader to track that. But as I’ve been telling my students, only give that about 20% of your attention, the other 80% of your attention should be tracking the group process”</td>
<td>Leads</td>
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<td>Manages</td>
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<tr>
<td>Initial code (references in interviews)</td>
<td>Definition</td>
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</tbody>
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| **Skillful communication (114)**      | An adept and adroit method of sending information with words | “Requires you to think about what your thoughts, your feelings and your impulses are in order to put them into words rather than just do them. So that’s already an awareness instruction…for someone who has been reacting to switch into saying, ‘I really want to yell at you right now, I have these various strong feelings’. They’re really modelling the development of the skill” | Direct communication of meaning  
Feelings to words in a skillful manner  
Sparky, engaging and playfully obnoxious  
Humour  
Speak truth  
Questioning with curiosity  
Feelings to words  
Words to understand self and others |
| **Openness (72)**                      | An accommodating attitude with a receptivity to new ideas, behaviours and experiences different from the familiar or predictable* | “In general it enables greater patience, basically patience for the struggle that people have with being mindful, being compassionate with themselves and others”  
“It is a play, a dance, a back and forth, give and take”  
“Working with the contemplative group you have to enter in very openly, very present with your own mind and be receptive” | No goal  
No win no lose  
A sense of choice  
Understanding roles people adopt  
Patience  
Free associative mind  
Trust  
Accepting and inviting  
Vulnerability  
Possibilities  
Jazz-like process  
Dance, dancing |
<table>
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<tr>
<th>Initial code (references in interviews)</th>
<th>Definition</th>
<th>Description</th>
<th>Examples</th>
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</table>
| Genuineness (171)                      | The quality of being honest and sincere* | “Authenticity, moving more towards choice away from compulsion or habituation”
|                                        |            | “You can’t get away with pretending something is one way when it’s another way. When you sat with yourself hour after hour, day after day, year after year, people can feel it when you’re giving them permission to be themselves. It’s like knowing how to pick up a baby and hold it properly. So it’s comfortable” | Humbleness
|                                        |            |             | Willingness to keep learning
|                                        |            |             | Willingness to allow
|                                        |            |             | Genuine
|                                        |            |             | Letting go of roles
|                                        |            |             | Gratitude |
| Knowledge (122)                        | Awareness, understanding, or information that has been obtained by experience or study* | “I’m more aware of people’s expressions, more aware of their tone and quality. It’s fascinating and very rich”
|                                        |            | “When I’m with somebody who wants to listen to me and can tolerate my feelings, I know. And when I’m with somebody who can’t be bothered, or I’m emotionally overwhelming them, or I’m the wrong flavour, I know. I know that intuitively. And I think meditation enhance our intuition” | Truth
|                                        |            |             | Curiosity
|                                        |            |             | Reality-based intelligence
|                                        |            |             | Intuition
|                                        |            |             | Listening to the unconscious
|                                        |            |             | A place of wisdom |
| Health (74) | The state of well being* | “It’s a practice of trying to find words that can express my feelings…it’s through our feelings that we connect with other people” *In my practice of mindfulness, I’ve learned to soften my boundary about what I allow into my mind. And so I am allowing a lot into my mind, and I’m more curious about what’s coming into my mind rather than trying to suppress it, control it” | Drive towards health Emotions expressed Sense of belonging/connection Playfulness Exploring the habitual Understanding in conflict Islands of clarity Basic goodness Feeling Safe Kindness Resiliency |

* Cambridge Dictionary, 2019
** Kabat-Zinn, 2003, p. 145

A quality of the group leader that extends directly from meditation practice is the quality of openness. Openness is a process of being in-the-moment, but not having an agenda about this moment. It is not needing this moment to have a particular outcome. Interviewees note that this was an essential quality of the mindfulness-informed group process as it allowed the group to struggle with and express their experience. “Working with the contemplative group, you have to enter in very openly, very present with your mind and be receptive”. Openness involves patience. In task-driven groups, this experience is often lost as members focus on their tasks. But in doing so, they may lose the chance to care for themselves and the group. “In general, it enables greater patience, basically patience for the struggle that people have with being mindful, being compassionate with themselves and others”. They may also lose the experience of play that can exist in the group context. As one interviewee put it when a group is functioning well, “it is a play, a dance, a back and forth, give and take”.

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Another quality of mindfulness-informed group process is genuineness. Genuineness is “mindful self-awareness and self-acceptance on the part of the therapist, as well as a willingness to engage and tactfully share perceptions” (Tryon & Winograd, 2011, p.19). The quality of genuineness extends from the leader's ability to know and understand their own experience and to be able to express it honestly. “You can't get away with pretending something is one way when it’s another way. When you sat with yourself hour after hour, day after day, year after year, people can feel it when you’re giving them permission to be themselves. It’s like knowing how to pick up a baby and hold it properly. So it’s comfortable.”

The group leader also learns how to trust themselves from the experience of mindfulness meditation. They report being more aware in interpersonal experiences and being able to see more in themselves and in others. “I’m more aware of people’s expressions, more aware of their tone and quality. It’s fascinating and very rich”. They use this trust in their subjective experience and observations in the group. Interviewees report that over time their trust of their inner experience, removed from a sense of reactivity, is valid. “When I’m with somebody who wants to listen to me and can tolerate my feelings, I know. And when I’m with somebody who can’t be bothered, or I’m emotionally overwhelming them, or I’m the wrong flavour, I know. I know that intuitively. And I think meditation enhances our intuition”.

Mindfulness leads to health both within a person when practiced through mindfulness meditation and in groups through the shared expression of a person's authentic experience in-the-moment. Leaders felt less reactive and more curious, playful and paradoxically safe. They were able to open more to others in their private lives. In their groups, they trusted the group and the group’s process. “In my practice of mindfulness, I've learned to soften my boundary about what I allow into my mind. And so I am allowing a lot into my mind, and I'm more curious about what's coming into my mind rather than trying to suppress it, control it”. Health and resiliency arose from the connection people in the group experienced through their genuine shared expressions. The mindfulness-informed group is “a practice of trying to find words that can express my feelings… It’s through our feelings that we connect with other people”.

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Focused coding and themes

Focused coding involved identifying major codes that transcended the interviews by returning to the raw data, reviewing my analytic memos, working with the initial codes and data analysis until more significant themes were indicated. This developed the analytic skeleton identifying the theoretical properties of a mindfulness-informed group theory. As Charmaz (2014) notes, this iterative cycle involves returning to the data, again and again, to construct and fill out the categories. It is a process of taking the initial codes and combining them in myriad ways to reflect the deeper analytic import of the raw data, the analytic memos and the literature as related to the research question. This develops the emergent themes.

The most important question I asked myself at this stage was from Glaser (1978), “What is this data a study of?” (p. 57). What were the underlying processes that were at work in a mindfulness-informed group process? How do the models of burnout and the complex ways we manage strain and stress reflect upon the data and analysis? The process of theorizing is an involved and persistent working and reworking of the data to understand the studied phenomenon. “Theorizing means stopping, pondering, and thinking afresh. We stop the flow of studied experience and take it apart” (Charmaz, 2014, p. 244). It is during this process that the initial codes are examined, reshuffled and broken-down.

By looking at the interview data, the research on the burnout syndrome, and considering the polyvagal theory, I was struck by the nature of groups. The polyvagal theory discusses the co-regulatory nature of people in the management of strain and stress. The central phenomenon I am studying is stress as associated with the regulatory/dysregulatory nature of groups and the relationship of groups and mindfulness to this process. The interviewees described the process and effects of mindfulness meditation on themselves. More importantly, they pointed to a parallel process in mindfulness-informed groups.

Typically we think of mindfulness or mindfulness meditation (a practice of mindfulness training) as an individual process. This individual use of mindfulness meditation is self-regulatory (Goleman & Davidson, 2017). Mindfulness meditation develops this self-regulatory effect by using our inherent awareness. Through meditation, we train our awareness. Mindfulness exists, not as separate from human
experience, but rather as a quality that can be 'brought out' through the practice of mindfulness meditation. By paying attention to the experience of our bodies, feelings and minds “on purpose, and nonjudgmentally…moment by moment” (Kabat-Zinn, 2003, p. 145), mindfulness develops. Interviewees described mindfulness as more than just awareness but involving curiosity, flexibility and kindness.

Mindfulness meditation helps us “feel feelings non-reactively”. Practitioners experience their body, their feelings and their thoughts, and then return to the focus of their meditation. As they become familiar with their experience, they become curious about it. Why do I feel this way? Why these thoughts and not others? They listen to themselves. As one interviewee put it,

I think of curiosity as a function of mindfulness. It’s one of the core basic energies of mindfulness to me. The more I’m curious about my experience as opposed to being identified with my ego activity, the more it allows awareness to be present. In a spacious way. It keeps my mind freed up.

This awareness and curiosity helps users to see experiences from various perspectives. They recognize that thoughts and feelings come and go. They can let go of their customary ways of doing things and can consider different perspectives. They develop a flexibility “where you can see your options and ultimately choose. You can choose where you want to put your attention”. These skills, increased awareness, curiosity, and perspective offer valuable strengths to healthcare leaders.

Mindfulness meditation also allows both leaders and individuals to know themselves more clearly and to be kind. They see how they react, how they think, their habits. Experiencing kindness first for themselves and their internal experiences often lead to initiating self-care. Typical of interviewees’ comments was the following:

In order to know what self-care is, you have to know yourself. And the more you know yourself and your environment, the more you actually understand self-care. So, mindfulness opens up your awareness in a way that allows you to actually discriminate what self-care is.

And later as a kindness to others through an increased sensitivity to their struggles.

In general, it enables greater patience. Patience for the struggles that people have with being mindful, being compassionate with themselves and others. But I think over time, it adds increased gentleness and patience with this challenging experience of working with our mind.
The key phrase that struck me as I pondered and wrote analytic memos was “mindfulness is relational”. This early code allowed me to reorganize my view of mindfulness-informed group process. I considered what the interviewees were saying in light of the parallel examples between mindfulness meditation and mindfulness-informed group process. Realizing that awareness also exists as a quality within the interpersonal field of the group, I considered if and how this awareness is trained in various group settings.

If the experience of mindfulness meditation is a self-regulatory process, could not groups experience a similar regulatory experience in an interpersonal process? What if mindfulness was relational? We know from the polyvagal theory that co-regulation with others occurs only when signals of safety are experienced through ‘neuroception’. Neuroception being “reflexive cues triggering shifts in autonomic state without an awareness of the influence of the cues” (Dana, 2018, p. 35). Meditators develop a bodily awareness through mindfulness meditation. This bodily awareness is more than just an awareness of the physical body but a holistic awareness of their body, their emotional process and their thoughts. This awareness develops from the practice of mindfulness meditation and familiarity with these experiences. As one interviewee notes, “it is an experience in learning how my mind works, where it goes and how unruly it is”.

Mindfulness meditation practice helps the practitioner become aware of body/feelings/thoughts in a non-reactive manner by both allowing the body/feeling/thought experience to arise and dissipate repeatedly. “So being less reactive. You’re trying to teach people to be less reactive by modelling being less reactive or being not reactive”. This familiarity is not-reactive and self-regulatory. Leaders are then able to bring this experience into the group. The mindfully-informed group leader uses their mindfulness in the group. In a sense, they infuse their mindfulness into the group, using it to train the group’s interpersonal awareness in mindfulness. Mindfulness-informed group process trains group members in an interpersonal mindfulness through the genuine and skillful communication of an individual’s in-the-moment experience.

I used member checking to allow interviewees to re-explore aspects of the coded data, now inclusive of the comments and thoughts of other experts. I explored the
emergent themes with them, clarifying and refining their relationships with each other. This creates a more productive, more descriptive theoretical interplay. As Charmaz (2014) notes, “focused coding is a significant step in organizing how you treat data and manage your emerging analysis. By attending to your initial codes and making decisions about focused codes, you trim away the excess for now” (p. 141).

**Constructing a mindfulness-informed group theory**

Four major themes emerged from an analysis of the data, the early and initial codes and the analytic memos (see Figure 4.4). They arose from a careful analysis of the descriptions of the participants to find the most significant themes as related to the research question. “These codes appear more frequently among your initial codes or have more significance than other codes. In focused coding, you use these codes to sift, sort, synthesize, and analyze large amounts of data” (Charmaz, 2014, p. 138). The interviewees emphasized first how mindfulness meditation affected them with a focus on the fullness of their bodily experience, feelings experience and thinking experience. Then they stressed the interconnected and holistic nature of the meditation experience.

Below, I describe these themes that emerged from the data analysis and their relationships. Mindful leadership focuses on the ways a mindful meditation practice influenced the leader and how the leader subsequently used mindfulness to influence the group. The form of the group supports mindful leadership, and together they infuse the interpersonal field of the group, transforming it into an interpersonally mindful environment. When this occurs, the group stress reduces, individual stress reduces, and group purpose improves. There appear to be parallels between the effects of
mindfulness meditation on the individual and the effects of mindfulness-informed group process on the group.

Figure 4.5  Form

Focused code/theme: Form.

- The group contract
- The discipline to maintain the group contract
- An in-the-moment focus

The theme of the form of the group emerged as an essential aspect of the mindfulness-informed group theory. Similar to the manner in which form is vital to mindfulness meditation, form sets the structure of the mindfulness-informed group. The mindfulness-informed group process has a structure that was likened to “a container which holds a space”. The form of this container was the group contract, the discipline to maintain the group contract, and an in-the-moment focus. These were depicted as necessary to enhance the safety of the work group and its maintenance. The group contract includes elements of when the group meets, for how long the group meets, the purpose and reasons for the group meeting, and how the group will function. This is the co-created social and work contract which the leader shares with the members and which the leader initially fosters. As one interviewee put it,
There are agreements we have about what we’re doing and how we do it and the roles we inhabit...And I get my own version, and then you get everybody else’s versions. Then the display of the intelligence of the situation is fuller. So really creating an atmosphere that’s open to that. Open to expression.

Another interviewee noted,

The funny thing I’ve noticed about anytime you establish a form among groups of people, especially among large groups of people, it’s hard to start it. And I would say you’re establishing a culture that runs by itself. People think the group leaders are running the culture. But once you lay down the patterns and often you have to, in the early stages, you have to name expectations. I think you work harder early on to hold the form and also reliably repeating and consistent with the form. You have to be honest and true about that. But if you do that, people internalize it. And so you could say the group leader is maintaining the form, but I don’t think that’s entirely accurate. I think once the group is running, the group collectively gets trained, and they run the form.

Setting and establishing the group form is a vital and essential aspect of a mindfulness-informed group process. We see that once established, it constructs and organizes the group and becomes a task of the group members. The form does, however, require discipline over time to maintain. The ‘discipline’ quality involves focus and effort, as well as flexibility. At first, nurtured by the group leader, this discipline also becomes the task of the group members over time. Discipline is a conscious effort to return to the group contract. The group contract provides the structure that supports safer communication of the group’s subjective experiences. These guidelines function better if they are explicit and agreed upon. The consensus was that it includes, “the time is another element of the container. You maintain the form of the container and the time, not rigidly but fairly and accurately”.

The contract is to be mindful, be respectful of what’s happening and use active listening. It includes the injunction as an interviewee noted, to “put it into words” which has a regulatory influence on the group. As one interviewee reports, “the contract is so helpful because it gives the leader authority that everybody knows at the outset what they’re supposed to do”. These elements, the contract, discipline and an in-the-moment focus, are integral to establishing and maintaining the group. They also play an essential role once combined with mindful leadership. With “just the form, people will behave in a certain way because they’ve chosen to enter that form. So they will talk in a certain way, which inspires the leader/facilitator to talk in a certain way. Because you
Interviewees repeatedly talked about the necessity of staying in-the-moment, whether when practicing mindfulness or when leading a mindfulness-informed group process. The ‘in-the-moment’ quality allows for a direct communication of the individual’s experience, which flows from being aware and spontaneous. This genuine communication helps others in the group understand the signals they are receiving and allows them to be interpreted. Signals that, without words, might be seen as signalling danger can then be seen in a clear context and reinterpreted as safe. Maintenance of safety is a vital element of the form. Despite its precariousness, it needs to be actively maintained. Enough safety needs to exist, that work group members can take risks by sharing aspect of their emotional experiences, in-the-moment and in the context of the complexities of the work environment. This is vital to the experiences of self and co-regulation.

Figure 4.6   Mindful leadership

Focused code/theme: Mindful leadership.

- Arises from mindfulness meditation by allowing the practitioner’s mind to “settle” and to better know their feelings
• Develops a sense of tender-heartedness from “seeing your mind in all its glory, suffering and pain”

• Channels and infuses mindful awareness into the group

• Models genuine and authentic communication and non-reactivity

• Conveys curiosity, flexibility, and openness to others

Mindful leadership involves a variety of aspects including mindfulness, skillful communication, self-acceptance, leadership, genuineness and openness. The mindful leader uses their experience developed through mindfulness meditation to infuse the work group, especially the group members, with these qualities. As this infusion takes effect, group members display these qualities within and through the experience of interpersonal mindfulness. What starts with the mindful leader moves into the group, affecting the interactions and increasing the interpersonal mindfulness of the group field. It is through this process that the group engenders decreasing interpersonal tensions and improving the group’s tasks.

All the group leaders noted the way mindfulness meditation practices changed them and prepared them for their work with individuals, in teams and in groups. It was collectively described as a training of the mind. One that focused the awareness of the individual on the experience of their mind/emotions/body. They described the discipline of a mindfulness meditation practice as “form,” which allowed the practitioner’s mind to “settle”. Form involved a regular meditation practice, an intention to practice accurately, and a relaxed form of concentration. With regular practice, a settling occurred. As one interviewee noted that represented the general comments,

“The primary way that it [mindfulness meditation] affected me was I got to understand my emotions differently. I could feel them more deeply, could learn to stay with them and hold them for longer periods of time. Which is a way of saying I understand them and what they are asking for or are communicating. Ultimately it helped me to be with other people in their emotional states.”

The settling allows the practitioner to know better their feelings and the fullness of their human experience. They described this as “feeling instead of feeling reactively”. From having this meditative experience, again and again, practitioners describe beginning to know themselves more fully, to be more accepting of their feelings and to be more open, genuine and authentic in their communication. Interviewees noted,
Mindfulness is a kind of congealing factor. I think that you could call it that. So you take your posture, and you bring your attention to your breathing, and you're so fully present. Is it a congealing force? Sure. It's almost like gravity is pulling you together. The gravitational force over your own elements of your being are pulling on each other and congeal. And so the whole person or the person whose whole sense, at least in those moments, appears.

Mindfulness starts with the leader listening to themselves but is instilled in the group. This process of mindfulness awareness, moving from the mindful leader to the group, happens repeatedly. Early parts of this process are discernible in the following,

I think that listening is very important to mindfulness. So as a leader, I believe mindfulness helps me really pay attention and to listen to very subtle cues that I don't know if I would hear otherwise. But I think even listening to this subtle texture of a quality of sound, you might also listen to the subtle quality of the texture of somebody's expression. And that also allows you to look at things, not just the words somebody's saying, but how they're saying them. The pace with which they're saying them and the way they are holding in their bodies. And then this sort of tool bag which could come into play to help you understand how to use that listening to try and in some way bring out that subtle current that somebody is expressing.

Skillful communication initially involves setting the 'tone' of the group and highlighting specific experiences in members, in-between group members and in the group-as-a-whole. Leaders set the tone by helping the group 'slow down' and notice their experiences and interactions. This helps group member's become aware of the interpersonal field. Mindful leaders do this through the use of their words by describing the 'mindfulness' in the group process, primarily as related to emotional experience. The effect is quite powerful, as in the quote below,

There'll be a relatively experienced person...let's say, who is already embodying his practice. That person's experienced. So they already embody something important here that begins to affect the atmosphere, the space, within which that group functions and has formed their relationships. I've had people say this to me, for example, 'slow down and take time to reflect on what's happening.' I've heard somebody say, 'it looks like you're thinking deeply about what I just said, cause you've slowed down. You look like you're taking that in and letting it work on you'. So that usually has this kind of slowing and coming into the present. A leader, for lack of a better word, helps the members of the group become aware of that. That's the awareness principle coming through; teaching through being that way.

Knowing what to say involves a process of openness and mindful awareness of the interpersonal process. Leaders focus on the group, how they are sitting, who is
talking to whom and the ‘feel’ and ‘feelings’ of the group. This is a process of attunement whereby the mindful leader uses relaxed concentration and openness to any experience that may arise in the group process. Using “your awareness in a skillful and an intentional way to build the awareness muscle to create some breakdown in the participation in our drama and our story as if it's real and complete”. Or as another interviewee noted,

I think the initial stance is receptive. You want to be aware of your biases and not that you exterminate them, but the more you notice them, they're part of what's going on in your mind. And then in running a contemplative group, I would enter in, people are in the room, I'm just receptive. I'm receptive to what they're doing, where they're sitting.

And then,

Patiently tuning into the field of the group rather than some ideas that I have that are pushing me, and I've got to get these out. I try not to be pushed by my ideas of what I think should happen, but I'm waiting. I'm more or less synchronizing with the field of the group and noticing what would be a good thing to say at this time. Usually, something starts to take shape in my mind I've noticed. And the communication begins to take shape as I'm listening and vigilant for that.

Openness also infuses into the group and affects interpersonal awareness. Starting with the mindful leader, we again see how this is communicated to the group:

The instruction might be to orient your body to relaxation and ease. And self-inquiry. And I think I feel the same when I sit down with a group. I've sometimes said that to the group, ‘I wonder what will happen today. Isn't this wonderful? Here we are.’ And it can feel a little daunting in a way. It's so open, but it's also saying we can really be curious about what happens.

Genuineness is described as “directly communicating the meaning of their experience”. Along with this genuineness comes self-acceptance, humbleness and a sense of tender-heartedness from “seeing your mind in all its glory, suffering and pain”. Self-acceptance and genuineness are essential qualities for a mindful leader. By learning to fully experience their feelings, mindful leaders reported coming to deeply understand their thoughts, emotions, motivations and actions gaining a clearer picture of themselves. This allowed them to ‘relax’ into themselves in a way that increased their trust in their ability to ‘feel’ versus ‘act’ on their emotions. The following comment captures this,
I would say the primary way that it affected me was that I got to understand my emotions differently, could feel them more deeply. I could learn to be with them and hold them for longer periods of time, which is I think a way of saying to understand them, and what they're asking for or communicating. I think that ultimately it helped me to be with other people in their emotional states. Not to have to be afraid of that or change it or shy away from it. And to actually welcome it and help people understand that they can do the same. They start to relate to mindfulness and start to have a relational context that way.

Leadership itself is considered a mindfulness practice. Being a leader involves being first open and clear about your own experience, and as observed above, not 'what you want it to be.' It then involves being fully immersed in the group experience while also holding onto your awareness. This awareness is an awareness of yourself, the individual group members, the interpersonal process and the group-as-a-whole process. All within the context of the form and tasks of the group. It starts with using your mindful awareness on yourself 'in' group:

Facilitating a group is a contemplative practice. And by that, I mean that you want to be present. Maybe it's charged, and you want to really be present in your body. That includes being present with discomforts and dysregulations and being honest.

Your awareness of yourself 'in' group plays a crucial role in leadership. It involves a process that corresponds to the practice of mindfulness meditation whereby you notice your experience, are open to it and understand it to the best of your ability. And then to put it into words in the interpersonal process. The comment below was typical,

So the container is built, part of my job is then to work with the container and to maintain it. And the other part is to create something that uses my contemplative awareness. To create this sort of space where I can just be receptive to the space. Where the information of the group goes in, and I wait for information, perhaps my unconscious intuition and then I put out words to see if it resonated at all. That sort of intelligence comes out.

This process accentuates the interpersonal awareness to a point of interpersonal mindfulness. It is here that we begin to see the value of mindfulness-informed group process in the ways the group knowledge becomes apparent:

It's coming out in the group, and your job is to reflect it. Sometimes it comes, and I feel the insight come up out of me and other times I can, I can see it out there in the space [of the group]. So the location could be in here [the leader], it can be out there [in the group] and somebody might say something. And it is like, 'Oh my God, that just like crystallized something in the group' and then I'll reflect it. So it isn't
always in here. It's out there. It may come in through you and through your awareness, but it may come out in a different place [person] in the group.

Interviewees noted that from mindful leadership, a series of qualities arose that they would then bring to their work. They reported that the mindfulness-informed group leader brought themselves to the group, channelling, modelling and especially infusing mindful awareness into the group. They described the ways of being curious, more flexible, actively listening to others and are willing and able to genuinely and skillfully express themselves affected the group. This is an essential aspect of mindfulness informed group process that moves mindful awareness from the leader into the group interpersonal dynamic.

Figure 4.7 Mindfulness-informed group theory

**Focused code/theme: Interpersonal mindfulness**

- Exists in the group space as a field that is co-created by all the members of a group
- Uses skillful communication as the primary driver of a member’s genuine, in-the-moment experience while being open to other’s experiences
- “It’s a practice of trying to find words that can express my feelings…it’s through feelings that we connect with other people”
- Focuses on an awareness of the environment where openness, curiosity and concern can be expressed
Interpersonal mindfulness is the group awareness trained and focused through a variety of factors including mindfulness, skillful communication, self-acceptance, genuineness and openness. Interpersonal awareness occurs during any group meeting. In mindfulness-informed group theory, mindful leadership, together with the form, help transform interpersonal awareness towards interpersonal mindfulness. As noted, in an interpersonal context, we are scanning for signals of safety, danger and life-threatening danger which forms the basis of interpersonal awareness. Interpersonal awareness exists in the group space. This field, co-created by all the members of a group, is where members exchange information and signal each other. It is through words that they can express their experiences of strain and stress. As observed in the quote below,

It's always struck me this question of what is a contemplative group? It's welcoming of what occurs for an individual, but also between people. Because in groups, that's what's happening is people having experiences among or between people. I think mindfulness in that way is the holding ground for those experiences.

Words and especially words about feelings play a crucial role in this space and were the driver of interpersonal mindfulness in the mindfulness-informed group process. Words drive the process. As one interviewee said, “It’s a practice of trying to find words that can express my feelings… it’s through feelings that we connect with other people”. Words act as a medium for transferring emotional energy and signals of safety. This follows if the person talking is being mindful in their experience, then it is through words that members can share their in-the-moment emotional experiences.

The regulating of tension is a delicate task that requires the leader to be aware of the tensions in the interpersonal field of the group and help the group express these tensions in a genuine but safe manner. Mindful leadership thereby plays a vital role in the development of the group's ability to co-regulate. The management of tension through interpersonal mindfulness improves safety in the group until group members are better able to regulate the tension themselves. However, significant hierarchies of power exist in work groups and well as dual roles for some members that affect interpersonal sharing. Additionally, there is no agreement of confidentiality. The expression of emotions is a vulnerable-making process that requires a great deal of care and consideration. This experience can be challenging, and the tasks of the leader and group members require increased mindfulness. As emphasized in this quote,
The real challenge of a contemplative person is noticing [the difficulties] and approaching them. Knowing that there are always limits and there's some dark, scary shit that it takes a long time to get to and to bring out. You're a fool to just unearth whenever. To unearth something in a group that's really accurate requires timing. But also not covering up and colluding. These energies are within the group and helping them find their way to the surface.

But the value of working on interpersonal mindfulness as a group member is significant. Being mindful of your experience helps you and the group engage and has benefits related to the types of interactions possible. The following quote explains and it's message was evident in many of the transcripts,

You learn to do this, and then it's a self-sustaining and deepening process. And then if you're fortunate enough to work with people who are engaged in these kinds of things [interpersonal mindfulness] too, then you've arrived. We're all in this zone, and it just gets deeper and wider and more interesting as various phenomenon continue to appear.

By putting into words their experience, the members can express and share themselves. In an environment of openness, members’ curiosity and concern can be expressed. This experience is co-regulating. Theoretically, members' nervous systems, through the process of neuroception, detect the signals of safety from the group leader and other group members. The detection of safety signals (i.e. prosody, head position, facial expressions) triggers their vagal brake, down-regulating their potentially defensive strategies (i.e. flight or fight, freeze), allowing supportive social interactions. Interviewee's stated this as,

Being able to be free to say whatever, whatever's on your mind. And that's a kind of the invitation that you were touching on. You mentioned this, you can ask, you can invite a person to be completely honest in that working team. Imagine that.

And

If people are relaxed and comfortable, the unconscious is also relaxed and comfortable and more willing to come out. And then it's interesting. I experienced it as you're having these conversations, and then if the group is willing, can you go down a level. It's kind of like you will suddenly drop in.

Interpersonal mindfulness is the place of dialogue, conflict and resolution involving mindfulness and skillful communication. This occurs through an awareness not just of oneself but also of the signals one is sending and awareness of others and their
states. Skillful communication is communication genuine to the person’s in-the-moment experience while being open to other’s experiences. Leaders model genuine, open communication and non-reactivity. And they do so while regulating the tension for the members as a part of interpersonal mindfulness. As they do so, the group attempts the same, expressing their feelings, in-the-moment. Many interviewees observed this similar to the following quote,

So in a mindfulness group, as people become more aware of their emotions, it also requires them to be quite comfortable with themselves because it’s vulnerable to talk about it—Co-friendliness with self-friendliness. I think the fruition of that is that people are more free in their communication. They share more of themselves, more of their emotional state. They can understand it, and they understand it in the context of their relationships with other people. And that’s the learning quality that comes through. That’s the information quality.

The mindful leader is modelling openness, genuineness and self-acceptance. As they do so, they are also reflecting and highlighting these qualities in group member’s communications. This process infuses these qualities in the group members as they see the benefits of skillful communication in an interpersonal mindfulness field. Members’ expression of genuineness occurs if the process does not dissuade it. It was typical of the interviewees when one said,

We use this term, genuineness. So a person is able to be genuinely honest and good. They genuinely express where they are, how they are without defensiveness, without fear of being judged.

Self-acceptance is also an infused quality that strengthens through the process of interpersonal mindfulness. Group members can express themselves, including their more complicated feelings. As this happens, both in the individual and in others, members begin to accept their feelings. As observed by an interviewee,

It's very pleasant. It drops down, and groups will have those moments where there's a little tension, anxiety, and if you can, you work with it. But if you can stay with that level for a while, not always, but oftentimes more than not, the group will drop to a more, what would I say? It's connected. They kind of are in sync. They're synchronized; they're attuned with each other. A group initially is often a little bit disorganized. Even a group that's been together for a while is out of rapport, and the longer you're in the room, and suddenly there are these kinds of group rapport. Something coalesces. Sometimes by the end of it, you can drop to these quite wonderful, meaningful places even when somebody expressed great anger or great sorrow or not always the happy emotions. But sometimes the heavy dark emotions can be very
satisfying in the group. When that happens in a group, there's a weight or relaxed sense of resolution.

Mindfulness-informed group theory involves the mindful leader using the qualities developed from their mindfulness practice in the group. This, along with the form, imbuces the group, changing interpersonal awareness into interpersonal mindfulness over time. Members begin to experience changes in themselves through this process as they become more mindful, skillful in their communication, open to their experiences and others, genuine with sharing them and accepting. One interviewee captured the benefits as follows,

I think contemplative groups and mindfulness can give people hope that there's an ability to work with one's mind. There's an acknowledgement over time that I can work with my mind. There's an understanding of how we get caught. People will come back and say, 'Oh, I forgot to sort of work with my mind got really caught up in that conversation or that anxiety situation.' So I think it teaches people about their minds a great deal. It gives them the flexibility to work with them. And by that work with your mind, I mean having some understanding of what's happening. Some ability to play, either to be with and operate with a certain affective state or, or in some way, to change it. Good idea to have flexibility and choice.

**Focused code/theme: Group purpose.**

- Creates a connective experience between members
- Facilitates increasing signals of safety and support, promoting health
- Allows the group to act together non-defensively towards the accomplishments of their tasks, encouraging knowledge

The next theme is one of group purpose, which is created through mindful leadership and form on the interpersonal awareness field. As interpersonal awareness transforms into interpersonal mindfulness, a greater sense of health and knowledge emerge. This group purpose emerges from an increased sense of safety in the group leading to corresponding improvements in health. As one interviewee notes, engaging in a mindfulness-informed group process is an invitation and, “that invitation is personal. And if they accept the invitation, it resonates with one's basic good nature. That's basic health.”

Increased safety allows the energies and efforts associated with defensive strategies to be downregulated, reducing the individual’s stress. An increased sense of
safety allows for the powerful co-regulation of strain and stress. Less defensiveness also allows the group to focus on group tasks. The group can use its energies to function as a unit with the understanding that group members are available and supportive. As one interviewee summarized the process but indicative of all the comments,

I think it's progressively important to feel love and connection and interconnection among people as things speed up in our society. And I think group can do that and contemplative groups can do that. It gives people the opportunity to feel other people, to be in contact, to know that they're not alone in a very profound way. And that's a tremendous component of resiliency.

This safe and supportive environment also creates a connective experience between members, and if there is conflict, it may profoundly move the group toward a resolution that is often unforeseen. The group intelligence and knowledge are associated with the group acting together non-defensively towards the accomplishments of their tasks. It is a product of the properly experienced form when group members are experiencing a temporary state of safety and connection. Temporary, because all members are continually scanning for safety as work experiences vary. This creates a continual tension that is managed through words by the leader and the members of the group. Group knowledge arose through this process and is captured in the quotes below:

That intelligence is loose and on the move and emerging from [the interpersonal] space. So something about the space is alive, alive and well, and you're actively engaged with it.

This mindfulness-informed group process, besides being co-regulating, also encourages the mental effort of the group members. It becomes easier to think and engage in your professional work if you are among other professionals in a cooperative, humanist endeavour. The comment below was typical of the interviewees' thoughts,

So you can see why that might be really exciting for groups. Right? The group could engender a social field, with a relatively social focus, a social field of intelligence. Then, there's that way where you are perceiving the intelligence rather than being the generator all the time, which would tire you out. It's often a quality of having to generate it [intelligence], which takes energy and focus and drive. There's a sense of it arising. There's less effort. Listen, this is about what arises.
4.5. Summary

Mindfulness-informed group theory describes four interacting concepts: mindful leadership, form, interpersonal mindfulness and group purpose. Mindful leadership applies specific traits developed through mindfulness meditation to the leadership of work groups. Mindfulness meditation specifically develops traits of mindfulness, openness, genuineness, and self-acceptance, which the leader then uses during skillful communication. Skillful communication reflects these qualities as well as kind and respectful communication combined with active listening. The group leader, mindful of the complex hierarchies and asymmetries of power in a work group, encourages and supports the interpersonal mindfulness through signals of safety. Mindful leaders use themselves as instruments in the group. Their experience of themselves, developed through mindfulness meditation, allows them to use these qualities to influence, model and regulate the interpersonal field.

Mindful leaders work with the group form, which includes the group contract and tasks, the discipline to maintain the contract and an in-the-moment focus to develop mindfulness and safety in the interpersonal process of the group. Interpersonal mindfulness uses skillful communication that is genuine to the member’s experience and open to the experiences of others. The work group develops and advances interpersonal mindfulness over time with changes resulting in improvements to the sense of safety in the work group. I speculate this allows for improved co-regulation of strain and stress and increased energies for the tasks of the group.

However, it is important to caution that this does not encourage unregulated interpersonal sharing or what would be considered psychotherapeutic interpersonal sharing. Interpersonal mindfulness includes awareness of the complexities of the roles of the individuals and the differing goals of the leader and members. Interpersonal mindfulness involves interpersonal sharing within the constraints of these workplace complexities with the intent of sharing genuine workplace experiences in a respectful manner and in a manner that signal safety. With signals of safety, comes the down-regulation of the SNS activating our social engagement network.

The sense of support and connection resulting from a variable but repeated group experience of safety allows for improved health through this process of down-
regulation of the SNS and activation of the social engagement network with its corresponding qualities of restoration. This process allows for strain and stress to be co-regulated in the work group. It also potentially harnesses the group’s knowledge and intelligence for complicated tasks that arise in the provision of healthcare.
Chapter 5. Discussion, Implications, Conclusions

My research and analysis attempt to bring together different and diverse discourses, (burnout, mindfulness, group theory), in a way that integrates them and signals a possible way forward in the prevention and treatment of burnout in healthcare professionals. As Hoy (2014) notes, “the form of the theory is less important than the degree to which it generates useful understanding; theory is judged by its utility” (p. 10). It is important to note that this “theory building” involves multiple stages whereby the studied phenomenon is first described and conceptualized. My research uses a practice-research-theory approach and is merely an early stage in the process of looking at the prevention and treatment of burnout from a distinct perspective, that of mindfulness-informed group theory. This perspective is focused on integrating mindfulness and group dynamics and is uniquely influenced by my experiences. It is presented within the context of a constructivist grounded theory methodology. As Charmaz (2014) notes, “From a constructionist perspective, theories reflect what their authors bring to their research as well as what they do with it” (p. 259).

Mindfulness-informed group theory is limited to the experience of healthcare professional work groups and is based on the experiences of healthcare professionals within this context. This research is not a global theory of group, nor is it focused on psychotherapeutic repair. If focuses on ways leaders of healthcare professionals can influence the group dynamics of work groups, lead in a manner that lessens burnout and improves overall task accomplishment. It provides a descriptive theorization of the concepts of a mindfulness-informed group and attempts to posit the principles between them. As Charmaz (2014) advises,

An elegant parsimonious theory may offer clear propositions but have limited scope. An imaginative diffuse theory may spark bursts of insight but offer interpretive frames with porous borders. Each presupposes different objectives and favors certain ways of knowing and types of knowledge. A theory allows us to cut through ordinary explanations and understandings and to attend to some realities and not to others (p. 260).

5.1. Discussion of the results

As this research is qualitative, it uses the observations of the interviewees as well as the literature review and analytic memoing to develop the analytical generalizations of
a mindfulness-informed group theory. This theory applies to the healthcare professional work group and the interpersonal dynamics that play a role in regulating strain and stress, leading to burnout. These generalizations form the theory using the constructs of mindful leadership, form, interpersonal mindfulness and group purpose. I use Hoy’s (2014) definition of concepts and constructs as “often used interchangeably... Both refer to a term that has been given an abstract, generalized meaning” (p. 11). As Hoy (2014) notes, concepts form the language of a theory with the principles representing the grammar. Principles explain the relationship between the concepts and why they relate.

**Mindfulness-informed group theory**

Mindful leadership is defined as when the leader uses specific qualities developed in mindfulness meditation (mindfulness, openness, self-acceptance and genuineness) through skillful communication in their role of leadership of a work group. It focuses on these particular qualities that arise through a regular and long-term practice of mindfulness meditation and which are effectual to leaders as they lead healthcare professional work groups. Mindfulness is defined as “a quality of consciousness or awareness that arises through intentionally attending to the present moment experience in a non-judgmental and accepting way” (Kabat-Zinn, 1994, p. 2). In the work group, it is particularly related to listening both to the leader’s own internal experience and the experiences of others. It leads to openness or receptiveness to the in-the-moment experience. Self-acceptance arises from the repeated experience in mindfulness meditation of being open to one’s intra-psyche experience.

Mindfulness meditation develops an individual’s awareness function of themselves and the experiences of others. Being aware of their current emotional state and that of others allows for a more realistic assessment of the situation. Mindfulness meditation also lowers an individual’s emotional reactivity while improving their experience of their feelings (Gilmartin et al., 2017; Guillaumie et al., 2017; Joyce et al., 2018; Lomas et al., 2018; Luken & Sammons, 2016; Shanafelt & Noseworthy; 2017; West et al., 2016).

The qualities of mindful leadership derive directly from the experience of mindfulness meditation. They form the basis of skillful communication as the leader uses these qualities in the context of the work group. However, ‘uses’ is an imprecise term as these qualities represent traits in the leader that have advanced over time.
Goleman and Davidson (2017) note mindfulness develops these qualities in mindfulness meditation and with consistent practice “gradually spills over into everyday life” (p.89). This was additionally confirmed by the systematic review on mindfulness which found that mindfulness meditation increased an individual’s ability to identify their feelings as well as identifying the feelings of others, increased an individual’s feeling of calmness, improved communications with patients and colleagues, and had a positive effect on team dynamics (Guillaumie et al., 2017; Lamothe et al., 2016).

The mindful leader may express themselves and put words to the dynamics in the work group within the context of ‘skillful communication’. This communication is respectful, kind, and demonstrates their heightened and mindful awareness of the dangers inherent in communication and interpersonal sharing in the work group. As described earlier by an interviewee, “You don’t promise safety, but you try to maintain safety. Like this idea that we’re going to have a safe group. I usually refute that with people. Groups are not safe, so let’s not pretend”. Work groups contain complex hierarchies of power that need to be considered and respected. This component of mindfulness-informed group theory, skillful communication and how to achieve it is a critical element of developing safety in the group. If unconsidered, it can move the work group to feel unsafe. Again as expressed by an interviewee previously,

There’s some dark, scary shit that it takes a long time to get to and to bring out. You’re a fool to just unearth whatever. To unearth something in a group that’s really accurate requires timing. But also not covering up and colluding. These energies are within the group and helping them find their way to the surface.

Skillful communication is difficult to expressly define as it can represent different communications at different times. This occurs through an awareness not just of oneself but also of the signals one is sending, and an awareness of others and their states. Skillful communication is communication that is genuine to the person’s in-the-moment experience while being open to other’s experiences. But skillful communication must also consider hierarchies of power within the group and in the organization as well as unclear confidentiality. It represents what can be said in the work environment while acknowledging what cannot be said. In this key manner, it differs significantly from psychotherapeutic groups.
Still, work groups represent a powerful environment in which members may reduce stress through co-regulation. A work group’s process can arguably play an essential role in the overall functioning and task accomplishment of the individual and the group. There is evidence in the systematic review for the co-regulatory nature of social relationships in work groups as well as improvements in the individual’s mental health, stress management, affect regulation and learning from experiences from good group environments (Bronkhorst et al., 2015; Gillman et al., 2015; Lau et al., 2016). The skills associated with managing the group process are not taught to new leaders nor encouraged in existing ones (Bronkhorst et al., 2015).

Mindfulness-informed group theory posits that mindful leadership involves bringing the qualities developed from mindfulness meditation, including state mindfulness (in-the-moment awareness), trait mindfulness (ability to maintain mindfulness over time), and especially the qualities of self-acceptance, genuineness and openness, into the group. The group leader plays a significant role in group dynamics. They do not encourage public sharing of intimate issues and thoughts, but only of thoughts that refer to the team’s tasks and goals. They:

- influence the interpersonal field through an awareness of the members’ experiences,
- use their curiosity about these experiences, which can be voiced in the group,
- use a group contract designed to support and train members in safer social interaction.

Mindful leadership merges with the form of the work group. The form of the group includes the group contract, the discipline to maintain the contract, and an in-the-moment focus. Each element of the form of the work group supports the group in establishing increased interpersonal safety. The contract includes the exogenous goals of the work group, which are related to the work the group is doing and how they will go about their work. The group contract consists of the clearly stated details of the group, including roles and role responsibilities, meetings and the purpose of the group. It also incorporates the guidelines relating to the interpersonal environment, unambiguously encouraging and directing respectful interactions and openness to other’s experiences. Professional and courteous interactions improve workplace environments (Lau et al., 2016). Mindfulness-informed group theory explicitly encourages work group members to
consider interpersonal signals of safety through respectful and kind communication as well as active listening to others. Active listening is concentrating and attempting to understand the experience of the speaker. The group contract provides the structure that supports safer communication of the group’s subjective experiences. This contract functions better if the components are explicit and agreed upon. The in-the-moment focus is similar to the focus in mindfulness meditation, but now expressed in the group process. An in-the-moment focus helps the group work with their experiences relating to the current workplace stresses.

Mindful leadership and form develop ‘interpersonal mindfulness’ in the group. Leaders practise being aware of what is happening to and between the members in the group. Then, as in mindfulness meditation, they are curious about the member’s subjective experiences and their interpersonal experiences inasmuch as they relate to the work setting. They consider and, at times, ask the group about what is happening in their experiences and why. Openness to work experiences, and curiosity into the safety of the group signal safety to group members. Group leaders may use their curiosity to ask questions of the members and the group-as-a-whole within the boundaries of the group form and in consideration of the hierarchies of power in a work group. These questions are designed to encourage the genuine expression of the member’s experiences, emotions and understanding of the situation in-the-moment. Again, this expression is encouraged in the context of the work group’s goals and tasks and is not an interpersonal sharing outside of this work context. While the sharing of emotional experiences can have value, we are focusing on interpersonal mindfulness in the work context. The work context is a part of the interpersonal mindfulness and any expression in the work group. This genuine expression of experiences through skillful communication in the work context leads to a sharing of these experiences between members and allows for increased connection.

The process of interpersonal mindfulness leads to the state similar to ‘feeling felt’ as described in the literature on interpersonal neurobiology (IPNB) (Siegel & Goldstein, 2017). Feeling felt is described as “the connections we form with another person when our experience and emotions are empathically received and understood” (Siegel & Goldstein, 2017, p. 282). But feeling felt is understood in a psychotherapeutic sense, not the work context which is the focus of this research.
The result of this process appears to be a renewed sense of engagement with the group's purpose and its tasks. The safety of the interpersonal field results in the down-regulation of the sympathetic nervous system response, allowing for an increased sense of calm and social interaction (Porges, 2018). As members begin to know and trust each other, there is an increasing sense of connection and cohesion in the group, which is noticed and encouraged by the mindful leader. This increased cohesion helps focus the work group on the group tasks. The group's knowledge and intelligence can arguably be enhanced through this process of connection and synchronization.

**Mindfulness-informed group theory and the polyvagal theory**

Safety requires a reciprocity of interpersonal signals that indicate to us we are emotionally connected to those around us (Dana, 2018; Porges, 2011). These signals come to us from facial expressions, speech and prosody. Communication involving mindful awareness, openness and curiosity reflect these signals and trigger the down-regulation of the sympathetic nervous system. The group form encourages the work group members to take responsibility for noticing and communicating the signals of safety and noticing signals of danger in the group. It also encourages the safe expression of a member’s in-the-moment experience, further signalling safety. If managed by the group leader, the sharing of experience can support connection and relationship, leading to improved group cohesion with corresponding decreases in strain and stress.

The polyvagal theory highlights how relationships are vital components of our health and wellbeing and, through the process of co-regulation, allow for improved management of strain and stress. Co-regulation is the reduction of the stress response and the activation of the social engagement system with corresponding feelings of calm. It arguably occurs in the mindfulness-informed group when members of the group signal safety through open and genuine in-the-moment skillful communication causing mutual down-regulation of their sympathetic nervous systems. When this happens in a group, co-regulation provides for restoration and growth in the members. Additionally, the energies previously used for defensive strategies and which drained the individual are continued to be held in reserve. The group works cooperatively and with improved cohesion, increasing the potential efforts towards common goals.
5.2. Conclusions

This research on mindfulness-informed group process provides several necessary concepts to the prevention and treatment of burnout in healthcare professionals. It used a constructivist grounded theory methodology to develop themes and their relationships that inform the small group interpersonal environment in a mindfulness-informed group theory. Results characterized the interpersonal environment as a dynamic state strongly affected by the group leader’s mindfulness, the form and the group’s interpersonal mindfulness. The group purpose is enhanced with increased interpersonal mindfulness, which appears to signal safety through openness, curiosity and skillful communication all within the context of work-related boundaries.

The literature review clarifies the role of mindfulness meditation in helping prevent burnout and, to a lesser extent, treating burnout. The role of good group leadership and management in a healthcare organization is understudied, and little attention is given to the emotional life of healthcare professionals. This is particularly significant as the majority of work in healthcare is performed on teams. The use of group theory, especially psychodynamic group theory, with its emphasis on the interpersonal dynamics, provides insights into both the causation of burnout and its remediation. Again, this does not imply that the work group leader or the mindful leader are leading a psychodynamic or psychotherapeutic approach. Instead, these insights inform mindful leadership but only within the context of the form of the group, which acknowledges the exogenous goals of the group as well as the hierarchies of power in the healthcare professional work group.

The application of the polyvagal theory offers critical understanding into the development of burnout through strain producing stress and insight into possible prevention and treatment modalities. Mindfulness-informed group theory offers potential value to leaders and individual healthcare professionals in creating healthy work group environments. It does so through a sequential process where the leader uses their mindful awareness within a structured form to enhance interpersonal mindfulness. Interpersonal mindfulness includes the use of skillful communication of the individual’s in-the-moment and genuine experience to connect with others with increased signals safety. Signals of safety allow for the co-regulation of the stress response, enhancing restoration, growth and group knowledge.
This research makes significant contributions in four principal areas:

- The application of the polyvagal theory to the development of burnout in healthcare professionals provides a clearer understanding of the role of stress in the development of burnout and clues to prevention and treatment modalities.

- The placement of the small group environment and the interpersonal dynamics as a significant factor in the development and prevention of burnout broadens our understanding of burnout as well as expands potential areas of research in the prevention and treatment of burnout.

- Mindfulness-informed group theory posits that mindful leadership involves bringing the qualities developed from mindfulness meditation into the group. This has significant implications as state mindfulness (in-the-moment awareness), and trait mindfulness (ability to maintain mindfulness over time), move the qualities of self-acceptance, genuineness and openness into the small group environment.

- Interpersonal mindfulness arises out of the interpersonal field. It can be guided by mindful leadership and the work group form to improve the interpersonal environment through genuine and authentic communication and non-reactivity. This boundaried communication, whereby members express their experiences in the work context, is cognizant of differing roles and hierarchies of power.

Mindfulness-informed group theory describes how mindfulness infused through the leadership and the form of the group establish an interpersonal mindfulness. This interpersonal mindfulness heightens member's awareness and accountability of the signals of safety responsible for good work group functioning while allowing for increased yet boundaried interpersonal communication.

It involves the concepts of mindful leadership, form, interpersonal mindfulness and group purpose. Mindful leaders use their mindfulness meditation practice not only to regulate themselves but also to develop traits of mindfulness that manifest in their work and their leadership of work groups. By practicing mindfulness, leaders become more aware of their feeling and thinking states leading to an interconnected series of qualities. The practice of mindfulness meditation allows for increased openness to all the leader's thoughts and feelings, causing them to become more self-accepting. Mindful leaders are able to be genuine in their expression of their thoughts and feelings, leading to skillful communication with others. These qualities, mindfulness, openness, self-acceptance, and genuineness, are skillfully communicated and encouraged in the group members, thereby heightening the group's interpersonal mindfulness. Mindful leaders are aware of their experience, as well as the complex and multifaceted experiences of the group.
members. They lead partially by reflecting and enhancing the mindfulness of the group. The mindful leader is also mindful of the asymmetries of power in the group and the organization and uses this aspect of mindfulness to protect and support members. As they move between different aspects of the healthcare system, they can offer these qualities to the various groups with which they interact. The infusion of these qualities has the potential to subtly but positively influence broader system dynamics.

The form also plays a vital role in mindfulness-informed group theory. Form provides the necessary roles and procedures that support task function through the group contract. The contract encourages mindfulness by positing the importance of skillful communication with its corresponding aspects of respect and kindness in all interpersonal sharing. Form also emphasizes the work context and the mindfulness of the work context within which interpersonal sharing is defined. This includes the various and complex hierarchies and asymmetries of power. It stresses an in-the-moment focus and the discipline to return to both the contract and the in-the-moment experience.

The mindful leader, with the use of the form, influences the group's interpersonal awareness. Mindfulness meditation develops not only a self-regulating effect on the individual but can promote an interpersonal awareness with corresponding aspects of mindfulness, openness, genuineness and self-acceptance in group members. Looking at the complexities of the social dynamic, we see that awareness is a part of the interpersonal social field. Social conventions help to inform these interpersonal interactions. However, when an individual or work team experiences strong emotions, there is the potential for them to either respond defensively or co-regulate through the sharing of their genuine experiences. Using a mindfulness-informed group process, groups and their leaders can encourage environments of interpersonal mindfulness where individuals can share their experiences, skillfully and with words, in-the-moment and in the context of the constraints of the work environment. It also involves the members of the group being open to other’s experiences and responding skillfully — through genuineness and communication that signals safety. Interpersonal mindfulness can be trained through a mindfulness-informed group process.

However, mindful leaders and work group members are strongly cautioned about the dangers of interpersonal sharing. Groups are not safe environments but rather environments where safety can be advanced and encouraged. This is especially true of
work groups where there are differing goals, asymmetries of power and/or porous confidentiality. The mindful leader needs to be 'mindful' of these dynamics as well as their multiple responsibilities to the work group members, and the organization. It is a major task of the mindful leader in all stages of the work group development to understand (and be mindful) of these dynamics while slowly and consistently helping members become mindful of what they are communicating and how to communicate in ways that reflect increased safety. This process is continual as some group members become more mindful while others remain relatively unchanged. However, the overall interpersonal mindfulness of the group can positively reflect these changes.

Mindfulness-informed group theory has potential advantages in helping users understand the importance of creating a safer interpersonal field whereby the feelings evoked by work can be shared and supported. This idea, of sharing experience, has a connecting effect which supports members of the group. Mindfulness-informed group theory emphasizes the qualities mindfulness develops in the leader and the ways the leader then models and encourages mindfulness awareness to the group. Care and discipline are used in the creation of the form of the group as well as its maintenance. With a properly developed and nurtured work group, the group members can arguably co-regulate each other by creating an interpersonal field that signals safety.

In my experience, interpersonal mindfulness can be, at times, a shared and supported space that allows for new and creative solutions to problems as the combined intelligence of the group begins to work through the improved synchronization and unified effort of the members. I speculate that if defensive strategies in individuals are lessened, the group can experience improved social connection and collaboration. This experience appears subtly reinforcing. As one interviewee describes it,

Something important here begins to affect the atmosphere, in the space within which that group begins to function and formed their relationships. So, and usually, such people tend to, for example, slow down and take time to reflect on what's happening.

With increased safety, members of the group may synchronize in their response to work challenges, which allows for increased cooperative mental effort.

Mindfulness-informed group theory offers a different way of seeing people and their interactions. It requires a shift in thinking of people as purely individuals to people
as dynamic interpersonally connected beings responding to the environment and people around them. People interact with their environments and especially groups, in a holistic sense. The ontological shift is from a mechanistic view where individuals are parts of a whole producing a task to an interconnected web of people who are responsible not only for themselves but their relationships with colleagues and the broader organizational environment. Neff (2003) notes the importance of the “non-evaluative and interconnected” experience (p. 85). This web sees the individual, the interpersonal and the group-as-a-whole as interconnected and more vitally interrelated than usually experienced. All members of this web are involved in a shared task, linked through communication and partially understood through emotional tone.

The mindfully-informed group can arguably fulfill a critical function in the individual’s health, specifically their management of strain and the stress response. Contemplative principles developed from mindfulness meditation influence the group towards increased mindfulness within the interpersonal field. Mindfulness exists in the interpersonal field as a potential. Like any human potential, it is a skill that can be learned, trained and developed. It plays an essential role in regulating strain and stress. As one interviewee states, “you are using awareness in a skillful and in an intentional way to build the awareness muscle”.

Through mindful leadership, individuals can cultivate an increased awareness and responsibility for their co-regulation and the co-regulation of their peers. They do so through careful construction of the form of the group and through interpersonal mindfulness. They use mindfulness in the interpersonal space and express their experiences skillfully to the group. Interpersonal mindfulness involves skillful communication and seems to allow for improvements in the group task accomplishment. It appears that the member’s defensive strategies are down-regulated, which leads to increased calmness, social interactions, social play and safe intimacy (Porges, 2011). Members can actively accept responsibility for their health within a group environment that also actively cares for all the members. The group arguably becomes a zone of safety.

Restoring relationships and community is central to restoring well-being; language gives us the power to change ourselves and others by communicating our experiences, helping us to define what we know, and finding a common sense of meaning...we can change social conditions to
create environments in which children and adults can feel safe and where they can thrive (van der Kolk, 2014, p. 28).

5.3. Limitations

Researcher bias is potentially a limitation of this study. My experience informs this work, and I have used my knowledge and curiosity to integrate several fields of research, including psychodynamic group theory, mindfulness meditation and burnout in healthcare professionals in this study. As noted in section 4.1, I have extensive training and understanding in group theory, group psychotherapy, leadership and mindfulness. This distinctive perspective, informed by my expertise, is applied at each stage of the research. I work within a constructivist grounded theory methodology that includes the researcher’s perspective at various stages and is heavily present in the analytic memo writing. This constructivist grounded theory methodology structures the researcher’s perspective and makes it transparent. This is reflected in the sections on the ‘Presentation of data and results of analysis’. As Charmaz (2014) counsels, “Each theory bears the imprint of its author’s interests and ideas and reflects its historical context as well as the historical development of ideas – and of grounded theory – in its parent discipline” (p. 248).

My positioning positively supported the recruitment of interview participants, allowed for more in-depth and focused interviews, as well as being captured in analytic memos through the sequential stages of theory development. The researcher’s own experience can influence the validity of the research. Therefore, I bracketed my experiences through the process of journaling and have presented this transparently throughout the presentation of data. A constructivist grounded theory requires researchers to return continually to the interview data. It uses the interviewee’s words and meaning to inform the research while using analytic memos to build the theoretical structure. By doing so, the researcher’s experience, while a part of the study, is exposed to the reader’s view.

For this research, I provide clear targeted summaries of “burnout”, “mindfulness meditation”, and “group psychotherapy”. I examined the intersection of these subjects with a focus on the prevention and treatment of burnout through the development of mindfulness meditation and group skills. A full review of all three themes may uncover further relevant information.
The scope of this research is limited and, therefore, difficult to generalize. The sample size, while appropriate for this type of qualitative research study, does limit its generalizability. The group leaders all have extensive experience in mindfulness meditation, group theory and practice and extensive experience leading mindfulness-informed groups. This experience is considered comprehensive, while also acknowledging it may not be exhaustive.

The mindfulness-informed group leaders explore their perceptions related to the skills developed through a mindfulness-informed group. It would require additional quantitative testing to determine if their perceptions are accurate and the degree to which such skills develop. I only explore their perceptions and not the perceptions of the students, team members and healthcare professionals in their groups.

Group leadership is a skill that requires significant training in a theoretical paradigm, multiple practice experiences over the years, and ongoing training through supervision (Gans, Rutan & Lape, 2002). I am assuming the same for mindfulness-informed group leadership, and hopefully, this research will give insights into this assumption. The assumptions I am making are based on the idea that experience is better than inexperience, and more experience is better than less experience. The definition of a “good group leader” varies, and efficacy would need to be determined over a period of time through testing. I’m assuming that the same is true of contemplative practices related to mindfulness-informed group leadership. I reason that a stable mindfulness practice is essential to mindfulness-informed group leadership and that leaders have a deep understanding not only of their contemplative/mindfulness practice but also realization through practice. This would allow a subtler and a more nuanced approach to leadership.

The gender balance of the mindfulness-informed group leaders is biased by a male perspective (80% to 20%). This was unavoidable given the composition of the universe of participants, and I acknowledge that the relative lack of female perspectives may represent a blind spot in the results that should be explored in further research. The characteristics of the sample are related to the research question and research objective, which created a limited pool of research participants. The recruitment of female interviewees was 100%. While a balanced mix is preferred, grounded theory encourages researchers to investigate the research question using the most potent
sources of available information, and in this case, there were no additional female candidates. This research required each interviewee to have extensive experience with mindfulness meditation, group leadership, team leadership and mindfulness-informed group leadership, which, as noted, they abundantly possessed.

Mindfulness-informed group theory applied to work groups is an unexplored research subject. I focus on its applicability to the prevention and treatment of burnout in healthcare professionals. Mindfulness-informed group process and theory seem to have various plausible effects, in the view of experts. I do not identify causation. Instead, I focus on outcomes that appear to mindfulness-informed group process leaders to help healthcare professionals, especially as identifiable within the categories of mindfulness and group skills. While these help clarify the potential of mindfulness-informed group theory, it might not be the only aim of mindfulness-informed group process and theory. I summarize its potential benefits and advantages as well as its disadvantages. This would then represent possible next steps of research into this branch of learning. Ultimately, I am unable to determine efficacy because this research is exploratory and attempts to understand what is happening in a mindfulness-informed group process.

5.4. Implications for practice

The review of the literature suggests a three-pronged organizational approach to addressing burnout prevention and treatment in healthcare professionals. First, the development of resiliency-based skills that promote holistic wellness embedded in an educational curriculum (Haramati et al., 2017; Kreitzner & Klatt, 2017; Maslach & Leiter, 2017; Panagioti, Geraghy & Johnson, 2017). Second, organizational approaches that recognize the human aspects of health care provision focusing on workload, control, reward, community, fairness and values as outlined by Maslach and Leiter (2016). And third, individual lifelong development and practice of preventive skills related to mindfulness meditation and group skills (Kreitzner & Klatt, 2017; Maslach & Leiter, 2017; Schrijver, Brady & Trockel, 2016).

Models describing the development of burnout fail to adequately address the complex ways in which humans manage strain and stress. Mindfulness-Informed group theory provides valuable insights related to the prevention and treatment of the burnout syndrome by introducing how a mindfully-informed group process helps members self-
regulate and co-regulate strain and stress. Using a mindfulness-informed group process allows both leaders and members of work groups to function in a more engaging manner, using mindfulness meditation in their personal lives and the social engagement network at work to regulate their stress levels. Healthcare professionals need to incorporate a holistic perspective in the management of burnout producing situations that include managing their stresses and needs, the small group dynamics, and the organizational demands (O’Connor et al., 2018; Patel et al., 2018; West et al., 2018).

Mindfulness-informed group theory suggests that leaders of work groups of healthcare professionals should actively construct work environments that increase the occurrence of interpersonal safety. They may do so by using mindful leadership, attention to the form of the group, and training the group members in interpersonal mindfulness to guide the group purpose and the exogenously determined goals of the organization. Leaders and organizations can harness the power of groups to produce interpersonal environments that encourage members to skillfully communicate their experiences in ways that signal safety and allow for the co-regulation of strain and stress. Mindfulness meditation promotes the self-regulation of strain and stress (Goleman and Richards, 2018). Mindfulness-informed groups shape work settings, appearing to increase the group’s co-regulating effect.

Mindfulness-informed group theory potentially addresses many of the concerns noted in the development of burnout. Frontline leaders and supervisors help direct the immediate workload, play a significant role in the development of teamwork and civility as well as fairness (Maslach & Leiter, 2017; Swensen & Shanafelt, 2017). Interpersonal mindfulness works with skillful communication to encourage member’s openness to other’s experiences and well as the genuine expression of their own experience. Supportive supervisors and coworkers contribute to a positive work environment and act beneficially as a buffer to burnout (Leiter and Maslach, 1988). The mindfulness-informed group enriches this buffer through the genuine sharing of experiences.

Constraints of the mindfulness-informed work group lay in what can and cannot be shared. The idea is not to share “everything” but to share mindfully and genuinely what can be shared within the form of the work group. Member’s emotional experiences, as well as their interpersonal experiences, are often marginalized in work groups. In a safe group, the conscious, mindful and skillful expression of these experiences has a co-
regulating effect. But expressed unconsciously, unmindfully or unskillfully, they can have real and destructive consequences. The mindful leader needs to be ever vigilant with regard to the communication in a work group due to the inequalities of power between members, between members and the leader, and between the group and the organization. Mindfulness-informed group theory respects the importance of these realities and asks the mindful leader to be ‘mindful’ of these dangers while modelling and encouraging this mindfulness with skillful communication in the group.

Van Bogaert et al. (2013) note that everyone contributes to the team environment. Maslach & Leiter (2016) state that “the area of community has to do with the ongoing relationships that employees have with other people on the job. When these relationships are characterized by a lack of support and trust, and by unresolved conflict, then there is a greater risk of burnout” (p. 105). The form of the group and mindful leadership play an essential role in creating a group structure that encourages all members to play an active role in the management of the interpersonal field as well as being mindful of the needs of those in the group.

To conclude, mindfulness-informed group theory may play a role in preventing and treating burnout in healthcare settings, by regulating strain and stress through the mindful management of the interpersonal environment.
References


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Morse, J. M. (2011). Sampling in grounded theory. In A. Bryant & K. Charmaz (Eds.), The SAGE handbook of grounded theory. [https://doi.org/10.4135/9781848607941](https://doi.org/10.4135/9781848607941)


## Appendix A. PRISMA-ScR Checklist

<table>
<thead>
<tr>
<th>Section</th>
<th>Item</th>
<th>PRISMA-ScR Checklist Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>1</td>
<td>Identify the report as a scoping review.</td>
</tr>
<tr>
<td>Abstract</td>
<td>2</td>
<td>Provide a structured summary that includes (as applicable) background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.</td>
</tr>
<tr>
<td>Introduction</td>
<td>3</td>
<td>Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.</td>
</tr>
<tr>
<td>Objectives</td>
<td>4</td>
<td>Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.</td>
</tr>
<tr>
<td>Methods</td>
<td>5</td>
<td>Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.</td>
</tr>
<tr>
<td>Eligibility criteria</td>
<td>6</td>
<td>Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale, present or otherwise, for excluding evidence.</td>
</tr>
<tr>
<td>Information sources*</td>
<td>7</td>
<td>Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.</td>
</tr>
<tr>
<td>Search</td>
<td>8</td>
<td>Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.</td>
</tr>
<tr>
<td>Selection of sources of evidence†</td>
<td>9</td>
<td>State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.</td>
</tr>
<tr>
<td>Data charting process‡</td>
<td>10</td>
<td>Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.</td>
</tr>
<tr>
<td>Data items</td>
<td>11</td>
<td>List and define all variables for which data were sought and any assumptions and simplifications made.</td>
</tr>
<tr>
<td>Critical appraisal of individual sources of evidence§</td>
<td>12</td>
<td>If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if applicable).</td>
</tr>
<tr>
<td>Summary measures</td>
<td>13</td>
<td>Not applicable for scoping reviews.</td>
</tr>
<tr>
<td>Synthesis of results</td>
<td>14</td>
<td>Describe the methods of handling and summarizing the data that were charted.</td>
</tr>
<tr>
<td>Risk of bias across studies</td>
<td>15</td>
<td>Not applicable for scoping reviews.</td>
</tr>
<tr>
<td>Additional analyses</td>
<td>16</td>
<td>Not applicable for scoping reviews.</td>
</tr>
<tr>
<td>Results</td>
<td>17</td>
<td>Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.</td>
</tr>
<tr>
<td>Characteristics of sources of evidence</td>
<td>18</td>
<td>For each source of evidence, present characteristics for which data were charted and provide the citations.</td>
</tr>
<tr>
<td>Critical appraisal within sources of evidence</td>
<td>19</td>
<td>If done, present data on critical appraisal of included sources of evidence (see item 12).</td>
</tr>
<tr>
<td>Results of individual sources of evidence</td>
<td>20</td>
<td>For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.</td>
</tr>
<tr>
<td>Synthesis of results</td>
<td>21</td>
<td>Summarize and/or present the charting results as they relate to the review questions and objectives.</td>
</tr>
<tr>
<td>Risk of bias across studies</td>
<td>22</td>
<td>Not applicable for scoping reviews.</td>
</tr>
<tr>
<td>Additional analyses</td>
<td>23</td>
<td>Not applicable for scoping reviews.</td>
</tr>
<tr>
<td>Discussion</td>
<td>24</td>
<td>Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.</td>
</tr>
<tr>
<td>Limitations</td>
<td>25</td>
<td>Discuss the limitations of the scoping review process.</td>
</tr>
<tr>
<td>Conclusions</td>
<td>26</td>
<td>Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.</td>
</tr>
<tr>
<td>Funding</td>
<td>27</td>
<td>Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.</td>
</tr>
</tbody>
</table>

## Appendix B. PRISMA-P 2015 Checklist adapted

<table>
<thead>
<tr>
<th>Section/topic</th>
<th>Checklist item</th>
<th>Information reported</th>
<th>Line number(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification</td>
<td>Identify the report as a protocol of a systematic review</td>
<td>✓</td>
<td>21</td>
</tr>
<tr>
<td>Update</td>
<td>If the protocol is for an update of a previous systematic review, identify as such</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Registration</td>
<td>If registered, provide the name of the registry (e.g., PROSPERO) and registration number in the Abstract</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rationale</td>
<td>Describe the rationale for the review in the context of what is already known</td>
<td>✓</td>
<td>6</td>
</tr>
<tr>
<td>Objectives</td>
<td>Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)</td>
<td>✓</td>
<td>23</td>
</tr>
<tr>
<td>Eligibility criteria</td>
<td>Specify the study characteristics (e.g., PICO, study design, setting, time frame) and report characteristics (e.g., years considered, language, publication status) to be used as criteria for eligibility for the review</td>
<td>✓</td>
<td>23</td>
</tr>
<tr>
<td>Information sources</td>
<td>Describe all intended information sources (e.g., electronic databases, contact with study authors, trial registers, or other grey literature sources) with planned dates of coverage</td>
<td>✓</td>
<td>22-23</td>
</tr>
<tr>
<td>Search strategy</td>
<td>Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated</td>
<td>✓</td>
<td>Appendix H</td>
</tr>
<tr>
<td>Data management</td>
<td>Describe the mechanism(s) that will be used to manage records and data throughout the review</td>
<td>✓</td>
<td>24</td>
</tr>
<tr>
<td>Selection process</td>
<td>State the process that will be used for selecting studies (e.g., two independent reviewers) through each phase of the review (i.e., screening, eligibility, and inclusion in meta-analysis)</td>
<td>✓</td>
<td>23</td>
</tr>
<tr>
<td>Data collection process</td>
<td>Describe planned method of extracting data from reports (e.g., piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators</td>
<td>✓</td>
<td>24</td>
</tr>
<tr>
<td>Data items</td>
<td>List and define all variables for which data will be sought (e.g., PICO items, funding sources), any pre-planned data assumptions and simplifications</td>
<td>✓</td>
<td>22</td>
</tr>
<tr>
<td>Section/topic</td>
<td>Checklist item</td>
<td>Information reported</td>
<td>Line number(s)</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>-----------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Outcomes and prioritization</td>
<td>List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale</td>
<td>✓</td>
<td>22</td>
</tr>
<tr>
<td>Risk of bias in individual studies</td>
<td>Describe anticipated methods for assessing risk of bias of individual studies, including whether this will be done at the outcome or study level, or both; state how this information will be used in data synthesis</td>
<td>□</td>
<td></td>
</tr>
<tr>
<td>Synthesis</td>
<td>Describe criteria under which study data will be quantitatively synthesized</td>
<td>□</td>
<td></td>
</tr>
<tr>
<td>Synthesis</td>
<td>If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data, and methods of combining data from studies, including any planned exploration of consistency (e.g., $I^2$, Kendall’s tau)</td>
<td>□</td>
<td></td>
</tr>
<tr>
<td>Synthesis</td>
<td>Describe any proposed additional analyses (e.g., sensitivity or subgroup analyses, meta-regression)</td>
<td>□</td>
<td></td>
</tr>
<tr>
<td>Synthesis</td>
<td>If quantitative synthesis is not appropriate, describe the type of summary planned</td>
<td>✓</td>
<td>24</td>
</tr>
<tr>
<td>Meta-bias(es)</td>
<td>Specify any planned assessment of meta-bias(es) (e.g., publication bias across studies, selective reporting within studies)</td>
<td>□</td>
<td></td>
</tr>
</tbody>
</table>

Note: Adapted for use with protocol submissions to Systematic Reviews from Table 3 in Moher D et al: Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. Systematic Reviews 2015 4:1
Appendix C. Study Telephone Script

Appendix A

STUDY TELEPHONE SCRIPT

A Grounded Theory Study of Contemplative Group Leadership

This research is about the effects and mechanisms of contemplative group process on healthcare professionals. Little is written and understood about contemplative group process in academic circles. You would be sharing your knowledge on how contemplative group process effects those you work with and help increase the understanding of how this is accomplished.

If you contribute to this research, what is involved? You would talk with me about your experiences, knowledge, and views in an interview or interviews. You would act as a guide to help me to understand the effects of contemplative group process on the training and treatment of healthcare professionals. I will also be curious about whether and/or how it informs your group work. Your participation is entirely voluntary and may be withdrawn at any time.

I will seek consent to conduct and to audio-record interviews. If you decline to be audio-recorded, I will write notes during the interview. Prior to being interviewed, we will review this information sheet and answer any of your questions. Your participation in the study is voluntary, and there are no consequences for refusal to participate. Your participation consists of answering questions in an interview or interviews. My questions will address your background and understanding of contemplative group process and all responses are entirely confidential. Even after consenting to be interviewed, you can refuse to answer any question or interrupt the interview at any point.

How will the information be used? I will put together what I learn to write my PhD dissertation and possibly articles and presentations. If requested, I will provide you with information about how the data, quotes, and case examples you provided may be used and the kinds of venues in which the research results will be presented.

What are the benefits of participating? This study may not benefit you directly, but you may enjoy sharing what you know with a researcher. You are being asked to share your views, experiences, and knowledge with the wider academic community.

This project uses grounded theory methods and builds on recent research and analyses attending to building resiliency, mindfulness and group skills in healthcare professionals. The proposed research may contribute to our knowledge about new and creative ontologies of leadership in healthcare. Findings may thus inform current discussion, decision-making, and future policies addressing burnout in healthcare through new forms of educating students and professionals in the field.

What are the risks/discomforts of participating? This study is designated as minimal risk with no anticipated physical or psychological risks to you or others. You are an expert contributor in the fields of contemplative practices, group practice and contemplative group practice. You can reasonably be expected to regard the probability and magnitude of harms incurred by participating in the research to be minimal to none.

If any question is uncomfortable for you to answer, you do not have to answer it. You may refuse to have the interview audio-recorded or may stop the audio-recording at any time.

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This research involves no incentives, no deception and no partial disclosure.

Will you be identified in any of the research reports? No, unless you request otherwise. If you decide to participate, your research records will be handled as confidentially as possible. Anonymity may not be able to be completely maintained for public figures, and leaders whose activities may be in the public record and therefore recognizable. However, when results of this study are reported, no names will be used. Your answers will be recorded without your name attached to them. All research files will have a special identifying number rather than a name on them. All electronic files will be stored in a password protected database and paper copies of your answers will be stored in a locked filing cabinet at my office. All answers you give me will be grouped and summarized along with those of other participants without any personal identifying information. Telephone, Skype to telephone, email, mailing lists, and the Internet are not considered confidential mediums. Skype to Skype is considered to be confidential. After 10 years, the documents may be archived or destroyed.

In the event that you withdraw from the study, any data related to you will be immediately destroyed upon notification of the withdrawal.

Who am I? My name is Steven Henne and I am a PhD student in the Faculty of Health Sciences at Simon Fraser University in Canada. My Senior Supervisor is Daniel Vigo, MD, D.P.H., Assistant Professor, Faculty of Health Sciences.

How can you contact me? Steven Henne, PhD Student, Faculty of Health Sciences, Simon Fraser University, 8888 University Drive, Burnaby, BC V5A 1S6 CANADA, Steven.Henne@sfu.ca.

How can you get the results of this research? Contact Steven Henne at the above contact details if you are interested in the articles, books, or other uses of this research.

If you have concerns or complaints about this research you may contact: Dr. Jeff Toward, Office of Research, Simon Fraser University at Jeff.toward@sfu.ca.
Appendix D. Study Details

1. Introduction

Investigator
Principal Investigator:
Steven Henne, MA, BS
PhD Graduate Student
Faculty of Health Sciences

Funding Source
Funding for this research comes from the Faculty of Health Sciences through Graduate Fellowships for the purpose of independent doctoral research.

Conflict of Interests
None.

Locations
Research will be conducted in British Columbia by Skype and in person in Boulder, Colorado, USA and Los Angeles, California, USA.

With specific reference to SFU and TCPS2 policies for international studies:
I accept the responsibility for ensuring that the proposed study complies with the International Compilation of Human Research Protections 2011 Edition requirements for participant protection. This study is designated as minimal risk with no anticipated physical or psychological risks to participants or others.

2. Summary of Proposed Research

Study Purpose, Background and Rationale
Canada needs healthcare professionals who can effectively lead and be productive team leaders in stressful group environments. Healthcare providers are experiencing unacceptable rates of burnout with significant costs to themselves, their patients and to their healthcare employers. Current rates of burnout significantly hinder medical provision, increase costs, and cause employee hardship. My research contributes to ongoing discussions supporting Canada’s need to develop healthcare leaders who creatively develop strengths that prevent burnout in themselves, and in the teams they lead.

This research project is the outgrowth of a unique academic and professional trajectory. After training and teaching in the Psychology and Contemplative Psychotherapy faculty at Naropa University in Boulder, Colorado, USA, I applied my contemplative group leadership skills to my professional work supervising healthcare professionals and interns on teams in the inner city, at hospitals, and in community clinics. I am currently on leave from my leadership of a
mental health and substance use treatment team at a major public health authority in British Columbia.

Research Problem and Context

Working in a leadership role the public health system, I have noticed two things: First, all the teams I led suffered from some form of burnout. Healthcare professionals would tell me about multiple experiences of individual and organizational dysfunction causing them to feel burned out, cynical about whether change was even possible, thinking about a change of career, or just “riding it out” until retirement. They were describing burnout as a combination of emotional exhaustion, depersonalization, and a low sense of personal accomplishment (Maslach, Jackson, Leiter, Schaufeli & Schwab, 1986).

Burnout in healthcare is at unacceptably high levels. Healthcare professionals work in demanding environments with people who are often experiencing strong emotional states. Too often large public healthcare organizations overlook the human dimensions of healthcare focusing instead on the growing demands, efficiencies and monetary costs. This undervalues the human costs. These human costs, largely hidden, end up becoming explicit affecting health and effectiveness in a variety of ways. Healthcare professionals experience stressors that take observable tolls on their bodies, minds, emotions, and relationships, affecting their ability to lead and be effective members of treatment teams (Ahola, Toppinen-Tanner & Seppanen, 2017; Salvagioni et al., 2017). Burnout increases healthcare costs (Stammen et al., 2015) and leads to a cascade of effects including a decrease in work quality, job satisfaction, and retention, as well as an increase in medical errors (Van Bogaert et al, 2014; Hall et al., 2016; Panagioti, Geraghty & Johnson, 2017).

Secondly, I noticed that as I applied the techniques of contemplative group process to my teams, they began to improve in functioning both as a team and in individual performances. Members slowly started to regain their passion for their professions. The motivations that initially brought them to healthcare began to re-emerge, sustaining them in their daily performance. What caused this change?

Contemplative Group Process

Contemplative group process is a training modality that has been developed over 20 years at Naropa University as part of a Master’s-level curriculum in psychotherapy leadership. Members learn to locate themselves and their intrapsychic reactions in the events of the group, such that they are able to “lead-in-the-moment”. Repeated practice of “the awareness function” and working with feedback from the group helps healthcare professionals develop healthy boundaries, a beneficial here-and-now focus, and significant stress management skills. While both contemplative practices and group process are well theorized and researched, research on contemplative group process in leadership is not. This offers a unique opportunity to investigate an undertheorized leadership and educational strategy.

I hypothesize that what makes contemplative group process work is its holistic approach based in contemplative principles. The focus is not only on specific interventions but also consideration of the whole person doing the healthcare work. There is a delicate balance needed to bring about a robust resiliency in healthcare workers. Researchers acknowledge that developing resiliency skills, mindfulness skills and group skills appear helpful (dos Santos et
al., 2016; Kreitzer & Klatt, 2017; Maslach & Leiter, 2017; Montero-Marin et al., 2015; Van Bogaert et al., 2014; West et al., 2016). However, there is debate about what prevents burnout in individuals (Ahola et al., 2017; Luken & Sammons, 2016; Panagioti et al., 2017). I suggest that this is because no approach combines all three skills in one leadership process. Leaders need to be trained in the process of incorporating a here-and-now approach, where one realistically assesses both one’s own mental resources and capacities, while also assessing impacts on the complex interconnected social and work networks healthcare professionals find themselves in.

Research Questions

The proposed qualitative research project would serve as the first stage of research into the topic and form the entirety of my doctoral research. Contemplative processes inform the new leadership domains I propose to study, specifically, 1) the here-and-now approach; and 2) the in-the-moment reflective assessments of a) one’s own mental capacities and b) the social and work networks within which we and our employees are imbedded. My research explores the big ideas of contemplative group process that could be used by healthcare leaders to curb burnout. To date, the application of contemplative group process to healthcare worker burnout prevention has not been theorized (or tested).

To theorize this, I will conduct research with contemplative process experts collecting data on the following research questions: 1) What aspects of contemplative group process build human resiliency? 2) How is the here-and-now leadership approach best taught? 3) What contemplative leadership characteristics increase the likelihood of employee resiliency? 4) What is different about contemplative work groups who successfully build burnout resiliency compared with those that do not?

I propose that group skills, mindfulness and contemplative group processes are compatible theoretical and practical approaches that may be ideally suited to prevent and treat burnout in healthcare settings.

Research Procedures and Methods

I will use a qualitative research paradigm with a grounded theory methodology (Charmaz, 2014; Creswell & Poth, 2018). This offers a systematic methodological approach that will help me understand the potential skills developed by contemplative process group leaders and the underlying mechanisms of their execution (see Figure 1). Grounded theory is inclusive of the researcher’s perspective and allows a full integration of my extensive training experience and expertise (Charmaz, 2014). My intention is to gathered data through semi-structured, in-depth interviews, analytic memo journaling and a thorough review of the literature.

The research participants (12+) are renowned contemplative group leaders in private practice who have considerable experience in contemplative group process and group leadership. They have led contemplative process groups for years and taught extensively.

Data will be collected using four modalities: semi-structured interviews, relevant scholarly literature, analytic memo journaling, and publications of the participants. Interviews will take place a minimum of once per participant, but as many times as needed to capture emergent patterns of effect. I will explore with participants the emergent themes in relation to data from
other participants for continuing refinement and theorization. This approach increases validity through on-going review and clarification (Creswell & Poth, 2018).

Figure 1. An outline of the basic steps of the research design
Data analysis will use a continuous iterative cycle of data acquisition and data analysis, specifically, the ongoing analytic journaling integral to grounded theory iteration (Charmaz, 2014, p. 1). In this iterative cycle, coding is the "pivotal link between collecting data and developing an emergent theory to explain these data" (Charmaz, 2014 p. 115). NVivo 12, a qualitative software program, will organize and visualize the data analysis.

I will use analytic journaling or memo writing to deeply reflect on the data and emerging themes, thereby refining the categories of information and focusing on the strength of the concepts as they occurred in my conversations with informants (Creswell and Poth, 2018). This "focused coding" helps build "an analytic skeleton" (Charmaz, 2014, p. 19) from which I can further hone categories into the theoretical properties of contemplative group process. Memos allow for ongoing analysis and function as part the continuous cycle between the data, developing theory, back to the data, etc. (Charmaz, 2014). “By writing memos, you construct analytic notes to explicate and fill out categories” (Charmaz, 2014, p. 162). Memos and analytic journaling provide a record of the analysis increasing reproductivity, trustworthiness and reliability.

Returning to select interviewees, I will verbally explore the emergent themes (from my analysis to date) and their relationships to each other for further refinement while also increasing validity through review and clarification (Creswell & Poth, 2018). Member checking also allows for interviewees to re-explore the data now inclusive of the comments and thoughts of other experts. This allows new data to emerge in the interaction creating a richer, more descriptive theoretical interplay.

Finally, I will present this information at conferences, in journal articles, to the academic community, and to healthcare leadership and knowledge users (Barwick, 2008).

3. Prospective Participant Information and Recruitment

Description of the study population, inclusion criteria, study size

This research is of minimal risk to the participants and involves their mastery and expertise in the fields of contemplative practices, group practice and contemplative group practice. The participants meet these conditions and have all led contemplative process groups for years and taught extensively.

The research participants (12+) are renown contemplative group leaders in private practice who have considerable experience in contemplative group process and group leadership. Contemplative practices require both time and practice for their full realisation. They require an understanding of the theory and techniques in a particular contemplative tradition, as well as years of actual practice to deepen the experience of the contemplative thought and experience. Similarly, the development of group process leadership skills require significant training and long-term practice to master. Group process leaders often study group theory both during their university education and then for many years afterwards combined with supervision and the practical experience of running groups. This research requires expertise in groups, a contemplative tradition and running contemplative group process which only appears to be found in a small subset of people. For these reasons, I have chosen a small, selective and homogenous sample size.
Participants will be contacted through direct contact by their publicly listed private practice telephone numbers.

All participants are content experts who are familiar to me through my own expertise in contemplative practices, group leadership and contemplative group process.

The Study Telephone Script (Appendix A) will be explained to them by telephone contact and if they agree, will be sent to them by email or post (their preference) for further review. Included with this will be the Study Consent Form (Appendix B).

Should they agree to the study, we will discuss the interview length (30 minutes to 2 hours), timing (when the interviews will be held) and their participation in any follow up interviews (how often and when).

**Exclusion criteria**

None related to attributes such as sex, gender, culture, language, religion, race, disability, sexual orientation, ethnicity, linguistic proficiency, age, pregnancy, HIV status, etc.

5. **Obtaining Consent**

**Interviews**

Interviews will collect data on contemplative group processes that inform the new leadership domains I propose to study. After a brief introduction to the study and assuring that the selection criteria are met, I will invite individuals to participate in one or more interviews. Signed, informed consent forms will be obtained from the interviewees and I will make certain that each respondent is fully aware of their right to discontinue participation in the research at any time. (see Consent Form Appendix B).

**Informed consent**

The Study Information Sheet (Appendix A), submitted for review, will be given to participants prior to being given the written consent form. The information will also be explained verbally in the context of introductions/contacts with research participants.

I will seek consent to conduct and to audio-record interviews. In instances where respondents decline to allow recording I will write notes during the interview. Prior to being interviewed, participants will be given the following information verbally and in writing: 1) participation in the study is voluntary, and there are no consequences for refusal to participate, 2) participation consists of answering questions in an interview, 3) questions will address the respondent’s background and understanding of contemplative group process, 4) all responses are entirely confidential. Even after consenting to be interviewed, participants may refuse to answer any question or interrupt the interview at any point.

All participants in the research will be informed that they can withdraw from the project at any time without prejudice and that their data will promptly be deleted. Any withdrawals will be noted.

Many of the group leaders currently live in or near Boulder, Colorado, USA, and it is expected that most of the interviews will take place there. I will conduct in-person interviews...
I will strictly maintain participant confidentiality in this study as best as possible and in multiple ways. I will fully follow all confidentiality protocols. Anonymity may not be able to be completely maintained for public figures, and leaders whose activities may be in the public record and therefore recognizable. However, when results of this study are reported, no names will be used.

First, interviews will be conducted in private locations and use code numbers to track and label interview audio-records and transcripts.

Second, the anonymity of participants by using pseudonyms or code numbers to describe individuals in field notes will be assured. Participants answers will be recorded without their name attached to them. All research files will have a special identifying number rather than a name on them. All participant answers will be grouped and summarized along with those of other participants without any personal identifying information. Telephone, Skype to telephone, email, mailing lists, and the Internet are not considered a confidential medium. Skype to Skype is considered to be confidential. After 10 years, the documents may be archived or destroyed.

Third, code-number keys, signed consent forms, interview audio-records, transcripts, and field notes will be in locked filing cabinets and maintained electronic versions of these documents in password-protected computer files. Participant consent information data will be added to a master spreadsheet of the research project, including but not limited to date, time, and location of the interview. This data will be encrypted.

In the event that a participant withdraws from the study, any data related to them will be immediately destroyed upon notification of the withdrawal.

If requested, participants will be provided with information about how quotes, and case examples they provide may be used, and the kinds of venues in which the research results will be presented. Quotes and case examples will be used only with explicit permission of the participants. If permission is granted, then they may be used in my doctoral dissertation, any publications resulting from my doctoral dissertation, as well as at my doctoral dissertation defense.

10. Data Management Plan

Developed using The Portage Network’s Data Management Plan assistant (https://portagenetwork.ca/) as recommended by research data management services on the SFU Library website.

ADMIN DETAILS

Project Name: A Grounded Theory Study of Contemplative Group Leadership
Project Identifier: [Redacted]
Principal Investigator / Researcher: Steven Henne
Project Data Contact: steven.henne@sfu.ca

Description: A Grounded Theory Study of Contemplative Group Leadership. The proposed qualitative research project would serve as the first stage of research into the topic and form the entirety of my doctoral research. Contemplative processes inform the new leadership...
domains I propose to study, specifically, 1) the here-and-now approach; and 2) the in-the-
moment reflexive assessments of a) one’s own mental capacities and b) the social and work
networks within which we and our employees are imbedded. My research explores the big
ideas of contemplative group process that could be used by healthcare leaders to curb burnout.
To date, the application of contemplative group process to healthcare worker burnout
prevention has not been theorized (or tested). To theorize this, I will conduct research with
contemplative process experts collecting data on the following research questions: 1) What
aspects of contemplative group process build human resiliency? 2) How is the here-and-now
leadership approach best taught? 3) What contemplative leadership characteristics increase the
likelihood of employee resiliency? 4) What is different about contemplative work groups who
successfully build burnout resiliency compared with those that do not? I propose that group
skills, mindfulness and contemplative group processes are compatible theoretical and practical
approaches that may be ideally suited to prevent and treat burnout in healthcare settings.

Institution: Simon Fraser University

DATA COLLECTION

WHAT TYPES OF DATA WILL YOU COLLECT, CREATE, LINK TO, ACQUIRE AND/OR
RECORD?
Data will be collected using four modalities: semi-structured interviews, relevant scholarly
literature, analytic memo journaling, and publications of the participants.

Interviews will take place a minimum of once per participant but may involve additional
contacts as negotiated with participants in order to capture emergent patterns. I will explore
with participants the emergent themes I have determined from the data for continuing
refinement and theorization. This approach increases validity through on-going review and
clarification (Creswell & Poth, 2018).

WHAT FILE FORMATS WILL YOUR DATA BE COLLECTED IN? WILL THESE FORMATS
ALLOW FOR DATA RE-USE, SHARING AND LONG-TERM ACCESS TO THE DATA?
Recorded interviews: Audio format will be MPEG-4 without DRM (.mp4).
Transcriptions: Transcribed text format will be plain text (.txt) -- ASCII or Unicode
(Notepad)
Both audio recordings and transcriptions will be stored on an encrypted computer hard drive
and on two encrypted USB drives.
Handwritten notes: Written notes on the interviews will be locked in a briefcase during
research travel and then in a key locked filing cabinet in my office. They will be transcribed
as plain text (.txt format).
Yes, these formats will allow for long-term access to the data.

WHAT CONVENTIONS AND PROCEDURES WILL YOU USE TO STRUCTURE, NAME
AND VERSION-CONTROL YOUR FILES TO HELP YOU AND OTHERS BETTER
UNDERSTAND HOW YOUR DATA ARE ORGANIZED?
I will use recommendations the University of British Columbia’s "File Naming Guidelines".
Denote dates in YYYYMMDD format

Unique identifier (e.g. Project Name or Grant #): GTCGL for project title, A Grounded Theory Study of Contemplative Group Leadership.

Summary of content of document (e.g. Questionnaire or GrantProposal) as:
Questionnaire_GTCGL_2018.01.20_v01.txt

**DOCUMENTATION AND METADATA**

**WHAT DOCUMENTATION WILL BE NEEDED FOR THE DATA TO BE READ AND INTERPRETED CORRECTLY IN THE FUTURE?**

Code-number keys, signed consent forms, interview audio-records, transcripts, and field notes will be in a locked filing cabinet and maintained electronic versions of these documents in password-protected encrypted computer drives. Participant consent information data will be added to a master spreadsheet of the research project, including but not limited to date, time, and location of the interview. This data will be encrypted.

In the event that a participant withdraws from the study, any data related to them will be immediately destroyed upon notification of the withdrawal.

Data will consist of audiotapes of interviews with the research subjects, transcripts of these audiotapes and a field notebook of the researcher’s impressions.

Audiotapes: The interviews will be recorded using an MP4 format. Each file will have an individual file number, the study acronym (GTCGL), the date YYYYMMDD. This information will be transcribed verbatim by the researcher (only myself) onto a text file (.txt format). This information will form the data along with my field notebook where I have written thoughts and impressions of the topics discussed both during and after the interview. Transcribed files will be assigned an identifying number and will not include the subjects name.

**HOW WILL YOU MAKE SURE THAT DOCUMENTATION IS CREATED OR CAPTURED CONSISTENTLY THROUGHOUT YOUR PROJECT?**

I am the only researcher and will be consistent throughout.

**IF YOU ARE USING A METADATA STANDARD AND/OR TOOLS TO DOCUMENT AND DESCRIBE YOUR DATA, PLEASE LIST HERE.**

Not applicable.

**STORAGE AND BACKUP**

**WHAT ARE THE ANTICIPATED STORAGE REQUIREMENTS FOR YOUR PROJECT, IN TERMS OF STORAGE SPACE (IN MEGABYTES, GIGABYTES, TERABYTES, ETC.) AND THE LENGTH OF TIME YOU WILL BE STORING IT?**

Data will be stored on an encrypted hard drive using Windows 10 operating system and encrypted by Bitlocker. There will be two backup encrypted 8GB USB drives. Both the hard drive and one USB will travel with me in a locked briefcase. The other USB will be stored in

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a key locked filing cabinet in my office. All will be stored in a key locked filing cabinet for 10 years after research is complete.

**HOW AND WHERE WILL YOUR DATA BE STORED AND BACKED UP DURING YOUR RESEARCH PROJECT?**

During field research, all data will be stored on and encrypted hard drive and two encrypted 8GB USB drive stored in a locked briefcase. Afterwards, during data analysis, it will be stored as described above.

First, interviews will be conducted in private locations and use code numbers to track and label interview audio-records and transcripts.

Second, the anonymity of participants by using pseudonyms or code numbers to describe individuals in field notes will be assured. Participants answers will be recorded without their name attached to them. All research files will have a special identifying number rather than a name on them. All participant answers will be grouped and summarized along with those of other participants without any personal identifying information. Telephone, Skype to telephone, email, mailing lists, and the Internet are not considered a confidential medium. Skype to Skype is considered to be confidential.

After 10 years, the documents will be destroyed.

Third, code-number keys, signed consent forms, interview audio-records, transcripts, and field notes will be in a locked filing cabinet and maintained electronic versions of these documents in password-protected encrypted computer drives. Participant consent information data will be added to a master spreadsheet of the research project, including but not limited to date, time, and location of the interview. This data will be encrypted.

In the event that a participant withdraws from the study, any data related to them will be immediately destroyed upon notification of the withdrawal.

In addition, any use of the anonymized data will occur on my laptop computer which is dedicated for research only. It uses Windows 10 OS and is encrypted using Bitlocker.

**HOW WILL THE RESEARCH TEAM AND OTHER COLLABORATORS ACCESS, MODIFY, AND CONTRIBUTE DATA THROUGHOUT THE PROJECT?**

I am the only researcher.

**PRESERVATION**

**WHERE WILL YOU DEPOSIT YOUR DATA FOR LONG-TERM PRESERVATION AND ACCESS AT THE END OF YOUR RESEARCH PROJECT?**

I am using a small homogenous sample size due to the nature of the research (level of expertise required and limited sources of this expertise). Due to the small specific data sources, I will not share the research data with other researchers as it may compromise the subjects right to confidentiality. Sharing the interview data would lessen my ability to protect the privacy of the respondents as the interview answers (raw data) may identify the participants.
a key locked filing cabinet in my office. All will be stored in a key locked filing cabinet for 10 years after research is complete.

**HOW AND WHERE WILL YOUR DATA BE STORED AND BACKED UP DURING YOUR RESEARCH PROJECT?**

During field research, all data will be stored on and encrypted hard drive and two encrypted 8GB USB drive stored in a locked briefcase. Afterwards, during data analysis, it will be stored as described above.

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Second, the anonymity of participants by using pseudonyms or code numbers to describe individuals in field notes will be assured. Participants answers will be recorded without their name attached to them. All research files will have a special identifying number rather than a name on them. All participant answers will be grouped and summarized along with those of other participants without any personal identifying information. Telephone, Skype to telephone, email, mailing lists, and the internet are not considered a confidential medium. Skype to Skype is considered to be confidential.

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In the event that a participant withdraws from the study, any data related to them will be immediately destroyed upon notification of the withdrawal.

In addition, any use of the anonymized data will occur on my laptop computer which is dedicated for research only. It uses Windows 10 OS and is encrypted with Bitlocker.

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Grounded theory is a qualitative research methodology that acknowledges the researcher's perspective and their influence on the data and data analysis. The researcher's perspective is documented and included in the methodology section of any publications.

It is intended that this research provide a theoretical understanding of contemplative group process using the raw data from experts and my own extensive experience. This theoretical understanding will be open for critical analysis.

Recorded interviews: Audio format will be MPEG-4 without DRM (.mp4).

Transcriptions: Transcribed text format will be plain text (.txt) -- ASCII or Unicode (Notepad)

Both audio recordings and transcriptions will be stored on an encrypted USB drives which will be stored in a key locked filing cabinet in my office after the end of my research project.

Handwritten notes: Written notes on the interviews will be locked in a briefcase during research travel and then in a key locked filing cabinet in my office after the end of my research project.

SHARING AND REUSE

WHAT DATA WILL YOU BE SHARING AND IN WHAT FORM? (E.G. RAW, PROCESSED, ANALYZED, FINAL).

I am using a small homogenous sample size due to the nature of the research (level of expertise required and limited sources of this expertise). Due to the small specific data sources, I will not share the research data as it may compromise the subjects right to confidentiality. Sharing the interview data would lessen my ability to protect the privacy of the respondents.

Grounded theory is a qualitative research methodology that acknowledges the researcher's perspective and their influence on the data and data analysis. The researcher's perspective is documented and included in the methodology section of any publications.

HAVE YOU CONSIDERED WHAT TYPE OF END-USER LICENSE TO INCLUDE WITH YOUR DATA?

Not applicable.

WHAT STEPS WILL BE TAKEN TO HELP THE RESEARCH COMMUNITY KNOW THAT YOUR DATA EXISTS?

Not applicable.
RESPONSIBILITIES AND RESOURCES

IDENTIFY WHO WILL BE RESPONSIBLE FOR MANAGING THIS PROJECT’S DATA DURING AND AFTER THE PROJECT AND THE MAJOR DATA MANAGEMENT TASKS FOR WHICH THEY WILL BE RESPONSIBLE.

Only myself.

HOW WILL RESPONSIBILITIES FOR MANAGING DATA ACTIVITIES BE HANDLED IF SUBSTANTIVE CHANGES HAPPEN IN THE PERSONNEL OVERSEEING THE PROJECT’S DATA, INCLUDING A CHANGE OF PRINCIPAL INVESTIGATOR?

Not applicable.

WHAT RESOURCES WILL YOU REQUIRE TO IMPLEMENT YOUR DATA MANAGEMENT PLAN? WHAT DO YOU ESTIMATE THE OVERALL COST FOR DATA MANAGEMENT TO BE?

Not applicable.

ETHICS AND LEGAL COMPLIANCE

IF YOUR RESEARCH PROJECT INCLUDES SENSITIVE DATA, HOW WILL YOU ENSURE THAT IT IS SECURELY MANAGED AND ACCESSIBLE ONLY TO APPROVED MEMBERS OF THE PROJECT?

As described.

IF APPLICABLE, WHAT STRATEGIES WILL YOU UNDERTAKE TO ADDRESS SECONDARY USES OF SENSITIVE DATA?

Not applicable.

11. References


Appendix E. Study Consent Form

A Grounded Theory Study of Contemplative Group Leadership

Faculty of Health Sciences, Simon Fraser University
Steven Henne, Principal Investigator

Purpose and Background

You are being asked to participate in research interviews along with approximately 11 other individuals who are knowledgeable about and have experience leading contemplative group process. The study is funded as part of my doctoral work at Simon Fraser University, The Faculty of Health Sciences. If you decide to participate, your answers and comments will be kept confidential.

This research is about the effects and mechanisms of contemplative group process on healthcare professionals. Little is written and understood about contemplative group process in academic circles. You would be sharing your knowledge on how contemplative group process effects those you work with and help increase the understanding of how this is accomplished.

If you contribute to this research, what is involved? You would talk with me about your experiences, knowledge, and views in an interview or interviews. You would act as a guide to help me to understand the effects of contemplative group process on the training and treatment of healthcare professionals. I will also be curious about whether and/or how it informs your group work. Your participation is entirely voluntary and may be withdrawn at any time.

How will the information be used? I will put together what I learn to write my PhD dissertation and possibly articles and presentations. I will seek consent to conduct and to audio-record interviews. If you decline to be audio-recorded, I will write notes during the interview. Prior to being interviewed, we will review this information sheet and answer any of your questions. Your participation in the study is voluntary, and there are no consequences for refusal to participate. Your participation consists of answering questions in an interview or interviews. My questions will address your background and understanding of contemplative group process and all responses are entirely confidential. Even after consenting to be interviewed, you can refuse to answer any question or interrupt the interview at any point.

Procedures

You will be given the Study Information Sheet prior to giving consent. If you agree to be in this study, the following will occur: I will interview you in place where you are comfortable, which may be your office, a rented office, or elsewhere. If an in-person interview is not possible, I will interview you by Skype-to-Skype video contact. The interview will take 30 minutes to two hours, and will involve questions about your contemplative practice, group
process training and expertise, and your understandings of contemplative group process. With your permission, I will audio record the interview for later transcription. You may refuse to be audio recorded, in which case I will take notes on our interview.

You may refuse to answer any question and you may end the interview at any time. There is no penalty for deciding that you do not want to be interviewed; no one will be informed either way.

Due to the iterative nature of grounded theory methodology, I may want to follow up with you to explore the emergent themes and their relationships to each other for further refinement. This allows for you to re-explore the data now inclusive of the comments and thoughts of other experts and allows new data to emerge in the interaction creating a richer, more descriptive theoretical interplay.

Benefits

This study may not benefit you directly, but you may enjoy sharing what you know with a researcher. You are being asked to share your views, experiences, and knowledge with the wider academic community.

This project uses grounded theory methods and builds on recent research and analyses attending to building resiliency, mindfulness and group skills in healthcare professionals. The proposed research may contribute to our knowledge about new and creative ontologies of leadership in healthcare. Findings may thus inform current discussion, decision-making, and future policies addressing burnout in healthcare through new forms of educating students and professionals in the field.

Risks/Discomforts

This study is designated as minimal risk with no anticipated physical or psychological risks to you or others. You are an expert contributor in the fields of contemplative practices, group practice and contemplative group practice. You can reasonably be expected to regard the probability and magnitude of harms incurred by participating in the research to be minimal to none.

If any question is uncomfortable for you to answer, you do not have to answer it. You may refuse to have the interview audio-recorded or may stop the audio-recording at any time.

This research involves no incentives, no deception and no partial disclosure.

Statement of Confidentiality and Data Management

Data Collection

Data will be collected using four modalities: semi-structured interviews, relevant scholarly literature, analytic memo journaling, and publications of the participants.

Interviews may take place a minimum of once per participant and may involve additional contacts as negotiated with you in order to capture emergent patterns. In these additional contacts, I will explore with you the emergent themes I have determined from the data for continuing refinement and theorization. This approach increases validity through on-going review and clarification (Creswell & Poth, 2018).
Interviews will be recorded with your permission using the MPEG-4 audio format (.mp4). Only I will transcribe these audio recorded interviews. Transcribed text format will be plain text (.txt) -- ASCII or Unicode (Notepad). Transcribed files will be assigned an identifying number and will not include your name.

I will also take handwritten notes. These written notes on the interviews, the audio recordings and any transcriptions will be locked in a briefcase during field research travel and then in a key locked filing cabinet in my office. They also will be transcribed as plain text (.txt format).

Audio recordings, transcriptions and field notes will be stored on an encrypted computer hard drive and on two encrypted 8GB USB drives.

Code-number keys, signed consent forms, interview audio-records, transcripts, and field notes will be in a locked filing cabinet and maintained electronic versions of these documents in password-protected encrypted drives. Your consent information data will be added to a master spreadsheet of the research project, including but not limited to date, time, and location of the interview. This data will also be encrypted.

In the event that you withdraw from the study, any data related to you will be immediately destroyed upon notification of the withdrawal.

I am the only researcher and will be consistent throughout.

Data will be stored on an encrypted hard drive using Windows 10 operating system and encrypted by Bitlocker. There will be two backup encrypted 8GB USB drives. Both the hard drive and one USB will travel with me in a locked briefcase. The other USB will be stored in a key locked filing cabinet in my office. All will be stored in a key locked filing cabinet for 10 years after research is complete.

During field research, all data will be stored on and encrypted hard drive (using Bitlocker) and two encrypted 8GB USB drives stored in a locked briefcase. Any use of the anonymized data will occur on my laptop computer which is dedicated for research only. Afterwards, during data analysis, it will be stored as described above.

First, interviews will be conducted in private locations and use code numbers to track and label interview audio-records and transcripts.

Second, the anonymity of participants by using pseudonyms or code numbers to describe individuals in field notes will be assured. Participants answers will be recorded without their name attached to them. All research files will have a special identifying number rather than a name on them. All participant answers will be grouped and summarized along with those of other participants without any personal identifying information. Telephone, Skype to telephone, email, mailing lists, and the Internet are not considered a confidential medium. Skype to Skype is considered to be confidential.

After 10 years, the documents will be destroyed.

Preservation, sharing and reuse
I am using a small homogenous sample size due to the nature of the research (level of expertise required and limited sources of this expertise). Due to the small specific data sources, I will not share the research data as it may compromise the subjects right to confidentiality. Sharing the interview data would lessen my ability to protect the privacy of the respondents as the interview answers (raw data) may identify the participants.

Grounded theory is a qualitative research methodology that acknowledges the researcher’s perspective and their influence on the data and data analysis. The researcher’s perspective is documented and included in the methodology section of any publications.

It is intended that this research provide a theoretical understanding of contemplative group process using the raw data from experts and my own extensive experience. This theoretical understanding will be open for critical analysis.

**Responsibilities**

I am the only researcher and responsible for managing this project’s data during and after the project.

**Costs**

There are no costs to you as a result of taking part in this study.

**Questions/Contact Information**

If you agree to be interviewed, I will document your consent. Your consent information data will be added to a master spreadsheet of the research project, including but not limited to date, time, and location of the interview. This data will be encrypted and stored as noted above.

If requested, you will be provided with information about how quotes, and case examples you provided may be used, and the kinds of venues in which the research results will be presented. Quotes and case examples will be used only with your explicit permission. If permission is granted, then they may be used in my doctoral dissertation, any publications resulting from my doctoral dissertation, as well as at my doctoral dissertation defense.

**Who am I?** My name is Steven Henne and I am an PhD student in the Faculty of Health Sciences at Simon Fraser University in Canada. My Senior Supervisor is Daniel Vigo, MD, D.Ph., Assistant Professor, Faculty of Health Sciences.

**How can you contact me?** Steven Henne, PhD Student, Faculty of Health Sciences, Simon Fraser University, 8888 University Drive, Burnaby, BC V5A 1S6 CANADA, [email address]

**How can you get the results of this research?** Contact Steven Henne at the above contact details if you are interested in the articles, books, or other uses of this research.

**If you have concerns or complaints about this research you may contact:** Dr. Jeff Toward, Office of Research, Simon Fraser University at [email address].
Statement of Voluntary Participation

PARTICIPATION IN THIS RESEARCH IS VOLUNTARY. You have received the Study Information Sheet. You have read the above consent form and understand the purpose of the study and what is required of you in participating. You can decide to participate or not and you can end the interview or withdraw from the study at any time. You voluntarily agree to participate in this study. If you agree to participate you should sign below. You will be given a copy of this form to keep. With your signature below, you agree that you have talked to me about this study and have had your questions answered.

________________________________________
Signature of Participant

________________________________________
Printed Name of Participant

________________________________________
Date (YYYY/MM/DD)
Appendix F. Study Interview Questions

**Background**
What is your profession and how long have you been practicing this profession?
What is your professional training?
   What is your professional experience?
Why did you choose this profession?

**Contemplative practice**
Do you have a contemplative practice?
   What type?
   Why did you choose this practice?
   How long have you been practicing?
Does your contemplative practice have an influence on your professional life?
   What is/are the influences(s) you have noticed?
   Is/are there any effect(s) on the people that you work with as a result of your contemplative practice and/or thinking?

**Group training and experience**
Do you have a group practice? And if so, how long have you had this type of group practice?
   Why did you choose this type of group practice?
What influence does your group practice have on your thinking in your professional life?
   What is/are the effect(s) you have noticed?
Are there any effects on the people that you work with because of your group practice and group work?

**Contemplative group process**
What is your understanding of contemplative group process?
What are the impacts of using a contemplative group process on you?
   On the people you work with?
   What are some positive/negative effects you have noticed as a result of using a contemplative group process?
How does a contemplative group process cause these effects?
   How do you understand this to happen?
   What are the key points that you think about when running these types of groups?

**Final Questions**
1) Do you have any other thoughts or concerns about the subject?
2) Is there something else you think I should know to understand contemplative group process better?
3) Is there anything you would like to ask me?
Appendix G. Study Data Management Plan

DATA MANAGEMENT PLAN

ADMIN DETAILS
Project Name: A Grounded Theory Study of Contemplative Group Leadership
Project Identifier: [redacted]
Principal Investigator / Researcher: Steven Henne
Project Data Contact: [redacted]

Description: A Grounded Theory Study of Contemplative Group Leadership. The proposed qualitative research project would serve as the first stage of research into the topic and form the entirety of my doctoral research. Contemplative processes inform the new leadership domains I propose to study, specifically, 1) the here-and-now approach; and 2) the in-the-moment reflexive assessments of a) one’s own mental capacities and b) the social and work networks within which we and our employees are embedded. My research explores the big ideas of contemplative group process that could be used by healthcare leaders to curb burnout. To date, the application of contemplative group process to healthcare worker burnout prevention has not been theorized (or tested). To theorize this, I will conduct research with contemplative process experts collecting data on the following research questions: 1) What aspects of contemplative group process build human resiliency? 2) How is the here-and-now leadership approach best taught? 3) What contemplative leadership characteristics increase the likelihood of employee resiliency? 4) What is different about contemplative work groups who successfully build burnout resiliency compared with those that do not? I propose that group skills, mindfulness and contemplative group processes are compatible theoretical and practical approaches that may be ideally suited to prevent and treat burnout in healthcare settings.
Institution: Simon Fraser University

DATA COLLECTION

WHAT TYPES OF DATA WILL YOU COLLECT, CREATE, LINK TO, ACQUIRE AND/OR RECORD?
Data will be collected using four modalities: semi-structured interviews, relevant scholarly literature, analytic memo journaling, and publications of the participants.

Interviews will take place a minimum of twice per participant but may involve additional contacts as negotiated with participants in order to capture emergent patterns. I will explore with participants the emergent themes I have determined from the data for continuing refinement and theorization. This approach increases validity through on-going review and clarification (Creswell & Poth, 2018)

WHAT FILE FORMATS WILL YOUR DATA BE COLLECTED IN? WILL THESE FORMATS ALLOW FOR DATA RE-USE, SHARING AND LONG-TERM ACCESS TO THE DATA?
Recorded interviews: Audio format will be MPEG-4 without DRM (.mp4).
Transcriptions: Transcribed text format will be plain text (.txt) -- ASCII or Unicode (Notepad). Both audio recordings and transcriptions will be stored on an encrypted computer hard drive and on two encrypted USB drives.
Handwritten notes: Written notes on the interviews will be locked in a briefcase during research travel and then in a key locked filing cabinet in my office. They will be transcribed as plain text (.txt format).
Yes, these formats will allow for long-term access to the data.

**WHAT CONVENTIONS AND PROCEDURES WILL YOU USE TO STRUCTURE, NAME AND VERSION-CONTROL YOUR FILES TO HELP YOU AND OTHERS BETTER UNDERSTAND HOW YOUR DATA ARE ORGANIZED?**
I will use recommendations the University of British Columbia's "File Naming Guidelines". Denote dates in YYYY-MM-DD format
Unique identifier (e.g. Project Name or Grant #): GTCGL for project title, A Grounded Theory Study of Contemplative Group Leadership.
Summary of content of document (e.g. Questionnaire or Grant Proposal) as: Questionnaire_GTCGL_2018.01.20_v01.txt

**DOCUMENTATION AND METADATA**

**WHAT DOCUMENTATION WILL BE NEEDED FOR THE DATA TO BE READ AND INTERPRETED CORRECTLY IN THE FUTURE?**
Code-number keys, signed consent forms, interview audio-records, transcripts, and field notes will be in locked filing cabinets and maintained electronic versions of these documents in password-protected computer files. Participant consent information data will be added to a master spreadsheet of the research project, including but not limited to date, time, and location of the interview. This data will be encrypted.

In the event that a participant withdraws from the study, any data related to them will be immediately destroyed upon notification of the withdrawal.

Data will consist of audiotapes of interviews with the research subjects, transcripts of these audiotapes and a field notebook of the researcher's impressions.
Audiotapes: The interviews will be recorded using an MP4 format. Each file will have an individual file number, the study acronym (GTCGL), the date YYYY-MM-DD. This information will be transcribed verbatim by the researcher (only myself) onto a text file (.txt format). This information will form the data along with my field notebook where I have written thoughts and impressions of the topics discussed both during and after the interview. Transcribed files will be assigned an identifying number and will not include the subjects name.

**HOW WILL YOU MAKE SURE THAT DOCUMENTATION IS CREATED OR CAPTURED CONSISTENTLY THROUGHOUT YOUR PROJECT?**
I am the only researcher and will be consistent throughout.

**IF YOU ARE USING A METADATA STANDARD AND/OR TOOLS TO DOCUMENT AND DESCRIBE YOUR DATA, PLEASE LIST HERE.**
Not applicable.

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STORAGE AND BACKUP

WHAT ARE THE ANTICIPATED STORAGE REQUIREMENTS FOR YOUR PROJECT, IN TERMS OF STORAGE SPACE (IN MEGABYTES, GIGABYTES, TERABYTES, ETC.) AND THE LENGTH OF TIME YOU WILL BE STORING IT?

Data will be stored on an encrypted hard drive using Windows 10 operating system and encrypted by Bitlocker. There will be two backup encrypted 8GB USB drives. Both the hard drive and one USB will travel with me in a locked briefcase. The other USB will be stored in a key locked filing cabinet in my office. All will be stored in key locked filing cabinet for 10 years after research is complete.

HOW AND WHERE WILL YOUR DATA BE STORED AND BACKED UP DURING YOUR RESEARCH PROJECT?

During field research, all data will be stored on and encrypted hard drive and two encrypted 8GB USB drive stored in a locked briefcase. Afterwards, during data analysis, it will be stored as described above.

First, interviews will be conducted in private locations and use code numbers to track and label interview audio-records and transcripts.

Second, the anonymity of participants by using pseudonyms or code numbers to describe individuals in field notes will be assured. Participants answers will be recorded without their names attached to them. All research files will have a special identifying number rather than a name on them. All participant answers will be grouped and summarized along with those of other participants without any personal identifying information. Telephone, Skype to telephone, email, mailing lists, and the Internet are not considered a confidential medium. Skype to Skype is considered to be confidential.

After 10 years, the documents will be destroyed.

Third, code-number keys, signed consent forms, interview audio-records, transcripts, and field notes will be in locked filing cabinets and maintained electronic versions of these documents in password-protected computer files. Participant consent information data will be added to a master spreadsheet of the research project, including but not limited to date, time, and location of the interview. This data will be encrypted.

In the event that a participant withdraws from the study, any data related to them will be immediately destroyed upon notification of the withdrawal.

In addition, any use of the anonymized data will occur on my laptop computer which is dedicated for research only. It uses Windows 10 OS and is encrypted using Bitlocker.

HOW WILL THE RESEARCH TEAM AND OTHER COLLABORATORS ACCESS, MODIFY, AND CONTRIBUTE DATA THROUGHOUT THE PROJECT?

I am the only researcher.
PRESERVATION

WHERE WILL YOU DEPOSIT YOUR DATA FOR LONG-TERM PRESERVATION AND ACCESS AT THE END OF YOUR RESEARCH PROJECT?

I am using a small homogenous sample size due to the nature of the research (level of expertise required and limited sources of this expertise). Due to the small specific data sources, I will not share the research data as it may compromise the subjects right to confidentiality. Sharing the interview data would lessen my ability to protect the privacy of the respondents as the interview answers (raw data) may identify the participants.

Grounded theory is a qualitative research methodology that acknowledges the researcher’s perspective and their influence on the data and data analysis. The researcher’s perspective is documented and included in the methodology section of any publications.

It is intended that this research provide a theoretical understanding of contemplative group process using the raw data from experts and my own extensive experience. This theoretical understanding will be open for critical analysis.

Recorded interviews: Audio format will be MPEG-4 without DRM (.mp4).
Transcriptions: Transcribed text format will be plain text (.txt) - ASCII or Unicode (Notepad). Both audio recordings and transcriptions will be stored on an encrypted USB drives which will be stored in a key locked filing cabinet in my office after the end of my research project.
Handwritten notes: Written notes on the interviews will be locked in a briefcase during research travel and then in a key locked filing cabinet in my office after the end of my research project.

Indicate how you will ensure your data is preservation ready. Consider preservation-friendly file formats, ensuring file integrity, anonymization and de-identification, inclusion of supporting documentation.
Document will be stored on text file format (.txt) and Audio files will be stored on MP4 format.

SHARING AND REUSE

WHAT DATA WILL YOU BE SHARING AND IN WHAT FORM? (E.G. RAW, PROCESSED, ANALYZED, FINAL).

I am using a small homogenous sample size due to the nature of the research (level of expertise required and limited sources of this expertise). Due to the small specific data sources, I will not share the research data as it may compromise the subjects right to confidentiality. Sharing the interview data would lessen my ability to protect the privacy of the respondents.

Grounded theory is a qualitative research methodology that acknowledges the researcher’s perspective and their influence on the data and data analysis. The researcher’s perspective is documented and included in the methodology section of any publications.

HAVE YOU CONSIDERED WHAT TYPE OF END-USER LICENSE TO INCLUDE WITH YOUR DATA?

Not applicable.
WHAT STEPS WILL BE TAKEN TO HELP THE RESEARCH COMMUNITY KNOW THAT YOUR DATA EXISTS?
Not applicable.

RESPONSIBILITIES AND RESOURCES

IDENTIFY WHO WILL BE RESPONSIBLE FOR MANAGING THIS PROJECT'S DATA DURING AND AFTER THE PROJECT AND THE MAJOR DATA MANAGEMENT TASKS FOR WHICH THEY WILL BE RESPONSIBLE.
Only myself.

HOW WILL RESPONSIBILITIES FOR MANAGING DATA ACTIVITIES BE HANDLED IF SUBSTANTIVE CHANGES HAPPEN IN THE PERSONNEL OVERSEEING THE PROJECT'S DATA, INCLUDING A CHANGE OF PRINCIPAL INVESTIGATOR?
Not applicable.

WHAT RESOURCES WILL YOU REQUIRE TO IMPLEMENT YOUR DATA MANAGEMENT PLAN? WHAT DO YOU ESTIMATE THE OVERALL COST FOR DATA MANAGEMENT TO BE?
Not applicable.

ETHICS AND LEGAL COMPLIANCE

IF YOUR RESEARCH PROJECT INCLUDES SENSITIVE DATA, HOW WILL YOU ENSURE THAT IT IS SECURELY MANAGED AND ACCESSIBLE ONLY TO APPROVED MEMBERS OF THE PROJECT?
As described.

IF APPLICABLE, WHAT STRATEGIES WILL YOU UNDERTAKE TO ADDRESS SECONDARY USES OF SENSITIVE DATA?
Not applicable.
### Appendix H. Study Search Terms

#### Table H.1 PubMed Search terms

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<th>Concept</th>
<th>Search terms</th>
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