A FRAMEWORK OF WORKPLACE BURNOUT IN PROFESSIONAL SERVICE FIRMS: THE INFLUENCE OF PSYCHOLOGICAL, SOCIAL, AND PERSONAL FACTORS

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"When we are no longer able to change a situation, we are challenged to change ourselves."

— Viktor E. Frankl

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Abstract

Burnout is a chronic occupational syndrome characterized by emotional exhaustion, depersonalization, and a diminished sense of personal accomplishment. This study examined the predictors and moderators of burnout among 539 professionals in the U.S. working in cognitively demanding, knowledge-intensive fields such as accounting, finance, legal, and healthcare. Grounded in Conservation of Resources (COR) Theory and Self-Determination Theory (SDT), the conceptual model assessed whether stress, autonomy, and a sense of meaning predicted burnout, as well as whether perceived coworker Dark Triad traits, self-care practices, support systems, and organizational justice moderated these relationships.

Structural Equation Modeling (SEM) results confirmed stress as a strong and consistent predictor of burnout. However, none of the interaction terms achieved significance, indicating that the proposed moderators, including justice and self-care, did not significantly alter the strength of the relationships between stress, autonomy, and meaning and burnout in the SEM model.

These findings provide valuable insights into the causes of burnout and the workplace resources that can help reduce it. For organizational leaders, the implications include the need to prioritize stress reduction, promote fairness, and support employee self-care initiatives. Additionally, the text discusses recommendations for future research and potential organizational interventions.

***Keywords*:** burnout, stress, self-care, justice, autonomy, Dark Triad, support, professional service firms, COR Theory, SDT

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Definitions of Key Terms

Conservation of Resources (COR) Theory

Conservation of Resources (COR) Theory posits that stress and burnout arise from the loss or threat of losing personal resources, such as time, energy, and support. Individuals experience strain and exhaustion when they deplete resources faster than they can replenish them (Hobfoll, 1989, 2001).

Dark Triad

The Dark Triad refers to three socially aversive personality traits: Machiavellianism, which involves manipulative and self-serving behavior; narcissism, which reflects self-centeredness and a sense of superiority; and psychopathy, which includes impulsivity and a lack of empathy. When perceived in colleagues or supervisors, these traits may contribute to increased stress and conflict in the workplace (Jones & Paulhus, 2014; Paulhus & Williams, 2002).

Job Autonomy (Autonomy)

Job autonomy is the degree to which employees have control over how they perform their work, including decisions about scheduling, methods, and task execution. Greater autonomy enables individuals to manage demands more effectively, potentially reducing stress and burnout (Clausen et al., 2021; Morgeson & Humphrey, 2006).

Meaning of Work (Meaning)

Meaning of work refers to the perception that one's job is purposeful, significant, and consistent with one's values. When employees view their work as meaningful, it can increase motivation and reduce the likelihood of experiencing burnout (Rosso et al., 2010; Wrzesniewski et al., 2003).

Organizational Justice (Justice)

Justice refers to employees' perceptions of fairness in the workplace, including the fairness of outcomes (distributive justice), processes (procedural justice), and interpersonal treatment (interactional justice). Perceived injustice can intensify stress and contribute to burnout, particularly in high-demand work environments (Ambrose & Schminke, 2009; Colquitt, 2001; Greenberg, 1990).

Perceived Workplace Stress (Stress)

Perceived workplace stress refers to an individual's subjective evaluation of job-related demands as stressful or overwhelming. It arises from the appraisal of environmental pressures relative to available coping resources and includes cognitive, emotional, and behavioral responses to workplace stressors. These responses are key contributors to the development of burnout (Cohen et al., 1983; Ellison & Caudill, 2020; Spector et al., 1988).

Professional Service Firms (PSFs)

Professional service firms are organizations characterized by high knowledge intensity, low capital requirements, and a professionalized workforce. Professionals in these firms

typically deliver services in fields such as law, accounting, healthcare, and finance using their specialized expertise. (von Nordenflycht, 2010; Yalabik et al., 2017). PSFs are chosen as the context of the present study.

Self-Care

Self-care refers to the intentional behaviors individuals engage in to manage stress, restore energy, and prevent psychological exhaustion. These actions may include rest, exercise, setting boundaries, or other strategies aimed at preserving personal resources and reducing the risk of burnout (Petrou & Bakker, 2016; Roth et al., 1986).

Self-Determination Theory (SDT)

Self-determination theory (SDT) is a framework for understanding human motivation, distinguishing between autonomous motivation (driven by personal interest and values) and controlled motivation (driven by external pressures). It emphasizes the fulfillment of three basic psychological needs—autonomy, competence, and relatedness—as essential for maintaining motivation and reducing psychological strain in demanding environments (Deci & Ryan, 1985, 2000, 2008).

Social Support (Support)

Social support refers to the emotional and instrumental assistance individuals receive from colleagues, supervisors, or organizational networks. Supportive environments can help reduce perceived stress and lower the risk of workplace burnout (Ellison & Caudill, 2020; Kristensen et al., 2005).

Workplace Burnout (Burnout)

Workplace burnout is a multidimensional construct characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment. Emotional exhaustion involves feeling emotionally overextended and drained by work. Depersonalization refers to pessimistic, cynical, or detached attitudes toward colleagues or job responsibilities. Employees who experience reduced personal accomplishment tend to feel less competent and less successful in their work. (Kim & Stoner, 2008; Kristensen et al., 2005; Maslach & Leiter, 2016).

Chapter One: Introduction

Importance of the Topic

Workplace burnout (hereafter referred to as burnout) is a chronic psychological syndrome characterized by emotional exhaustion, depersonalization, and a diminished sense of personal accomplishment, often resulting from prolonged perceived workplace stress (hereafter referred to as stress) (Maslach & Leiter, 2016). Unlike short-term stress, burnout signifies a persistent depletion of physical, emotional, and mental resources, posing significant challenges at the individual, organizational, and societal levels. The World Health Organization estimates that poor working environments, which often contribute to burnout, result in an annual global productivity loss of approximately $1 trillion, with 12 billion working days lost each year due to burnout-related issues (World Health Organization, 2024).

In the United States, burnout is increasingly prevalent. Seventy-seven percent of professionals report experiencing burnout in their current roles, with fifty-nine percent attributing it to work-related stress and thirty-one percent citing emotional exhaustion (American Psychological Association, 2021, 2023; Fisher, 2018). These findings reflect the broader complexities of modern workplace demands, particularly in high-pressure, knowledge-intensive environments such as those in the legal, accounting, healthcare, and financial services sectors, collectively referred to as professional service firms (hereafter referred to as PSFs) (Bakker & de Vries, 2021; Maslach & Jackson, 1981). These roles often involve cognitively demanding tasks, frequent client interactions, and strict deadlines, all of which may elevate stress and contribute to burnout (Ahuja, 2023; Malhotra & Morris, 2009; von Nordenflycht, 2010).

Beyond its effects on mental and physical health, burnout incurs significant organizational costs. Prolonged stress associated with burnout elevates cortisol levels and

increases the risk of cardiovascular issues. (Ganster & Rosen, 2013). Psychologically, burnout leads to anxiety, emotional exhaustion, and disengagement (Maslach et al., 2001). Behaviorally, it is evident through higher absenteeism, presenteeism, and intentions to leave, all of which jeopardize organizational continuity and workforce stability (Bakker & de Vries, 2021; Edú-Valsania et al., 2022; Wright & Hobfoll, 2004).

Researchers must examine a variety of contributing and interacting factors to address the growing issue of burnout. These include stress, autonomy, and the meaning of work (hereafter referred to as meaning), along with moderating variables such as self-care, support, justice, and the perceived presence of Dark Triad traits among colleagues. Perceived organizational justice (hereafter referred to as justice) continues to play a significant role in shaping employees' responses to stress through perceptions of fairness in outcomes, procedures, and interpersonal treatment (Ambrose & Schminke, 2009; Colquitt, 2001; Greenberg, 1990). Similarly, exposure to coworkers with high levels of narcissism, psychopathy, or Machiavellianism can amplify stress and conflict, increasing the risk of burnout (Paulhus & Williams, 2002; Spain et al., 2014; Walker & MacCann, 2024). This study draws on Conservation of Resources Theory (hereafter referred to as COR Theory) and Self-Determination Theory (hereafter referred to as SDT) to examine how these factors jointly influence burnout in high-demand work environments (Deci & Ryan, 1985; Hobfoll, 1989).

Gaps in the Literature

Despite extensive research on burnout, significant gaps remain in understanding its complex dynamics, particularly in high-pressure, knowledge-based work environments. While existing models provide valuable insights into the antecedents and consequences of burnout, they often emphasize structural factors such as job demands and workload, without fully

incorporating psychological and resource-based perspectives (Bakker & de Vries, 2021; Demerouti et al., 2001; Halbesleben et al., 2014). Researchers have given limited attention to how burnout develops in settings where employees face sustained cognitive and emotional demands with minimal opportunities for recovery.

Although COR Theory explains burnout as a consequence of threatened or depleted personal resources, much of the literature overlooks how employees strive to cope with resource loss or develop protective resources in real-world organizational settings (Hobfoll, 1989). Similarly, SDT emphasizes the significance of basic psychological needs such as autonomy, competence, and relatedness in maintaining motivation and alleviating strain (Deci & Ryan, 1985). However, limited research has investigated how autonomy specifically interacts with stress in high-demand environments, or how SDT's framework might guide practical interventions in these contexts.

Another critical gap concerns the role of moderating variables that may influence the relationship between core workplace factors, such as stress, autonomy, and meaning, and burnout. Although autonomy, support, and self-care are established resources, their interactive or cumulative effects are rarely examined together, particularly in cognitively demanding environments where systemic pressures are high and individual coping strategies are applied inconsistently (Cook-Cottone & Guyker, 2018; Morgeson & Humphrey, 2006; Thompson & Prottas, 2006).

Additionally, burnout researchers have largely overlooked the role of justice. Justice perceptions, such as fairness in decision-making processes, outcome distribution, and interpersonal treatment, are known to shape emotional responses to workplace conditions; yet, few studies have investigated their potential to moderate the effects of stress on burnout

(Ambrose & Schminke, 2009; Colquitt, 2001; Greenberg, 1990). This omission limits the ability to fully understand how systemic fairness influences employee resilience in high-pressure settings.

Additionally, research on the Dark Triad traits- Machiavellianism, narcissism, and psychopathy- has primarily focused on individuals' self-reported tendencies rather than on how employees perceive these traits in their colleagues. While a few studies have begun to explore this interpersonal perspective (McLarty & Whitman, 2016; Szabo & Jones, 2019), the topic remains underexamined in organizational research. The presence of Dark Triad traits in coworkers or supervisors may contribute to interpersonal conflict, social resource erosion, and increased stress responses (Paulhus & Williams, 2002; Spain et al., 2014; Walker & MacCann, 2024). This perspective shift is crucial for understanding how toxic work environments emerge and contribute to burnout through relational dynamics.

Researchers are increasingly recognizing the significance of meaning of work as a psychological resource, but they rarely examine it alongside other moderators, such as self-care or support. Meaning may serve as a buffer against burnout by helping employees sustain motivation and purpose in the face of adversity; however, its relationship with other stress-reducing factors remains underexplored (Rosso et al., 2010; Wrzesniewski et al., 2003). This oversight hinders the development of comprehensive models that can explain the complex experiences of burnout across various work environments.

This study addresses these interconnected gaps by utilizing COR Theory and SDT as complementary frameworks that encompass both resource-based processes and the fulfillment of psychological needs. These theories were chosen over alternatives such as the transactional theory of stress (Lazarus & Folkman, 1984), Herzberg’s two-factor theory (Herzberg, 1959), and

Maslow's hierarchy of needs (Maslow, 1943), as they provide empirically grounded and integrative explanations for chronic stress and burnout.

Purpose of the Research

This study addresses gaps in the literature by exploring burnout through an integrated framework grounded in COR Theory and SDT. These theoretical foundations emphasize the interaction between resource dynamics, stress processes, and psychological needs in shaping employee outcomes, particularly under chronic workplace strain (Deci & Ryan, 1985; Hobfoll, 1989). This research examines how stress, autonomy, and meaning influence burnout. It investigates how justice, the presence of Dark Triad traits in colleagues, self-care practices, and social support moderate these relationships. Specifically, this study models autonomy as an independent variable that reflects how employees perceive control over their work. The construct of support represents relatedness, encompassing both emotional and instrumental resources that supervisors and peers provide (Cohen & Syme, 1985; Deci et al., 2017). Competence is not measured as a separate construct; instead, it is conceptually integrated within the experience of meaning, where fulfillment and alignment with one's strengths cultivate a sense of effectiveness and purpose (Morgeson et al., 2005; Ryan & Deci, 2017). Employees who experience autonomy, competence, and relatedness at work are more likely to be intrinsically motivated and resilient in the face of stress. Collectively, these needs provide a motivational foundation for understanding how workplace conditions influence the risk of burnout.

COR Theory highlights the significance of resource loss and gain in understanding burnout. From this viewpoint, burnout arises not only from high demands but also from ongoing resource depletion without adequate recovery (Halbesleben et al., 2014; Hobfoll, 1989; Wright & Hobfoll, 2004). Employees who lack sufficient time, energy, or emotional resources are

particularly susceptible to burnout, especially in high-pressure environments where demands consistently exceed the opportunities for recovery. This framework offers insight into the mechanisms of chronic strain and supports the development of interventions that encourage resource preservation and replenishment.

SDT complements this approach by focusing on fulfilling psychological needs, including autonomy, competence, and relatedness, which are essential for sustaining motivation and protecting against strain (Deci & Ryan, 1985, 2008). The study explores autonomy for its role in fostering a sense of agency and control in demanding roles (Morgeson & Humphrey, 2006; Thompson & Prottas, 2006). It also examines meaning as a psychological resource that can buffer against the adverse effects of sustained stress, especially in environments where values alignment is unclear or challenged (Rosso et al., 2010; Wrzesniewski et al., 2003). In this context, meaning is linked to the core needs of competence and relatedness identified by SDT. When employees find their work meaningful, they tend to feel more capable and effective, which boosts their sense of competence. Furthermore, engaging in meaningful work often includes contributing to the well-being of others, which fosters a sense of relatedness and social connection (Ryan & Deci, 2000).

The moderating variables—justice, Dark Triad traits, self-care, and support—are central to this investigation. The study examines the role of justice in shaping perceptions of fairness, which may reduce emotional strain and enhance individual responses to workplace adversity (Ambrose & Schminke, 2009; Colquitt, 2001; Greenberg, 1990). Self-care practices are considered mechanisms for restoring depleted resources and enhancing the protective effects of autonomy and meaning (Cook-Cottone & Guyker, 2018; Petrou & Bakker, 2016). Support, encompassing emotional and instrumental assistance from supervisors and coworkers, is

assessed for its potential to buffer stress effects and facilitate collaboration (Burr et al., 2019; Cohen & Wills, 1985; Hobfoll, 1989). Conversely, the presence of Dark Triad traits in colleagues may increase strain, diminish support, and interfere with the protection of resources and the fulfillment of psychological needs (Jones & Paulhus, 2014; McLarty & Whitman, 2016; Spain et al., 2014; Szabo & Jones, 2019; Walker & MacCann, 2024).

While this research draws from knowledge-intensive work contexts, its scope is intentionally broad, increasing its relevance across a range of high-demand occupational settings. By analyzing how systemic and interpersonal factors influence burnout, the study offers practical strategies to reduce strain and enhance employee resilience. Beyond its applied contributions, the study also advances theory by refining and integrating COR Theory and SDT. These frameworks provide a more comprehensive understanding of chronic burnout risk than earlier models that focused solely on job satisfaction (Herzberg, 1959), general need hierarchies (Maslow, 1943), or acute cognitive appraisal (Lazarus & Folkman, 1984).

This dissertation will examine the following research questions (as captured in **Table 1**):

Table 1

Research Questions

Research Question	Description
RQ1	How does stress relate to burnout?
RQ2	How does autonomy relate to burnout?
RQ3	How does meaning relate to burnout?
RQ4	How do Dark Triad traits moderate the relationships between stress, autonomy, and meaning on burnout?
RQ5	How does self-care moderate the relationships between stress, autonomy, and meaning on burnout?
RQ6	How does support moderate the relationships between stress, autonomy, and meaning on burnout?
RQ7	How does justice moderate the relationships between stress, autonomy, and meaning on burnout?

Paper Organization

This dissertation presents a systematic examination of burnout across five chapters. Chapter 1 introduces the topic, outlines key research gaps, states the purpose of the study, and describes the dissertation's structure. Chapter 2 presents the theoretical foundations, empirical literature, and conceptual framework guiding the research. Chapter 3 details the research methodology, including the study design, data collection procedures, and analytical strategy. Chapter 4 presents the results, while Chapter 5 interprets the findings, discusses their implications, and offers directions for future research. This organization supports a logical progression from conceptual development to empirical analysis, culminating in practical insights for addressing burnout in high-demand work environments.

Chapter Two: Literature Review

Introduction

The purpose of this literature review is to explore theoretical frameworks and empirical findings related to burnout in high-pressure, knowledge-intensive work environments. Burnout is a psychological syndrome characterized by emotional exhaustion, depersonalization, and a diminished sense of personal accomplishment, typically resulting from prolonged stress and resource depletion (Hobfoll, 1989; Maslach & Leiter, 2016; Shirom & Melamed, 2006). Guided by COR Theory and SDT, this chapter examines burnout from multiple angles, integrating workplace conditions, psychological traits, and individual differences to establish a comprehensive understanding of its antecedents and outcomes. While this study focuses on PSFs, the insights presented are relevant across a range of cognitively demanding occupations.

The dynamics of burnout explored here apply to a broad range of knowledge work settings. Knowledge work, characterized by cognitive complexity, decision-making, and expertise, spans various industries, including technology, education, law, consulting, finance, and healthcare (Davenport, 2005; von Nordenflycht, 2010). PSFs serve as a relevant context for this study due to their emphasis on intellectual capital, performance outcomes, and client-facing demands (Lupu et al., 2022; Malhotra & Morris, 2009; Sussell et al., 2023), although not all roles within these firms are exclusively knowledge-based (von Nordenflycht, 2010; Yalabik et al., 2017).

This chapter begins by reviewing three core workplace conditions—stress, autonomy, and meaning—as independent variables linked to burnout. Stress is examined as a primary driver of emotional and psychological strain, resulting from chronic demands that exceed available resources (Beehr & Newman, 1978; Hobfoll, 1989; Maslach & Leiter, 2016). Consistent with

COR Theory, stress reflects the depletion of valued resources over time. The study explores autonomy for its role in promoting decision-making latitude, personal control, and a sense of ownership over one's work, which may reduce strain in high-demand environments and support basic psychological needs, as outlined in SDT (Clausen et al., 2022; Morgeson & Humphrey, 2006; Thompson & Prottas, 2006). Meaning is also considered a protective psychological resource that enhances engagement and mitigates burnout when individuals perceive their work as aligned with personal values and purpose (Rosso et al., 2010; Steger et al., 2012; Wrzesniewski et al., 1997).

Burnout has been linked to various psychological and behavioral outcomes, with potential connections to physiological processes. While this study does not directly measure physical health outcomes, previous research suggests that chronic stress exposure may contribute to immune system suppression and cardiovascular strain (Fried et al., 1984; Ganster & Rosen, 2013; Liu et al., 2021). Psychologically, burnout is known to lead to emotional exhaustion, anxiety, and disengagement (Maslach et al., 2001; Pines & Maslach, 1978; Schaufeli & Bakker, 2004). On a behavioral level, burnout has been associated with higher rates of absenteeism, presenteeism, and turnover intentions, all of which can impact organizational functioning and resource continuity (Bakker & de Vries, 2021; Kim & Stoner, 2008; Wright & Hobfoll, 2004). Chronic stress can place significant strain on the body's systems as it attempts to adapt to ongoing demands, creating a physiological burden sometimes referred to as cumulative stress load.

The chapter subsequently examines various factors that may influence the relationship between workplace conditions and burnout. Research indicates that both emotional and instrumental support can significantly reduce stress and enhance psychological resilience in team

environments (Burr et al., 2019; Cohen & Syme, 1985; Gottlieb & Bergen, 2010; House et al., 1988). Self-care involves proactive strategies aimed at conserving cognitive and emotional resources, which play a vital role in alleviating the effects of chronic stress and sustaining the energy necessary for meaningful engagement (Cook-Cottone & Guyker, 2018; Petrou & Bakker, 2016; Teixeira et al., 2012). Furthermore, perceptions of justice—including fairness in procedures, outcomes, and interpersonal interactions—may shape how employees experience stress and respond to high-demand environments, potentially influencing the trajectories of burnout (Ambrose & Schminke, 2009; Colquitt, 2001; Greenberg, 1990). Lastly, the presence of Dark Triad traits—Machiavellianism, narcissism, and psychopathy—in the workplace can increase interpersonal tension and limit access to supportive resources, thereby exacerbating stress and burnout (Jones & Paulhus, 2014; Jonason & Webster, 2010; Lata & Chaudhary, 2021; McLarty & Whitman, 2016; Szabo & Jones, 2019; Walker & MacCann, 2024).

The final section of this chapter integrates insights from these conceptual perspectives to identify gaps in the literature and justify the development of the hypotheses for this study. Together, these frameworks provide the theoretical foundation for understanding how workplace factors interact to influence burnout, offering guidance on practical strategies to reduce strain and improve outcomes in cognitively demanding work environments (Bakker & de Vries, 2021; Deci et al., 2017; Hobfoll, 2001).

Theoretical Background

This study integrates insights from COR Theory and SDT to address theoretical gaps in understanding burnout within high-demand, knowledge-intensive work environments. COR Theory emphasizes the importance of acquiring, maintaining, and protecting resources as buffers against burnout, suggesting that individuals experience stress and emotional exhaustion when

they lose valued resources, struggle to maintain them, or fail to replenish them adequately. (Hobfoll, 1989; Hobfoll et al., 2018). This framework is particularly valuable for understanding how prolonged stress in high-pressure roles can create cycles of resource loss that contribute to burnout over time (Halbesleben et al., 2014; Mahoney et al., 2020; Wright & Hobfoll, 2004).

SDT enriches this perspective by identifying three fundamental psychological needs—autonomy, competence, and relatedness—as crucial for fostering intrinsic motivation and building resilience against burnout (Deci & Ryan, 1985, 2000; Gagné & Deci, 2005). This study models autonomy as an independent variable that captures how employees perceive control over their work. The construct of support represents relatedness, encompassing both emotional and instrumental resources provided by supervisors and peers (Cohen & Syme, 1985; Deci et al., 2017). Competence is not measured as a separate construct; instead, it is conceptually integrated within the experience of meaning, where fulfillment and alignment with one's strengths cultivate a sense of effectiveness and purpose (Morgeson et al., 2005; Ryan & Deci, 2017). When employees' needs for autonomy, competence, and relatedness are fulfilled, they are more likely to experience a sense of psychological safety, motivation, and personal resourcefulness, which can reduce stress levels and enhance coping abilities. Collectively, these needs provide a motivational foundation for understanding how workplace conditions influence the risk of burnout.

Together, COR Theory and SDT offer a robust framework for examining the influence of workplace stressors and personal resources on burnout. These theories facilitate the examination of both direct effects and moderated relationships involving stress, autonomy, and meaning, as well as the potential buffering roles of support, justice, self-care, and interpersonal strain related to Dark Triad traits (Cook-Cottone & Guyker, 2018; Colquitt, 2001; Jones & Paulhus, 2014). By

exploring these dynamics, the current study builds upon established theoretical frameworks to deepen the understanding of the drivers of burnout in cognitively demanding work environments (Deci et al., 2017; Hobfoll, 1989, 2011; Rosso et al., 2010).

Conservation of Resources (COR) Theory

COR Theory, developed by Hobfoll in 1989, is a foundational framework for understanding stress. It posits that stress primarily arises from the loss of significant resources, while acquiring resources serves as a protective factor against psychological strain. This theory has deeply influenced the understanding of burnout, particularly in high-demand environments where cognitive, emotional, and social resources are frequently strained (Hobfoll, 2001; Hobfoll et al., 2018). COR Theory is one of the most empirically validated frameworks in occupational stress research, providing predictive strength across various work settings (Halbesleben et al., 2014; Hobfoll et al., 2018).

COR theory builds upon earlier models, including the Job Demands-Control-Support (JDCS) Model, which was initially introduced by Karasek in 1979 and later expanded by Karasek and Theorell in 1990. While the JDCS Model emphasizes job demands, autonomy, and social support in relation to job strain, COR Theory shifts the focus to the processes of resource acquisition, loss, and protection. The integration of these theories offers a more comprehensive framework for explaining chronic stress and burnout, particularly in dynamic and evolving work environments (Grandey & Cropanzano, 1999; Halbesleben et al., 2014; Hobfoll, 2001). Unlike the JDCS or Transactional Stress Model, which explain strain primarily through demand-control balance or appraisal, COR Theory directly addresses how prolonged exposure to resource-threatening environments contributes to burnout trajectories.

Unlike appraisal-based models, such as Lazarus and Folkman's Transactional Theory of Stress (1984), which prioritize an individual's perception of threat and coping abilities, COR Theory posits that stress primarily arises from the actual or anticipated loss of valued resources (Hobfoll, 1989, 2001; Wright & Hobfoll, 2004). This distinction enables COR Theory to better address chronic strain and burnout in objectively demanding environments, rather than focusing solely on subjective appraisal.

COR Theory posits that individuals strive to acquire, maintain, and protect their valued resources, encompassing personal attributes, workplace support, time, energy, and job-related conditions (Hobfoll, 1989, 2011). Stress arises when individuals perceive that they are losing resources, struggling to protect them, or unable to replenish them adequately after investment. This framework is particularly relevant in knowledge-intensive roles, where client demands, strict deadlines, and high performance expectations continually exert pressure on employees (Bakker & de Vries, 2021; Prapanjaroensin et al., 2017). Without effective recovery strategies, employees risk experiencing gradual depletion, which can ultimately lead to burnout (Halbesleben, 2006). Continuous exposure to significant demands without adequate recovery opportunities creates a vicious cycle of resource depletion. As these losses accumulate, the individual's ability to manage workplace demands diminishes, intensifying feelings of emotional exhaustion, disengagement, and psychological strain (Kristensen et al., 2005; Maslach & Leiter, 2016).

A key concept within COR Theory is the "primacy of resource loss," which states that the adverse effects of losing resources far outweigh the positive effects of gaining them (Hobfoll, 2001). This principle helps explain the potential for burnout to escalate, as initial depletion increases individuals' vulnerability to further losses. COR Theory also highlights the importance

of resource investment and recovery, noting that resource gains can help offset or buffer the impact of earlier resource losses (Hobfoll, 2001; Hobfoll et al., 2018). Individuals or workplaces that possess one type of resource, such as autonomy, often have access to others, like social support. These combinations of resources can collectively act as a buffer against burnout (Hobfoll, 2001; Hobfoll et al., 2018). These principles emphasize the importance of maintaining access to a diverse range of overlapping resources to prevent burnout and support sustained functioning in complex occupational environments.

COR Theory has been widely applied in workplace research to explore how environmental demands influence well-being and performance. In high-demand environments, factors such as autonomy, support, and personal coping strategies are identified as crucial resources for sustaining energy and alleviating stress (Xanthopoulou et al., 2009). Research on emotional labor (Brotheridge & Lee, 2002), work-family conflict (Grandey & Cropanzano, 1999), and organizational stress (Halbesleben et al., 2014) further underscores the significance of resource-based interventions within this theoretical framework. Conversely, when employees face chronic stressors like time pressure, insufficient supervisory support, or fluctuating performance expectations, they become more susceptible to resource depletion, which can lead to burnout (Mahoney et al., 2020).

Emerging research has emphasized the importance of justice as a crucial contextual resource. Perceptions of fairness in decision-making processes, outcomes, and interpersonal interactions can alleviate feelings of loss, enhance psychological safety, and increase employees' sense of control (Colquitt, 2001; Greenberg, 1990). Environments characterized by the consistent and fair application of rules foster a sense of predictability and stability, which can protect employees from the emotional distress often associated with unpredictability and bias (Ambrose

& Schminke, 2009; Rupp et al., 2013). Within the framework of COR Theory, justice plays a vital role in building and sustaining resource caravans, which refer to clusters of personal, social, and material resources that tend to accumulate together over time (Hobfoll, 1989). These resource caravans promote trust, reduce social conflict, and enhance access to support from supervisors and peers, thereby strengthening employees' capacity to cope with stress.

Dark Triad traits—specifically Machiavellianism, narcissism, and psychopathy—represent significant threats to interpersonal resources, especially when these traits are perceived in coworkers or supervisors (Paulhus & Williams, 2002). This study shifts the focus from assessing individuals' traits to exploring how employees perceive these characteristics in others and how these perceptions influence relational dynamics at work. Emerging research supports this interpersonal perspective, indicating a connection between perceived Dark Triad behaviors in supervisors and colleagues and increased workplace conflict, emotional exhaustion, and organizational distrust (Belschak et al., 2016; Spain et al., 2014; Szabo et al., 2023).

For example, perceived Machiavellianism can lead to greater manipulation, distrust, and competitiveness, ultimately undermining collaboration and mutual support (Jones & Paulhus, 2014; McLarty & Whitman, 2016). Narcissistic behavior, particularly in its grandiose form, may escalate interpersonal tension through attention-seeking and defensiveness, thereby straining relational resources (Grijalva et al., 2015). Lastly, psychopathy, characterized by impulsivity, callousness, and a disregard for social norms, can erode trust and psychological safety, further reducing access to emotional and instrumental support (Walker & MacCann, 2024). These dynamics illustrate the core principles of COR Theory, which highlight the compounding effects of resource threats and loss spirals in the development of burnout (Hobfoll et al., 2018).

From a COR perspective, these perceived traits represent chronic social stressors that lead to resource depletion and jeopardize the stability of resource caravans. Teams burdened by high levels of interpersonal dysfunction may expend additional emotional and cognitive energy to navigate toxic dynamics, thereby reducing the resources available to manage essential work demands. As these traits disrupt cooperation and limit access to shared support systems, they increase the risk of burnout among those who must work closely with such dysfunction (Lupu et al., 2022).

Moderating factors, such as self-care and social support, align closely with COR Theory's emphasis on proactive resource conservation. Self-care encompasses intentional behaviors, including rest, emotional regulation, and establishing healthy boundaries, aimed at sustaining energy and fostering resilience (Cook-Cottone & Guyker, 2018; Petrou & Bakker, 2016). These actions not only signify resource gains but also function as strategies to alleviate further loss. Moreover, support from supervisors and colleagues—primarily when consistent and of high quality—serves as both an immediate buffer and a long-term protective mechanism (Burr et al., 2019; Cohen & Syme, 1985). Collectively, these moderating factors strengthen employees' ability to maintain and restore essential resources in high-pressure situations.

This study integrates COR Theory with a multidimensional perspective on burnout, highlighting how systemic pressures, individual perceptions, and interpersonal dynamics interact to shape patterns of resource loss and gain. By doing so, it establishes a theoretical foundation for identifying high-risk conditions and provides practical strategies to support employee functioning in cognitively demanding professional settings (De Cuyper et al., 2012; Hobfoll et al., 2018; Xanthopoulou et al., 2009).

Self-Determination Theory (SDT)

SDT is a comprehensive framework that provides insights into human motivation, emphasizing the crucial roles of autonomy, competence, and relatedness in psychological functioning and performance (Deci & Ryan, 1985). Originating as an extension of intrinsic motivation research, SDT emerged from early investigations that contested behaviorist viewpoints by highlighting the significance of psychological needs beyond mere external reinforcement (Deci, 1971; Deci & Ryan, 1980). The core premise of SDT is that humans have an inherent tendency toward growth, internalization, and self-regulation; however, these tendencies depend on the satisfaction of three fundamental psychological needs: autonomy, competence, and relatedness (Ryan & Deci, 2000).

Early research on intrinsic motivation indicated that external rewards could undermine intrinsic interest by compromising autonomy (Deci, 1971). This "undermining effect" was further validated in a meta-analysis conducted by Deci, Koestner, and Ryan (1999), which revealed that controlling external rewards—especially those tied to performance—tended to diminish intrinsic motivation. On the other hand, informational feedback or praise could enhance motivation by fostering a sense of competence (Deci et al., 1999). These findings established a theoretical foundation for SDT, which posits that fulfilling needs for autonomy, competence, and relatedness is crucial for promoting resilience, motivation, and overall well-being (Deci & Ryan, 1985; Ryan & Deci, 2000).

Autonomy refers to the experience of acting with one’s own volition and personal endorsement, rather than being subject to external control (Deci & Ryan, 2000). Competence reflects an individual's perception of their effectiveness in achieving desired outcomes and mastering work-related challenges (White, 1959). Relatedness encompasses the need to feel

socially connected, respected, and supported by others (Baumeister & Leary, 1995). Unlike motivation models such as Herzberg's Two-Factor Theory (Herzberg et al., 1959), which distinguishes between motivators and hygiene factors, SDT integrates these three needs into a cohesive framework relevant to both intrinsic and extrinsic contexts (Ryan & Deci, 2000).

SDT has undergone significant empirical validation across various fields, including education, health, and workplace motivation (Gagné & Deci, 2005; Ng et al., 2012). In organizational contexts, it has proven valuable in clarifying how work environments impact employee outcomes. A meta-analysis by Van den Broeck et al. (2016) indicated that fulfilling the needs for autonomy, competence, and relatedness is associated with greater job satisfaction, commitment, and performance. In professional settings, these needs align with critical components in burnout models: employees use autonomy to manage stress through flexibility and control; they rely on relatedness to reduce emotional exhaustion by fostering social support and a sense of belonging; and although the model does not explicitly include competence, it conceptually captures it through the dimension of meaning. More specifically, employees who view their work as meaningful often experience a sense of purpose and mastery, thereby satisfying the motivational aspect of competence (Rosso et al., 2010; Steger et al., 2012).

In the context of burnout and stress, SDT provides a framework for understanding how unmet psychological needs can lead to strain and emotional exhaustion. Research indicates that controlling, isolating work environments, or those that foster feelings of inadequacy, significantly increase the likelihood of burnout (Deci et al., 2017; Ryan & Deci, 2020). In contrast, autonomy-supportive environments enhance intrinsic motivation and psychological resilience. This sense of autonomy is particularly crucial in high-pressure roles, as it allows for flexibility and decision-making latitude, which can impact the effects of chronic stressors (Gagné

& Deci, 2005; Le et al., 2024). Additionally, relatedness serves as a vital social resource, offering emotional validation and support during demanding periods (Ng et al., 2012).

SDT integrates effectively with other frameworks that address workplace stress. For instance, both SDT and COR Theory conceptually align by recognizing autonomy and support as essential resources that help maintain psychological energy and mitigate the risk of burnout (Hobfoll, 1989; Ryan & Deci, 2000). Furthermore, SDT enhances the Job Demands-Resources (JD-R) Model by emphasizing the role of need satisfaction, particularly autonomy and relatedness, as motivational mechanisms that foster engagement and protect against resource depletion (Bakker & Demerouti, 2007; Van den Broeck et al., 2016).

Although researchers have extensively validated SDT, some scholars question the universality of its proposed needs, particularly in collectivist cultures where people may place less emphasis on autonomy (Markus & Kitayama, 1991). Nonetheless, cross-cultural research indicates that while the expression of autonomy varies across different societies, the fundamental need persists (Deci & Ryan, 2000; Ng et al., 2012). Additionally, SDT has evolved to address the concept of need frustration, recognizing that specific environments actively obstruct individuals from fulfilling their basic psychological needs. This evolution highlights that the frustration of autonomy, competence, or relatedness distinctly predicts outcomes such as burnout, disengagement, and maladaptive coping strategies (Ryan & Deci, 2020; Van den Broeck et al., 2016).

This study employs SDT (Deci & Ryan, 2000) to investigate burnout, establishing a motivational framework for understanding how the fulfillment of basic psychological needs can alleviate the effects of chronic workplace stress (Van den Broeck et al., 2016). According to SDT, the needs for autonomy, competence, and relatedness are essential for psychological

well-being (Deci & Ryan, 2008). Although this model does not explicitly treat competence as a distinct construct, it reflects its functional equivalent through the concept of meaning, which fosters a sense of purpose and achievement (Le et al., 2024; Rosso et al., 2010). Autonomy and relatedness are recognized as protective factors, directly aligning with the core principles of SDT. The inclusion of these constructs as moderators in stress and burnout research is theoretically supported by both COR Theory and SDT (Deci et al., 2017; Van den Broeck et al., 2016). The framework facilitates the development of evidence-based interventions that promote autonomy-supportive leadership, enhance social cohesion, and cultivate a sense of meaningful work, all of which reduce burnout and bolster resilience (Le et al., 2024; Rosso et al., 2010).

Workplace Burnout (Burnout)

Burnout is a persistent psychological syndrome related to work, characterized by emotional exhaustion, depersonalization, and a diminished sense of personal accomplishment (Alessandri et al., 2018; Maslach & Jackson, 1981; Schaufeli et al., 1996). This concept emerged in the 1970s through clinical observations of emotional depletion and reduced motivation among professionals in human services (Freudenberger, 1974). Freudenberger (1974) was one of the first to describe burnout as a reaction to prolonged stress, identifying core symptoms such as exhaustion, cynicism, and decreased achievement. Around the same time, Maslach and Jackson (1981) expanded upon this framework by formalizing burnout as a multidimensional construct, highlighting three key dimensions: emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment (Maslach & Leiter, 1999; Schaufeli & Enzmann, 1998).

Early burnout research primarily examined sectors such as healthcare, education, and social work, where employees engage in high emotional labor and direct client interactions (Kim & Stoner, 2008; Schaufeli et al., 2009). However, by the 1990s, scholars began to recognize that

burnout was a concern for workers across various industries, including knowledge-based professions like law, accounting, and consulting (Schaufeli & Taris, 2005). As the research evolved, frameworks such as the Job Demands-Control (Karasek, 1979) and Job Demands-Resources (JDR) (Demerouti et al., 2001) models enhanced the understanding of burnout as a systemic issue arising from high demands coupled with limited autonomy or support (Crawford et al., 2010; Bakker et al., 2021).

The JD-R Model explains that burnout arises from a health impairment process, where excessive demands deplete psychological energy and a lack of resources impedes recovery (Bakker et al., 2021; Demerouti et al., 2001). Additionally, Leiter and Maslach (1999) introduced the Six Areas of Worklife Model, which identifies mismatches in workload, control, community, fairness, reward, and values as primary drivers of burnout (Leiter & Maslach, 1999). These theoretical advancements highlight that burnout is not merely a consequence of overwork but also a manifestation of chronic misalignment between individuals and their work environments.

Recent research has increasingly examined the psychological and motivational factors associated with burnout, particularly through the lenses of COR Theory and SDT. According to COR Theory, burnout occurs when the loss of resources outweighs the gain, resulting in cycles of depletion characterized by emotional exhaustion and disengagement (Hobfoll, 1989, 2001; Edu-Valsania et al., 2022; Halbesleben, 2004). Essential concepts within COR Theory—such as the significance of resource loss, resource caravans, and loss spirals—illustrate how employees experiencing chronic stress may become more susceptible to burnout, especially when their recovery mechanisms are insufficient (Hobfoll et al., 2018).

SDT offers a valuable perspective by linking burnout to the frustration of three fundamental psychological needs: autonomy, competence, and relatedness (Deci & Ryan, 2000;

Ryan & Deci, 2020). According to SDT, employees experience emotional exhaustion, disengagement, and diminished motivation when their work environments prevent them from satisfying their basic psychological needs (Luken & Sammons, 2016). Specifically, a lack of autonomy can lead to feelings of helplessness, reduced competence can hinder self-efficacy and sense of purpose, and insufficient relatedness can weaken connections and support (Deci & Ryan, 1985, 2000; Morgeson et al., 2005).

Although many studies analyze burnout using multidimensional frameworks, such as the Maslach model, this study chooses not to use the Maslach Burnout Inventory (MBI) as its measurement tool. Instead, it explores burnout as a dynamic syndrome rooted in contemporary theory, focusing on the loss of resources and the frustration of needs, rather than relying on a specific measurement structure. Regardless of the instrument employed, burnout is widely acknowledged as arising from a prolonged imbalance between workplace demands and the coping or motivational resources available (Schaufeli et al., 2009; Shirom, 2003).

Emerging research suggests that factors such as autonomy, social support, self-care, and justice can mitigate the adverse effects of burnout (Halbesleben & Buckley, 2004; Kristensen et al., 2005; Petrou & Bakker, 2016). For example, autonomy alleviates emotional strain by allowing employees to control how they manage their workloads (Clausen et al., 2022), while self-care practices such as rest and mindfulness serve as practical recovery tools (Muir et al., 2022). Supportive relationships with colleagues and supervisors are associated with lower levels of emotional exhaustion and increased workplace satisfaction (Cohen & Syme, 1985; Burr et al., 2019). Furthermore, justice—especially perceptions of fairness in procedures and interpersonal interactions—has been recognized as a contextual resource that can alleviate stress and diminish burnout (Ambrose & Schminke, 2009; Colquitt, 2001; Greenberg, 1990).

Despite recent advancements, several gaps remain. Research on burnout has not yet thoroughly explored how perceptions of interpersonal dysfunction—specifically the presence of Dark Triad traits among colleagues or supervisors—contribute to resource depletion and psychological strain. While existing literature on the Dark Triad primarily focuses on individuals' characteristics, this study investigates how employees perceive Machiavellianism, narcissism, and psychopathy in others, and how these perceptions disrupt social cohesion and emotional safety (Paulhus & Williams, 2002; Spain et al., 2014; Szabo et al., 2023). When coworkers display these traits, they can erode trust, heighten interpersonal competition, and reduce access to support, aligning with the core tenets of resource depletion central to COR Theory (Walker & MacCann, 2024). Furthermore, while both COR and SDT emphasize the protective value of resources such as autonomy, meaning, and support, few models synthesize these frameworks to investigate how these resources interact and how challenging interpersonal environments may influence their benefits.

This study addresses existing gaps by exploring the roles of stress, autonomy, and meaning in relation to burnout. It also examines how moderators, such as Dark Triad traits, support systems, self-care practices, and justice, impact these relationships. Grounded in COR Theory and SDT, this research aims to elucidate the mechanisms underlying burnout and identify new opportunities for intervention. Additionally, it broadens the theoretical framework by considering not only individual strain but also how social and motivational resources can be safeguarded or undermined in cognitively demanding environments (Deci et al., 2017; Hobfoll et al., 2018; Van den Broeck et al., 2016).

Perceived Workplace Stress (Stress)

Stress has been the subject of extensive research across various disciplines, resulting in multiple models that clarify its causes, effects, and coping mechanisms. Early frameworks for understanding workplace stress emphasized both its physiological and psychological dimensions. Pioneering research by Beehr and Newman (1978) defined stress as a process involving job demands, employee health, and organizational outcomes. It is generally recognized as a response to environmental demands that exceed an individual's adaptive capacity, leading to psychological and physiological strain (Lazarus & Folkman, 1984). The transactional model of stress highlights the essential role of cognitive appraisal in determining whether an individual perceives a work-related situation as threatening, challenging, or manageable (Lazarus & Folkman, 1984).

In this study, stress is understood explicitly as an individual's subjective experience of job-related demands and constraints (Cohen et al., 1983; Ellison & Caudill, 2020). This definition aligns with research suggesting that subjective stress is often a more reliable predictor of psychological outcomes than objective stressors, as it encompasses personal assessments of threat, controllability, and resource adequacy (Beehr & Newman, 1978; Cohen et al., 1983). Rather than concentrating on structural job characteristics, this study emphasizes how individuals interpret and respond to workplace demands in relation to key psychological resources such as autonomy, social support, and meaning. These perceptions are crucial in influencing vulnerability to burnout, as highlighted in resource-based and motivation-based frameworks, such as COR Theory (Hobfoll, 1989) and SDT (Deci & Ryan, 2000).

Throughout history, several models have significantly advanced our understanding of workplace stress and burnout. The JDC Model, introduced by Karasek in 1979, emphasized the harmful effects of high job demands combined with low decision-making control on job strain.

Subsequent revisions of this model included social support as a moderating factor (Karasek & Theorell, 1990). Similarly, the Effort-Reward Imbalance (ERI) Model suggested that burnout can occur when the effort invested in work is not sufficiently reciprocated by rewards, such as compensation, recognition, or job security (Siegrist, 1996). These foundational models created a vital framework for early research by illustrating how structural imbalances and perceived inequities lead to stress-related outcomes (Spector et al., 1988). While these models are not the primary focus of the current study, they offer crucial historical context for the evolution of stress research.

COR Theory offers a resource-based perspective on stress, suggesting that individuals strive to acquire, retain, and protect valuable resources, such as energy, social support, and time (Hobfoll, 1989, 2001). Individuals experience rising stress levels when they lose resources, struggle to protect them, or fail to replenish them after investment, creating a cycle of depletion (Hobfoll et al., 2018). In high-demand environments, particularly knowledge-intensive workplaces, persistent pressures can worsen resource loss and elevate the risk of burnout (Bakker & de Vries, 2021; Prapanjaroensin et al., 2017). Access to autonomy, along with interpersonal support and effective self-care practices, acts as a protective factor that can interrupt these cycles and facilitate resource recovery (Xanthopoulou et al., 2009).

SDT explains stress as a consequence of environments that frustrate individuals' basic psychological needs. According to SDT, autonomy, competence, and relatedness are crucial for psychological well-being, and stress emerges when these needs are systematically undermined (Deci & Ryan, 1985, 2000; Ryan & Deci, 2020). Research indicates that autonomy-supportive work environments can reduce stress and enhance resilience by enabling individuals to align their work with their values and goals (Gagné & Deci, 2005; Le et al., 2024). In contrast,

controlling environments and a lack of meaningful social interactions can heighten stress levels, leading to burnout (Van den Broeck et al., 2016).

Demographic and situational factors significantly influence stress responses. Research has identified gender differences in stress perception and coping mechanisms (Jick & Mitz, 1985). Additionally, global events such as the COVID-19 pandemic have heightened job insecurity and worsened workplace stressors (Liu et al., 2021). These findings underscore the crucial need for adaptable and supportive workplace policies that enable employees to manage stress and maintain motivation during periods of uncertainty.

Researchers have thoroughly documented the physiological effects of chronic stress. Prolonged exposure to job-related stress activates the body's allostatic systems, increasing the risk of cardiovascular disease, immune dysfunction, and mood disorders (Fried et al., 1984). The stressor-detachment model proposed by Sonnentag and Fritz (2015) emphasizes the importance of recovery through psychological disengagement from work. Engaging in activities such as mindfulness, sleep, and exercise promotes emotional restoration and aligns with the principles of COR and SDT by enhancing resource replenishment and reducing stress (Cook-Cottone & Guyker, 2018; Petrou & Bakker, 2016).

This study aims to provide a multidimensional understanding of how stress contributes to burnout by integrating insights from COR Theory, SDT, and the broader historical evolution of stress models. In this context, researchers conceptualize stress not merely as a reaction to workload but as an adaptive psychological process shaped by perceived demands, available resources, and the satisfaction or frustration of core psychological needs (Hobfoll, 1989; Ryan & Deci, 2000; Van den Broeck et al., 2016).

This research enriches the existing literature by integrating the application of COR Theory (Hobfoll, 1989, 2001; Hobfoll et al., 2018) and SDT (Deci & Ryan, 2000, 2008) into a cohesive framework that clarifies how stress interacts with personal and contextual factors to predict burnout (Maslach & Leiter, 2016; Shirom & Melamed, 2006). While earlier studies have examined the effects of job demands (Beehr & Newman, 1978), autonomy (Morgeson & Humphrey, 2006; Thompson & Prottas, 2006), and support (Halbesleben, 2006; Cohen & Syme, 1985) in isolation, this study explores the simultaneous influence of these factors alongside emerging moderators such as justice (Colquitt, 2001; Ambrose & Schminke, 2003), self-care (Cook-Cottone & Guyker, 2018), and coworkers' Dark Triad traits (Spain et al., 2014; Walker & MacCann, 2024). In doing so, it highlights how interpersonal dynamics and perceptions of fairness can either intensify or mitigate the relationship between stress and burnout—a topic that warrants further investigation within contemporary occupational stress literature (Ambrose, 2002; Rupp et al., 2013).

This study contributes to the ongoing discourse by focusing on knowledge-intensive work environments, where challenges such as cognitive strain, role ambiguity, and performance pressure are prevalent (Kuvaas et al., 2016; Knudson, 2023). Rather than viewing these environments as uniform, the research underscores the psychological variability that influences how employees perceive and respond to stress (Liu et al., 2021; Sonnentag & Fritz, 2015). These findings provide a more nuanced understanding of the relationship between stress and burnout, thereby supporting the development of targeted, evidence-based interventions that promote sustainable functioning and psychological well-being in high-pressure organizational settings (Bailey et al., 2019; Demerouti et al., 2001; Rosso et al., 2010).

Job Autonomy (Autonomy)

Autonomy, which refers to the degree to which employees can control their tasks, schedules, and decision-making processes, plays a crucial role in influencing motivation, resource stability, and emotional outcomes in the workplace (Barrick & Mount, 1993; Breaugh, 1985; Clausen et al., 2022; Morgeson & Humphrey, 2006). Empirical studies have consistently shown that greater autonomy is associated with increased job satisfaction, improved performance, and reduced emotional exhaustion, particularly in high-demand environments (Park & Jang, 2017; Thompson & Prottas, 2006). As both a psychological necessity and an organizational asset, autonomy is essential for understanding how employees navigate demands and protect against burnout. It is deeply rooted in both SDT and COR Theory, which emphasize autonomy as crucial to individual resilience, well-being, and the preservation of personal resources (Deci & Ryan, 1985; Hobfoll, 1989; Hobfoll et al., 2018; Ryan & Deci, 2020).

The concept of autonomy originated from the early development of sociotechnical systems theory, which emphasized the importance of worker discretion and collaborative decision-making in enhancing organizational effectiveness (Trist & Bamforth, 1951). Later, Hackman and Oldham (1976) formalized autonomy as one of the five core job dimensions that drive internal work motivation in their Job Characteristics Model. Their research demonstrated that increased autonomy fosters a sense of responsibility and ownership, leading to greater job satisfaction and a lower likelihood of strain (Morgeson & Humphrey, 2006; Van den Broeck et al., 2016). Nevertheless, Hackman and Oldham (1976) also acknowledged the limitations of autonomy's universal benefits, suggesting that its positive impact is more significant for employees with high growth-need-strength. In contrast, for those with lower needs for challenge

or self-direction, jobs enhanced with greater autonomy may induce feelings of anxiety or confusion (Clausen et al., 2022; Kuvaas et al., 2016).

Subsequent empirical studies have further supported the positive effects of autonomy on motivation and work outcomes (Barrick & Mount, 1993; Breaugh, 1985; Morgeson et al., 2005). However, the broader work context significantly shapes the extent to which employees experience these benefits (Thompson & Prottas, 2006; Van den Broeck et al., 2016). In high-pressure environments, employees exercise autonomy to manage demands strategically and reduce their exposure to cycles of depletion. Conversely, when employees have autonomy without adequate structure or support, they may experience role ambiguity, decision fatigue, and performance anxiety (Clausen et al., 2022; Kuvaas et al., 2016; Park & Jang, 2017).

COR Theory conceptualizes autonomy as a vital resource that individuals seek to acquire and maintain in order to shield themselves from emotional and cognitive depletion (Hobfoll, 1989, 2001). When autonomy is present, employees are better prepared to manage their workload, select effective coping strategies, and restore lost energy, thereby reducing their vulnerability to burnout (Grandey & Cropanzano, 1999; Hobfoll et al., 2018; Prapanjaroensin et al., 2017). Research indicates that autonomy provides greater benefits when combined with other workplace resources, such as supervisor support, task clarity, and fairness (Park & Jang, 2017; Rupp et al., 2013; Thompson & Prottas, 2006).

SDT offers a valuable perspective by defining autonomy as a fundamental psychological need that supports intrinsic motivation, energy, and persistence (Deci & Ryan, 2000; Le et al., 2024; Ryan & Deci, 2020). Work environments that promote autonomy are associated with greater engagement, self-regulation, and emotional stability (Gagné & Deci, 2005; Le et al., 2024; Van den Broeck et al., 2016). In contrast, controlling or rigid environments undermine this

need, often leading to disengagement and emotional exhaustion (Deci et al., 2017; Elçi et al., 2018).

In cognitively demanding roles, the importance of autonomy becomes especially pronounced. These environments often require complex problem-solving under pressure, prompting employees to manage their workload and prioritize tasks to maintain both effectiveness and well-being (Bakker et al., 2021; Lupu et al., 2022). However, autonomy in such contexts can also result in paradoxical outcomes (Clausen et al., 2022; Kuvaas et al., 2016). Without aligned team expectations, supportive leadership, or a clear sense of purpose, autonomy may contribute to fragmented coordination, increased stress, and a reduction in psychological safety (Lelasseux et al., 2021; Zimmert & Weber, 2021).

Recent studies show that employees benefit most when they pair autonomy with accessible organizational supports, including supervisor feedback, fair treatment, and clearly defined role expectations (Colquitt, 2001; Gottlieb & Bergen, 2010; Morgeson et al., 2005). This alignment improves resource integration and resilience (Ambrose & Schminke, 2009; Hobfoll, 2011; Van den Broeck et al., 2016). In contrast, providing autonomy without these supports can result in increased role strain, reduced self-efficacy, and heightened symptoms of burnout (Kristensen et al., 2005; Maslach & Leiter, 2016).

This study contributes to the existing literature by examining autonomy as both an individual psychological need and a contextual organizational resource. While prior research has established the significance of autonomy in fostering motivation and acting as a buffer against emotional exhaustion (Gagné & Deci, 2005; Van den Broeck et al., 2016), this study advances current models by examining how employees use autonomy in high-demand, cognitively intensive roles to manage stress and mitigate the heightened risk of burnout (Kuvaas et al., 2016;

Park & Jang, 2017). Rather than treating autonomy in isolation, the present research assesses its interaction with critical moderators such as justice, support, self-care behaviors, and the Dark Triad traits of coworkers—factors that have been relatively underexplored in burnout research (Ambrose & Schminke, 2009; McLarty & Whitman, 2016; Szabo & Jones, 2019; Walker & MacCann, 2024).

This study integrates SDT and COR Theory to propose a multidimensional framework that links autonomy to burnout through both internal psychological processes and external social dynamics (Deci & Ryan, 2000; Hobfoll et al., 2018; Ryan & Deci, 2020). This approach not only deepens theoretical understanding but also provides practical insights for leadership practices, organizational design, and resource-based intervention strategies aimed at reducing burnout and alleviating the cumulative effects of chronic stress (Bakker & de Vries, 2021; Deci et al., 2017; Hobfoll, 2001).

Meaning of Work (Meaning)

The concept of meaningful work has undergone significant evolution over time, reflecting broader shifts in psychological, sociological, and organizational thought (Rosso et al., 2010; Steger et al., 2012; Wrzesniewski et al., 2003)—earlier perspectives on meaning in life focused on existential purpose and individual self-actualization. Foundational work by Maslow (1943) identified meaning as a core element of psychological motivation. Building on this, Frankl (1963) argued that individuals possess an intrinsic "will to meaning," underscoring the crucial role of purpose in both work and life. These foundational theories have paved the way for contemporary research examining how meaning contributes to motivation, engagement, and psychological resilience (Steger et al., 2006; Pratt & Ashforth, 2003).

Researchers understand meaning as either a subjective sense of purpose grounded in personal values or a socially constructed experience shaped by cultural norms and organizational contexts (Geertz, 1973; Rosso et al., 2010). Psychological models suggest that individuals discover meaning when they perceive a connection between their work and core beliefs, while sociological perspectives highlight the importance of shared understandings and collective narratives within professional environments (Bailey et al., 2019; Wrzesniewski et al., 1997). Both viewpoints communicate that meaningful work is dynamic, influenced by context, relationships, and task design.

COR Theory (Hobfoll, 1989) provides a resource-based perspective for understanding how meaning independently influences burnout outcomes. Engaging in meaningful work acts as a psychological resource that enhances motivation, emotional resilience, and commitment to one's role, thereby reducing the likelihood of experiencing burnout over time (Hobfoll et al., 2018; Halbesleben, 2006). When employees find meaning in their work, they are more likely to engage in behaviors that cultivate additional resources, such as social support, recognition, and opportunities for professional development, thereby initiating gain spirals that further increase resource availability (Bakker & Demerouti, 2007; Xanthopoulou et al., 2009). These dynamics become particularly critical in high-demand environments, where the accumulation of resources is essential for sustaining engagement and alleviating emotional strain (Kristensen et al., 2005; Hobfoll, 2001).

SDT enriches our understanding by positioning meaningful work as a crucial element in satisfying the three fundamental psychological needs: autonomy, competence, and relatedness (Deci & Ryan, 1985; Ryan & Deci, 2000). Within the SDT framework, meaning enhances autonomy by allowing individuals to engage in tasks that align with their values and

self-direction. It promotes competence when work presents appropriate challenges and delivers constructive feedback, and it satisfies the need for relatedness by connecting individuals to a broader purpose or social community (Gagné & Deci, 2005; Van den Broeck et al., 2016). When work environments fulfill these needs, employees experience greater intrinsic motivation and sustained psychological engagement (Le et al., 2024; Rosso et al., 2010). These motivational dynamics are particularly critical in high-demand environments, where fulfilling psychological needs can independently predict burnout, regardless of external stressors (Bailey et al., 2019; Luken & Sammons, 2016).

Organizational conditions have a significant influence on the experience of meaning in the workplace. Supportive leadership, clear feedback, and an ethical atmosphere promote perceptions of meaningfulness, while performance pressure, conflicting demands, and a lack of role clarity can undermine it (Ambrose & Schminke, 2009; Rupp et al., 2013; Wrzesniewski et al., 2003). Job design is also a vital factor—tasks that encourage autonomy, significance, and opportunities for identity construction are more likely to be perceived as meaningful (Hackman & Oldham, 1976; Morgeson & Humphrey, 2006). Conversely, when chronic stressors or toxic interpersonal dynamics reduce meaning, it may not function as a protective resource, thereby increasing the risk of disengagement and burnout (Kristensen et al., 2005; Maslach & Leiter, 2016).

Despite the growing interest in this area, the existing literature lacks a cohesive exploration of how meaning interacts with systemic pressures and relational stressors in high-demand environments such as PSFs. Employees in these contexts often face heightened expectations, performance ambiguity, and client pressures, all of which influence their ability to derive meaning from their work (Khavis & Krishnan, 2021; Lupu et al., 2022). Furthermore,

interpersonal dynamics—including the presence of Dark Triad traits in colleagues—can undermine perceptions of fairness, belonging, and purpose, ultimately reducing the motivational benefits of meaning(Szabo & Jones, 2019; Walker & MacCann, 2024).

This study contributes to the literature by investigating how meaning functions as a resource within the frameworks of COR Theory and SDT, particularly under conditions of interpersonal strain and institutional pressure. By examining the interaction of meaning with autonomy, stress, support, justice, and colleague behavior, this research provides both theoretical and practical insights into how organizations can structure work environments to protect against burnout and promote sustained motivation in knowledge-intensive industries (Deci et al., 2017; Hobfoll et al., 2018; Van den Broeck et al., 2016).

While previous studies have primarily focused on meaning in isolation or as predictors of engagement or satisfaction, this research situates it within a broader resource ecosystem. Here, environmental and interpersonal factors influence the protective effects of meaning. Specifically, this study expands existing models by examining how meaning interacts with justice, support, and the perceived presence of Dark Triad traits to shape outcomes related to burnout (Bailey et al., 2019; Cohen & Syme, 1985; Paulhus & Williams, 2002). This integrative approach addresses a significant gap in the literature by examining how psychological resources can be maintained or compromised in response to real-world pressures.

Dark Triad

The conceptualization of the Dark Triad—comprising Machiavellianism, narcissism, and psychopathy—has evolved over decades of research, beginning with the individual examination of each trait. Machiavellianism, drawing inspiration from the writings of Niccolò Machiavelli, was first operationalized as a personality construct by Christie and Geis in 1970, with a focus on

manipulation and strategic deceit. Psychopathy, characterized by impulsivity, callousness, and a lack of empathy, was initially defined by Cleckley in 1941 and later formalized through assessment tools such as the Psychopathy Checklist by Hare in 1980. Narcissism, rooted in psychoanalytic theory, was further refined into measurable constructs by Raskin and Hall in 1979, emphasizing traits such as grandiosity and a strong need for admiration. In 2002, Paulhus and Williams amalgamated these traits under the Dark Triad label, highlighting their common elements of interpersonal antagonism and the potential to create dysfunctional social environments.

Although Machiavellianism, narcissism, and psychopathy each feature distinct characteristics, researchers often group these Dark Triad traits because they share standard features such as callousness, manipulation, and interpersonal antagonism (Paulhus & Williams, 2002). Numerous scholars have validated the conceptual and statistical coherence of the Dark Triad as a unified construct, showing that these traits meaningfully cluster in workplace settings and collectively contribute to negative social outcomes (Jonason & Webster, 2010; O'Boyle et al., 2012). This study uses an overall Dark Triad score to capture employees' generalized perceptions of exploitative or socially undesirable behaviors in others, rather than dissecting specific trait expressions. This methodology aligns with recent research that emphasizes the cumulative effects of perceived toxicity on burnout and resource depletion, while also minimizing multicollinearity and enhancing model parsimony in moderated analyses (Szabo et al., 2023; Walker & MacCann, 2024).

Contemporary research highlights the profound influence that perceptions of Dark Triad traits—specifically Machiavellianism, narcissism, and psychopathy—exhibited by coworkers and supervisors have on relational dynamics and workplace outcomes. This study shifts the focus

from self-reported traits to how employees perceive these behaviors in others, particularly in high-pressure environments where interpersonal stress is a daily occurrence (McLarty & Whitman, 2016; Szabo et al., 2023). Employees' perceptions of manipulative or exploitative behaviors can breed organizational distrust, erode psychological safety, and heighten emotional strain (Lupu et al., 2022; Walker & MacCann, 2024).

Szabo et al. (2023) discovered that perceptions of Machiavellianism and psychopathy in colleagues significantly undermine workplace trust and increase emotional exhaustion. These perceptions foster toxic social environments characterized by poor communication, defensive work behaviors, and depleted emotional resources. In a related study, Walker and MacCann (2024) found that perceptions of psychopathy among coworkers were closely associated with reduced psychological safety and weakened team cohesion.

These findings align with COR Theory, which underscores the significance of social support and relational trust as essential psychological resources. When these resources are compromised, employees become more vulnerable to burnout (Hobfoll, 1989, 2001). Previous research has also demonstrated that the presence of Machiavellianism, narcissism, and psychopathy in colleagues can heighten workplace stress, encourage disengagement, and result in emotional withdrawal (Boddy, 2011; Grijalva et al., 2015; Jonason & Webster, 2010; Spain et al., 2014). Collectively, these findings highlight the necessity of considering coworkers' personality traits in models of stress and burnout.

COR Theory (Hobfoll, 1989) provides a resource-based framework for understanding how perceived Dark Triad traits can deplete psychological and social resources. When employees perceive their coworkers as manipulative, arrogant, or callous, they expend greater emotional energy to navigate interpersonal dynamics, manage impression concerns, and avoid

conflict, which leads to cumulative strain (Spain et al., 2014; Walker & MacCann, 2024; Wright & Hobfoll, 2004). This effort can lead to a more rapid depletion of essential resources, including social support, psychological safety, and discretionary time (Grandey & Cropanzano, 1999; Halbesleben et al., 2014; Hobfoll et al., 2018). In such environments, the presence of Dark Triad traits undermines resource caravans, disrupts access to emotional support, and accelerates loss spirals, ultimately increasing the risk of burnout (Bakker & de Vries, 2021; Halbesleben, 2006; Hobfoll, 2001; Xanthopoulou et al., 2009).

SDT, as articulated by Deci and Ryan (1985), emphasizes the challenges posed by certain personality traits to the fulfillment of psychological needs. Relatedness, a core element of SDT, is at risk when employees encounter interpersonal hostility, exclusion, or distrust from colleagues exhibiting Dark Triad behaviors (Ryan & Deci, 2000; Gagné & Deci, 2005). Individuals with narcissistic traits often monopolize recognition within a team, thereby undermining others' sense of competence. In contrast, psychopathy—marked by a disregard for social norms and team objectives—erodes relational connections and decreases group cohesion (Jonason et al., 2015). These dynamics obstruct the fulfillment of autonomy and relatedness, resulting in diminished motivation and increased stress.

While some literature suggests that individuals displaying high levels of Dark Triad traits may experience short-term success—often attributed to characteristics such as superficial charm, assertiveness, and risk-taking—the long-term consequences for workplace relationships and environments are predominantly negative (Boddy, 2011; O'Boyle et al., 2012; Spain et al., 2014). These traits—Machiavellianism, narcissism, and psychopathy—are linked to behaviors that undermine trust, escalate conflict, and disrupt collaborative systems. Research indicates that such individuals are more inclined to engage in manipulation, exploitative tactics, and disregard

for social norms, which can contribute to toxic cultures and diminished team cohesion (Belschak et al., 2016; Walker & MacCann, 2024). While much of the existing literature concentrates on how these traits manifest in individuals, this study shifts the focus to the social impact of working alongside colleagues perceived to possess these traits.

This research shifts the focus from measuring Dark Triad traits within individual employees to exploring the perceived presence of these traits in others, specifically supervisors and coworkers. This distinction is crucial for two main reasons. First, perceptions of toxic traits in others can serve as a persistent source of social stress. When employees perceive their colleagues as manipulative, self-centered, or emotionally detached, they must expend additional emotional and cognitive energy to navigate these interactions. These dynamics often reduce psychological safety and increase emotional exhaustion (Szabo et al., 2023; McLarty & Whitman, 2016).

Second, interpersonal trust and shared accountability are essential for performance and resilience in high-demand, cognitively intensive environments. Viewing others as lacking empathy or engaging in deceptive behavior can undermine team morale and hinder access to vital social resources such as support, feedback, and collaboration (Khavis & Krishnan, 2021; Lata & Chaudhary, 2021).

Examining employees' perceptions of Dark Triad traits provides a more nuanced understanding of how toxic interpersonal dynamics emerge in the workplace. Even if an individual does not exhibit these traits themselves, the mere perception that colleagues or supervisors do can create an environment marked by hypervigilance, guarded communication, and disengagement. This perspective aligns with COR Theory, which underscores how chronic social stressors and perceived threats to interpersonal resources, such as trust and fairness, can

initiate cycles of resource loss that ultimately contribute to burnout (Hobfoll, 1989; Hobfoll et al., 2018). Additionally, it complements SDT by demonstrating how the frustration of relatedness, a fundamental psychological need, can arise not only from overt exclusion but also subtle signs of emotional insensitivity, manipulation, or self-absorption exhibited by others (Deci & Ryan, 2000; Ryan & Deci, 2017).

This study significantly contributes to the literature on burnout by focusing on the experiences of individuals who interact with those exhibiting Dark Triad traits. It highlights that employee well-being is influenced not only by individual characteristics or job demands but also by interpersonal dynamics within the workplace, especially in settings where sustained collaboration occurs under pressure. Gaining insight into these dynamics can inform practical interventions aimed at reducing the social costs of working alongside toxic personalities and preserving employees' access to relational and emotional resources.

Emerging research underscores the importance of targeted organizational interventions to alleviate the negative impacts of Dark Triad traits within the workplace. These strategies include fostering transparent communication, enhancing accountability through structured feedback mechanisms, and reinforcing ethical leadership models (Ambrose & Schminke, 2009; Harrison et al., 2018; Schminke et al., 1997). Such initiatives are particularly crucial in environments where interpersonal conflict significantly contributes to resource depletion and emotional exhaustion (Wright & Hobfoll, 2004). From the perspective of COR Theory, these interventions serve as resource gains that help to restore diminished reserves, strengthen trust, and reestablish a sense of relational safety (Halbesleben et al., 2014; Hobfoll, 2001).

Strategies grounded in SDT—including inclusive practices, autonomy-supportive leadership, and meaningful recognition—have been shown to effectively enhance motivation and

resilience in environments affected by toxic interpersonal dynamics (Deci et al., 2017; Le et al., 2024; Van den Broeck et al., 2016). These approaches address psychological needs and help restore both internal and external resources that interactions with perceived manipulative or antagonistic colleagues may disrupt (Gagné & Deci, 2005; Rosso et al., 2010; Ryan & Deci, 2000). By reinforcing individual coping mechanisms and providing systemic support, such interventions can alleviate the emotional and psychological strain often associated with burnout (Bailey et al., 2019; Luken & Sammons, 2016; Maslach & Leiter, 2016).

This study extends the existing literature by examining how employees' perceptions of Dark Triad behaviors—specifically Machiavellianism, narcissism, and psychopathy—exhibited by coworkers and supervisors impact levels of stress and burnout. Unlike prior research that often depends on self-reported personality traits, this study focuses on perceived manifestations of these behaviors in others. Such perceptions can erode trust, impede collaboration, and disrupt emotional stability within the workplace (McLarty & Whitman, 2016; Spain et al., 2014; Szabo et al., 2023). These interpersonal perceptions may be especially harmful in high-pressure environments, where maintaining stable team dynamics and emotional support is essential for optimal performance and psychological well-being (Khavis & Krishnan, 2021; Lata & Chaudhary, 2021; Wright & Hobfoll, 2004).

This study integrates COR Theory and SDT to conceptualize perceptions as chronic social stressors that impede the recovery of depleting psychological resources and hinder the fulfillment of essential needs for autonomy, competence, and relatedness (Deci & Ryan, 2000; Hobfoll, 2001; Ryan & Deci, 2020). These dynamics may trigger or intensify loss spirals, compromising resilience and increasing the risk of emotional exhaustion and disengagement (Grandey & Cropanzano, 1999; Halbesleben et al., 2014). Within this framework, the study

enhances the theoretical understanding of how interpersonal dysfunction moderates burnout, establishing a basis for resource-based interventions aimed at restoring psychological safety, emotional regulation, and team cohesion (Hobfoll et al., 2018; Van den Broeck et al., 2016; Walker & MacCann, 2024).

Self-Care

Self-care has become a crucial strategy for preventing burnout, particularly in high-demand work environments where employees frequently encounter chronic resource depletion (Petrou & Bakker, 2016). It encompasses a range of proactive behaviors aimed at maintaining physical, emotional, and psychological well-being, including mindfulness, regular exercise, sufficient rest, and establishing healthy work-life boundaries (Petrou & Bakker, 2016; Roth et al., 1986). These practices align with the principles of COR Theory, which emphasizes the protective role of resource acquisition in reducing resource loss (Hobfoll, 1989; Hobfoll et al., 2018). By actively engaging in self-care, individuals can replenish their depleted internal resources, enhance personal resilience, and reduce their vulnerability to burnout.

In high-demand work environments characterized by tight deadlines, elevated expectations, and cognitively challenging tasks, self-care becomes a vital coping mechanism (Kristensen et al., 2005). Research indicates that self-care practices, including mindfulness techniques and stress management interventions, can enhance resilience and reduce emotional exhaustion, a significant contributor to burnout (Edú-Valsania et al., 2022; Kröll et al., 2017). Employees who regularly engage in self-care activities, such as physical exercise, relaxation methods, and setting boundaries, show better recovery from workplace stressors and are more likely to maintain their motivation and job satisfaction over time (Petrou & Bakker, 2016).

Self-care not only directly influences burnout but also interacts with broader organizational and systemic factors that contribute to chronic stress. Many high-demand workplaces introduce structural stressors, such as excessive workloads, role ambiguity, and limited opportunities for psychological recovery (Kristensen et al., 2005; Maslach & Leiter, 2016). These conditions can lead to accelerated resource depletion and increased vulnerability to burnout (Hobfoll, 2001; Lupu et al., 2022). Research indicates that self-care practices can enhance emotional regulation and support resource recovery, enabling individuals to respond more effectively to ongoing workplace challenges (Bakker & de Vries, 2021; Petrou & Bakker, 2016). However, despite its theoretical significance, the existing literature on how self-care mitigates the effects of systemic occupational stress remains fragmented and underdeveloped, particularly concerning long-term burnout outcomes (Edú-Valsania et al., 2022; Kröll et al., 2017).

Self-care plays a significant role in shaping the relationship between critical workplace conditions, such as stress, autonomy, and meaning, and the risk of burnout. Research demonstrates that individuals who consistently practice self-care exhibit improved psychological flexibility and emotional regulation, allowing them to navigate chronic demands more effectively and protect themselves against emotional exhaustion (Crawford et al., 2010; Liu et al., 2021; Luken & Sammons, 2016). This perspective aligns with COR Theory, which states that access to resources can buffer individuals from ongoing depletion and mitigate strain-related outcomes (Hobfoll, 1989; Hobfoll et al., 2018). In this context, self-care serves as a proactive recovery strategy that helps preserve psychological resources and reduces the cumulative impact of high-pressure work environments (Bakker & de Vries, 2021; Grandey & Cropanzano, 1999).

Individual differences, such as personality traits and psychological predispositions, can significantly influence the likelihood that employees will engage in effective self-care behaviors and benefit from them. Employees who display high levels of emotional stability, conscientiousness, and intrinsic motivation are more likely to adopt and maintain self-care routines, which, in turn, enhances their psychological resilience and reduces the risk of burnout (Gagné & Deci, 2005; Luken & Sammons, 2016; Petrou & Bakker, 2016). Understanding these personality-based distinctions is crucial for developing targeted self-care initiatives that address diverse dispositional tendencies and encourage ongoing engagement in resource-replenishing activities.

Organizational support is essential for promoting self-care behaviors among employees. Research shows that workplace policies—such as flexible scheduling, access to mental health resources, and support for maintaining work-life boundaries—can significantly enhance employees' ability to engage in self-directed recovery practices (Knight et al., 2019; Kröll et al., 2017). For instance, environments that encourage regular breaks, provide psychological support services, and foster open communication about workload management can help normalize and sustain self-care behaviors over time (Elçi et al., 2018; Park & Jang, 2017). However, framing self-care solely as an individual responsibility may undermine its effectiveness, particularly in high-demand organizational settings where structural and cultural pressures often inhibit employees from consistently investing in restorative practices (Lupu et al., 2022; Maslach & Leiter, 2016).

Despite the recognized benefits of self-care, significant gaps remain in understanding its broader role in addressing burnout. Much of the existing research focuses on its direct impact on stress reduction, with insufficient exploration of its interactions with organizational factors like

autonomy and support (Burr et al., 2019; Kristensen et al., 2005). Furthermore, the integration of self-care within workplace systems—an approach that considers both individual and structural contributors to burnout—remains a largely unexplored area of study (Crawford et al., 2010).

A significant challenge in self-care research is integrating it into systemic workplace interventions. While many organizations view self-care as an individual responsibility, its effectiveness is often enhanced when incorporated into broader initiatives such as stress management training, peer support networks, and recovery-oriented leadership practices (Cook-Cottone & Guyker, 2018; Kröll et al., 2017; Liu et al., 2021). Collaborative approaches that combine self-care with organizational support mechanisms can foster resilience in high-demand environments marked by interdependence and intense workloads (Knight et al., 2019; Maslach & Leiter, 2016). Furthermore, self-care may interact with other protective factors, such as autonomy and social support, which can influence burnout outcomes by preserving psychological resources and enhancing recovery from daily stressors (Bakker & de Vries, 2021; Petrou & Bakker, 2016). Employees who utilize personal recovery strategies and benefit from organizational flexibility tend to manage chronic stress more effectively; however, researchers have yet to examine the mechanisms that drive these interactions fully, warranting further investigation.

This study addresses existing gaps by examining the multifaceted role of self-care within the resource-based framework of COR Theory (Hobfoll, 1989; Cook-Cottone & Guyker, 2018). It investigates how self-care interacts with organizational conditions and individual characteristics to influence burnout outcomes in high-demand work environments. By leveraging COR Theory, this research conceptualizes self-care as both a direct predictor and a moderating factor in the relationship between workplace stressors and burnout (Bakker & de Vries, 2021;

Hobfoll et al., 2018). Additionally, it incorporates recent conceptualizations of self-care as a multidimensional and proactive practice that transcends personal habits to encompass relational and environmental dimensions (Cook-Cottone & Guyker, 2018). This study contributes to the development of comprehensive strategies integrating self-care into organizational systems to reduce chronic stress and minimize burnout in cognitively demanding roles (Petrou & Bakker, 2016).

Social Support (Support)

Support, broadly defined as the perception and availability of assistance from others, has long been recognized as a crucial factor in alleviating stress and reducing burnout (Cobb, 1976; Sarason et al., 1983). Extensive foundational research in psychology and sociology consistently demonstrates that support enhances psychological resilience, improves emotional regulation, and mitigates the adverse effects of job-related stressors (Cohen & Syme, 1985; Cohen & Wills, 1985; Tardy, 1985). Barrera (1986) further emphasized the functional types of support and their specific psychological impacts, while House et al. (1988) affirmed the importance of social networks in buffering workplace strain. In high-demand occupational environments, access to supportive networks becomes particularly vital, as employees often navigate complex tasks, adhere to tight deadlines, and maintain sustained performance under pressure (Bakker & de Vries, 2021; Elçi et al., 2018).

Support typically operates across three fundamental domains: emotional, instrumental, and informational (Cohen & Wills, 1985; Langford et al., 1997). Emotional support involves expressions of empathy, trust, and care that help alleviate the psychological burden associated with stress (Beehr & Newman, 1978; Zimet et al., 1988). Instrumental support encompasses tangible assistance with work-related tasks or access to organizational resources, while

informational support provides advice, guidance, and feedback to aid employees in navigating professional challenges (Cohen et al., 1985; Langford et al., 1997; Thoits, 1986). When these forms of support are consistently available, employees tend to report lower levels of burnout and higher levels of engagement, especially in environments characterized by cognitive and emotional demands (Gottlieb & Bergen, 2010; Kristensen et al., 2005).

COR Theory (Hobfoll, 1989, 2001) offers a resource-based framework for understanding how support enables individuals to conserve and restore psychological energy in high-demand situations. According to the theory, individuals are motivated to acquire and maintain valuable resources, such as supportive relationships, to prevent further loss and protect against emotional exhaustion (Hobfoll et al., 2018). Support acts as both a direct resource and a facilitator of other resources, helping to prevent loss spirals and promote recovery (Halbesleben, 2006). Additionally, it is often crucial to the effective functioning of other protective mechanisms, including autonomy, justice, and self-care (Burr et al., 2019).

Support plays a vital role in COR Theory. It closely aligns with SDT, particularly in addressing the need for relatedness, one of the three essential psychological needs identified by Deci and Ryan (2000) and further explored by Ryan and Deci (2020). Supportive work environments foster social connections, a sense of belonging, and emotional security, all of which contribute to sustained motivation and psychological engagement (Gagné & Deci, 2005; Van den Broeck et al., 2016). According to SDT, when employees receive meaningful support from supervisors and peers, their ability to internalize work values, self-regulate, and persevere through challenging tasks is enhanced, ultimately reducing the risk of burnout.

Support proves most effective when employees not only have access to it but also receive it from credible sources, perceive it as high in quality, and experience it within a context that

aligns with their needs. Supervisor support is associated with greater role clarity, lower ambiguity, and improved performance outcomes (Cohen & Syme, 1985; Colquitt, 2001). Colleague support fosters collaboration, shared responsibility, and a sense of belonging, particularly in team-based and interdependent work settings (House et al., 1988; Langford et al., 1997). Research shows that consistent and reliable support systems strengthen employee resilience; when employees perceive support as dependable, they face a substantially lower risk of burnout (Gottlieb & Bergen, 2010; Kim et al., 2008).

COR Theory further elucidates how support functions within the context of broader resource caravans, which are clusters of mutually reinforcing resources that foster resilience over time (Hobfoll, 2011). For example, employees who receive support, along with autonomy, meaning, and fairness, are better equipped to handle pressures and address interpersonal challenges (Park & Jang, 2017; Rupp et al., 2013). Conversely, when employees face high demands combined with inadequate support, they are at greater risk of experiencing burnout due to cumulative resource loss and emotional disengagement (Wright & Hobfoll, 2004).

Cultural and organizational dynamics significantly shape how support is distributed and experienced. In collectivist cultures and collaborative work environments, support is integrated into daily workflows, offering stronger protection against chronic stress (Cohen & Wills, 1985; Taylor, 2013). In contrast, hierarchical or competitive settings stifle emotional openness and restrict access to meaningful support from peers or supervisors (Elçi et al., 2018; Sarason et al., 1983). Recognizing these contextual factors is crucial for developing interventions that align support with the psychological needs outlined in SDT and the resource-preserving mechanisms proposed by COR Theory.

Despite substantial evidence highlighting the benefits of support, gaps remain regarding its interaction with other moderators in predicting burnout (Viswesvaran et al., 1999). Limited research has explored how support functions alongside self-care and justice, two critical moderators examined in this study, to influence burnout outcomes (Barrera, 1986; Burr et al., 2019; Cohen et al., 1985). Additionally, questions persist about whether support can adequately compensate for the absence of other resources, such as autonomy or a sense of meaning, particularly under conditions of high role strain.

This study seeks to address existing gaps by examining support through the integrated frameworks of COR and SDT. Support is examined not only as a direct protective factor but also as a moderator that affects the relationships among stress, autonomy, and meaning in the context of burnout (Cohen & Wills, 1985; Hobfoll et al., 2018). Previous research has indicated that reliable social support enhances emotional regulation, facilitates recovery from stress, and reduces the impact of high demands (Halbesleben, 2006; Kim et al., 2008; Langford et al., 1997). Furthermore, it strengthens relatedness, a fundamental need in SDT, thus promoting intrinsic motivation and engagement (Deci & Ryan, 2000; Gagné & Deci, 2005; Van den Broeck et al., 2016).

When situated within a broader framework of resource caravans, support can enhance the protective effects of other resources and mitigate the downward spirals of loss contributing to burnout (Hobfoll, 2011; Park & Jang, 2017; Rupp et al., 2013). By synthesizing these perspectives, this research provides a more comprehensive understanding of how social resources sustain psychological energy, meet fundamental psychological needs, and alleviate burnout in cognitively demanding work environments (Cohen & Syme, 1985; Hobfoll et al., 2018; Ryan & Deci, 2020).

Organizational Justice (Justice)

The concept of justice in organizational research has its roots in a rich tradition of social psychology and sociology, particularly in the foundational theories of social exchange and equity. Homans (1961) proposed that expectations of reciprocity and fairness govern social behavior, suggesting that equitable interactions are more likely to endure over time. Building on this, Emerson (1976) developed Social Exchange Theory, which posits that power imbalances and dependence influence the dynamics of fairness within relationships. Similarly, Blau (1964) highlighted the relational foundation of justice, framing it as the outcome of mutually beneficial exchanges that, when disrupted, can lead to instability within social systems. Leventhal (1980) further contributed to this discourse through the concept of procedural justice, asserting that fair processes, in addition to equitable outcomes, are crucial for sustaining organizational legitimacy and fostering employee trust.

Adams' (1965) Equity Theory formalized early concepts by defining fairness as a cognitive comparison of an individual's inputs, such as effort and skill, against their outcomes, including pay and recognition, in relation to others. This theory laid the groundwork for a generation of research focused on distributive justice, or the perception of fairness in outcomes. Greenberg (1990) expanded on this by distinguishing between distributive, procedural, and interactional justice, thus providing a more nuanced framework that influenced subsequent empirical studies. His contributions established justice not only as an ethical principle but also as a critical factor in job satisfaction, organizational commitment, and stress outcomes.

Justice emerged as a significant area of empirical study in the early 2000s, coinciding with the introduction of standardized measures that clarified its multidimensional nature. Colquitt (2001) proposed a widely-used four-factor model of justice—distributive, procedural,

interpersonal, and informational—which facilitated the operationalization of nuanced perceptions of fairness within workplace environments. This framework laid the groundwork for examining the relationship between justice and various organizational outcomes, including employee engagement, performance, and burnout. Building upon this foundational work, Ambrose and Schminke (2003) investigated how contextual factors, such as organizational structure and ethical climate, influence perceptions of justice. Their subsequent research delved deeper into the relational dimensions of justice, exploring its connections to leadership style and employee morale (Ambrose & Schminke, 2009; Ambrose et al., 2002, 2021).

Justice serves as a critical psychological and organizational resource. According to COR Theory (Hobfoll, 1989), justice helps conserve energy and motivation by promoting predictability, trust, and procedural stability. When employees perceive fairness in the distribution of outcomes and decision-making processes, they are less likely to experience emotional exhaustion and resource depletion (Halbesleben, 2006; Rupp et al., 2013). In contrast, perceived injustice can trigger stress responses, withdrawal, and increased susceptibility to burnout. Notably, procedural fairness can mitigate the adverse effects of high job demands by providing employees with a sense of control and voice, thereby safeguarding vital psychological resources (Ambrose & Schminke, 2009).

SDT aligns with these findings by emphasizing fairness as a fundamental component of the needs for relatedness and autonomy (Deci & Ryan, 1985; Ryan & Deci, 2000). Perceptions of justice cultivate trust and mutual respect, thereby strengthening interpersonal connections and organizational cohesion (Gagné & Deci, 2005). In environments where fairness is integral to interpersonal interactions and decision-making, employees feel valued and included. This

fulfillment of psychological needs contributes to a reduction in burnout (Van den Broeck et al., 2016).

Perceptions of justice significantly influence how employees experience various aspects of the workplace. For instance, fairness in reward distribution enhances the motivational benefits associated with autonomy, while perceived injustices can undermine the effectiveness of supportive structures by eroding trust and cooperation (Ambrose & Schminke, 2003; Schminke et al., 1997). These dynamics are fundamental in high-pressure environments, where hierarchical decision-making, ambiguous procedures, or unequal resource allocation can intensify feelings of unfairness unless countered by consistent policies and inclusive leadership practices (Ambrose et al., 2021; Lazauskaite-Zabielske et al., 2019).

Despite compelling evidence highlighting the protective role of justice, significant gaps remain in understanding its integration with other moderators, such as the Dark Triad, support systems, and self-care (Ambrose & Schminke, 2009; Schminke et al., 1997). Most research has focused on justice in isolation, failing to consider how it interacts with other resource-based factors influencing burnout (Ambrose et al., 2021). Moreover, while distributive and procedural justice have garnered considerable attention, the unique contributions of interpersonal and informational justice in high-demand settings are less well understood (Colquitt, 2001).

This study addresses existing gaps by analyzing justice through the lenses of COR Theory and SDT, exploring its role as a moderator in the relationships between stress, autonomy, meaning, and burnout. By adopting a multidimensional perspective on justice—encompassing fairness in outcomes, processes, treatment, and communication (Ambrose & Schminke, 2009)—this research enhances our understanding of how perceptions of justice strengthen

motivation, preserve psychological resources, and promote resilience in cognitively demanding professional settings (Colquitt, 2001; Hobfoll et al., 2018; Ryan & Deci, 2020).

Summary

This section reviews the literature on burnout through the dual lenses of COR Theory and SDT, presenting a multidimensional approach to understanding how stress interacts with personal and contextual resources in cognitively demanding work environments. COR Theory (Hobfoll, 1989, 2001) posits that burnout results from sustained resource loss without sufficient replenishment. SDT (Deci & Ryan, 1985, 2000) identifies autonomy, competence, and relatedness as essential psychological needs that individuals must satisfy to sustain motivation and engagement. Together, these frameworks provide an integrated perspective on how environmental stressors and personal characteristics influence burnout outcomes (Hobfoll et al., 2018; Ryan & Deci, 2020).

The study examined stress, autonomy, and meaning as key independent variables that influence burnout. Stress is understood not as an objective attribute of a job, but rather as a subjective perception of chronic demands that exceed available coping resources (Beehr & Newman, 1978; Cohen et al., 1983). Research shows that autonomy alleviates strain by giving employees greater control over their work processes, aligning with COR Theory's focus on resource conservation and SDT's emphasis on satisfying psychological needs (Morgeson & Humphrey, 2006; Van den Broeck et al., 2016). Meaning, in turn, acts as a psychological resource that bolsters intrinsic motivation and nurtures emotional resilience, particularly when work is perceived as purposeful and in harmony with personal values (Hobfoll, 2011; Rosso et al., 2010; Steger et al., 2012).

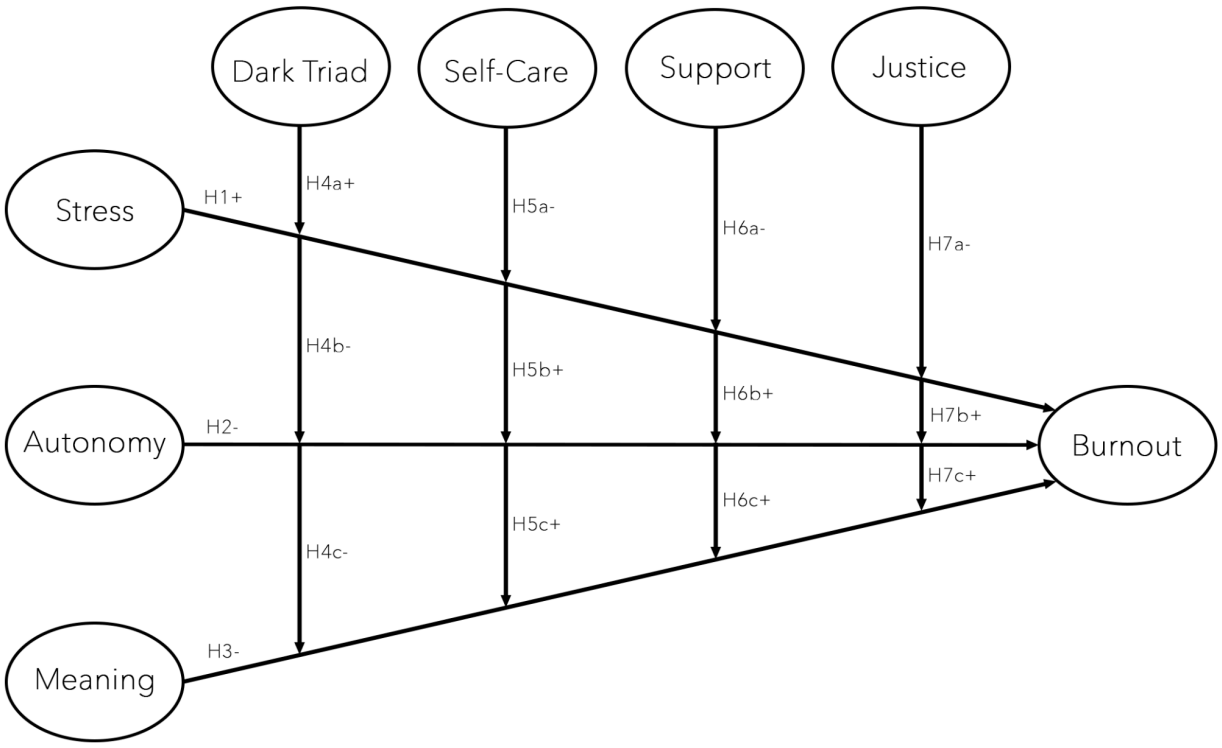
The roles of various moderators, specifically social support, self-care, justice, and the Dark Triad traits of colleagues, were examined to enhance understanding of their influence on the relationship between stress and burnout. Social support, which appears in emotional, instrumental, and informational forms, serves as a protective buffer against burnout by preserving psychological resources and satisfying the need for relatedness outlined in SDT (Cohen & Wills, 1985; Van den Broeck et al., 2016). Justice, which encompasses procedural, distributive, interpersonal, and informational fairness, acts as both a contextual and motivational resource that cultivates trust and stability within the workplace (Ambrose & Schminke, 2009; Colquitt, 2001; Hobfoll et al., 2018). Self-care, described as a proactive and multidimensional set of recovery behaviors, assists in mitigating the cumulative effects of chronic job stress and has been shown to replenish internal resources, particularly when supported by organizational frameworks (Cook-Cottone & Guyker, 2018; Petrou & Bakker, 2016).

Coworkers or supervisors who display Dark Triad traits—Machiavellianism, narcissism, and psychopathy—create persistent social stressors that diminish resource availability and hinder psychological need satisfaction. These traits disrupt support systems, undermine trust, and limit access to emotional and instrumental resources, ultimately exacerbating burnout (Jonason & Webster, 2010; McLarty & Whitman, 2016; Walker & MacCann, 2024). Viewed through the lens of COR Theory, these traits contribute to loss spirals, while from an SDT perspective, they frustrate the needs for relatedness and autonomy, thereby undermining workplace motivation (Gagné & Deci, 2005; Ryan & Deci, 2020).

This study makes a significant contribution to the existing literature by examining not only the direct effects of stress, autonomy, and meaning on burnout but also the impact of various social and personal variables on these relationships. While much previous research has

focused on these factors in isolation, this study integrates them into a cohesive framework that highlights the dynamic interactions between environmental conditions, interpersonal dynamics, and internal resources (Halbesleben et al., 2014; Burr et al., 2019). By merging the COR theory with SDT, this research advances a more comprehensive model of burnout that considers both resource depletion and motivational processes. This approach provides valuable theoretical insights and practical pathways for organizational interventions in cognitively demanding work environments (Deci et al., 2017; Hobfoll, 2011; Van den Broeck et al., 2016).

Figure 1 - Conceptual Model



Research Questions and Hypotheses

This section outlines the research questions (RQs) and hypotheses (Hs), aligning them with the study's conceptual framework. The investigation focuses on the relationships among the

independent variables —stress, autonomy, and meaning —and the dependent variable, burnout. The study also examines moderators, including Dark Triad traits, self-care behaviors, social support, and justice, to assess how they influence the relationships between the independent and dependent variables. This approach recognizes the multifaceted nature of burnout. It is rooted in COR Theory and SDT, which emphasize the significance of resource dynamics and the fulfillment of psychological needs in influencing occupational well-being (Deci & Ryan, 1985; Hobfoll, 1989).

COR Theory suggests that burnout results from a chronic threat, loss, or insufficient replenishment of valued resources, whether emotional, social, or cognitive (Hobfoll et al., 2018). In contrast, resource gains, such as support, autonomy, and self-care, serve as protective factors that enable employees to conserve energy and maintain resilience under pressure. SDT enriches this perspective by emphasizing autonomy, competence, and relatedness as fundamental psychological needs. When these needs are unmet, they contribute to stress and burnout (Ryan & Deci, 2020). Collectively, these frameworks inform the structure and rationale of the current model.

The research is particularly relevant in cognitively demanding, high-pressure work environments where employees often face performance pressures, rapid decision-making demands, and persistent resource constraints. By focusing on theoretical constructs instead of limiting the analysis to a specific organizational context, this model broadens its applicability across various knowledge-intensive sectors while still offering insights that are pertinent to PSFs when appropriate (Bakker & de Vries, 2021; Kristensen et al., 2005; Lupu et al., 2022).

The study ensures analytical clarity by structuring the research questions according to the types of constructs involved. The study assigns each moderator a specific research question to

examine how it interacts with the relationships between the independent variables and burnout. These questions are further supplemented by corresponding hypotheses that assess both the main effects and interaction effects, thereby enriching a comprehensive model of the antecedents and moderators of burnout. This methodology is consistent with previous research that advocates for interactionist perspectives on occupational stress (Deci et al., 2017; Hobfoll, 2001).

Tables 1 and 2 summarize the key components of this inquiry. Table 1 outlines the research questions posed by the study, while Table 2 presents the hypotheses derived from the conceptual framework and theoretical rationale. Subsequent subsections delve deeper into these relationships, offering a comprehensive justification for each hypothesis and the selection of moderators.

Perceived Workplace Stress (Stress)

Stress reflects an individual's subjective assessment of job-related demands in relation to their coping resources and psychological needs (Cohen et al., 1983; Lazarus & Folkman, 1984). Grounded in COR Theory, stress represents a process in which individuals experience actual or anticipated resource loss; prolonged exposure to high demands initiates depletion cycles that can ultimately lead to burnout (Hobfoll, 1989, 2001). Additionally, stress can hinder the fulfillment of basic psychological needs as outlined by SDT, particularly when employees face restrictions in autonomy, experience frustration in competence, or encounter difficulties in social connectedness (Deci & Ryan, 2000; Ryan & Deci, 2020).

In cognitively demanding environments, stress is often exacerbated by factors such as role ambiguity, tight deadlines, and persistent performance expectations (Kristensen et al., 2005; Maslach & Leiter, 2016). These conditions limit opportunities for recovery and accelerate the depletion of psychological and emotional resources, heightening the risk of emotional

exhaustion, disengagement, and reduced professional efficacy, key components of burnout (Maslach et al., 2001; Schaufeli & Bakker, 2004). When individuals lack sufficient support, self-care, or other job-related resources to mitigate stress, they may enter loss spirals that erode their resilience over time, consistent with the predictions of COR Theory (Hobfoll et al., 2018; Wright & Hobfoll, 2004).

Therefore, in line with the theoretical propositions of COR and SDT, and backed by previous empirical evidence, the following hypothesis is presented:

H1: Stress has a significant positive relationship with burnout.

Job Autonomy (Autonomy)

Autonomy, defined as the level of discretion employees have concerning their work methods, schedules, and decisions, is widely acknowledged as a crucial factor in fostering well-being and mitigating burnout. Recognized both as a psychological need in SDT and as a valued job resource in COR Theory, autonomy enables employees to manage demands in a manner that preserves energy, enhances intrinsic motivation, and prevents emotional exhaustion (Deci & Ryan, 1985; Hobfoll, 1989; Ryan & Deci, 2020).

COR Theory emphasizes the significance of autonomy as a crucial resource that enables employees to control their work pace, adjust their strategies, and proactively tackle stressors before they escalate into more significant depletion (Hobfoll et al., 2018). By improving an individual's capacity to respond flexibly and with agency to demands, autonomy reduces the likelihood of entering cycles of resource loss and aids in maintaining sustained performance under pressure (Bakker & de Vries, 2021; Hobfoll, 2001). In high-pressure, cognitively demanding work settings, where external expectations and performance standards are often rigid,

autonomy serves as a protective mechanism that helps employees remain engaged and prevents emotional exhaustion (Kristensen et al., 2005; Kuvaas et al., 2016).

SDT complements this view by identifying autonomy as a foundational psychological need that drives engagement, persistence, and emotional stability (Gagné & Deci, 2005; Ryan & Deci, 2000). When employees feel free to direct their behavior in alignment with personal values and goals, they report greater work satisfaction and lower emotional exhaustion (Le et al., 2024; Van den Broeck et al., 2016). Conversely, environments that restrict decision-making authority or enforce rigid control frustrate the need for autonomy, leading to disengagement and burnout (Deci et al., 2017; Elçi et al., 2018).

In cognitively demanding roles, autonomy's benefits extend beyond simple stress relief. Autonomy enables employees to prioritize their tasks, set achievable goals, and address complex problems without excessive supervision, processes that alleviate role overload and help prevent chronic strain (Clausen et al., 2022; Morgeson et al., 2005). However, for autonomy to be effective, it must be supported by clear expectations and guidance from supervisors to avoid role ambiguity and decision fatigue (Park & Jang, 2017; Rupp et al., 2013).

Therefore, drawing from both COR Theory and SDT, and supported by empirical evidence from high-demand professional contexts, the study proposes the following hypothesis:

H2: Autonomy has a significant negative relationship with burnout.

Meaning of Work (Meaning)

Meaning in the workplace refers to an employee's perception that their work is purposeful, significant, and aligned with their core values and goals (Steger et al., 2012). When individuals find their work meaningful, it becomes a powerful source of motivation and

resilience, decreasing their susceptibility to emotional strain and disengagement (Rosso et al., 2010; Wrzesniewski et al., 2003).

In COR Theory, meaning acts as a psychological resource that facilitates cycles of energy conservation and resource acquisition. Employees who find meaning in their work are more likely to sustain their effort, recover from setbacks, and shield themselves against burnout-related challenges such as emotional exhaustion and reduced personal accomplishment (Hobfoll, 1989; Hobfoll et al., 2018). This protective role is especially critical in high-demand circumstances, where replenishing resources becomes essential (Kristensen et al., 2005).

SDT supports the notion that finding meaning in one's work is crucial for fulfilling fundamental psychological needs. Engaging in meaningful work aligns with personal values, thereby promoting autonomy; it nurtures competence by providing opportunities for skillful contributions; and it enhances relatedness by connecting individuals to a larger mission or social purpose (Deci & Ryan, 2000; Van den Broeck et al., 2016). When work environments adequately address these needs, employees experience higher levels of psychological engagement and face a lower risk of burnout (Gagné & Deci, 2005; Le et al., 2024).

Research indicates that the sense of meaning interacts with various factors, including autonomy, support, and justice, to enhance well-being and reduce strain. Employees who find meaning in their roles are more likely to view stressors as challenges rather than threats, which further promotes adaptive coping strategies and fosters long-term engagement (Bailey et al., 2019; Crawford et al., 2010).

Thus, guided by COR Theory and SDT, this study hypothesizes the following:

H3: Meaning has a significant negative relationship with burnout.

Dark Triad

The Dark Triad consists of a group of socially harmful personality traits: Machiavellianism, narcissism, and psychopathy. Each of these traits is linked to manipulation, self-interest, and interpersonal conflict (Paulhus & Williams, 2002). Rather than relying on self-reported assessments, this study emphasizes the perceived existence of these traits among colleagues, which significantly affects relational dynamics and contributes to emotional strain in the workplace (Szabo & Jones, 2019; Walker & MacCann, 2024). Employees who perceive their coworkers as manipulative or callous experience diminished trust, heightened vigilance, and increased psychological exhaustion (Boddy, 2011; Spain et al., 2014).

COR Theory suggests that individuals actively seek to conserve their limited emotional and cognitive resources. When confronted with toxic interpersonal interactions, employees deplete these resources more swiftly, thereby increasing their risk of burnout (Hobfoll et al., 2018). This phenomenon is particularly pronounced when conflict or distrust obstructs access to social support or hampers the ability to recover (Halbesleben, 2006; Wright & Hobfoll, 2004). Such relational stressors contribute to "loss spirals," in which the absence of restorative experiences leads to cumulative exhaustion (Hobfoll, 2001).

SDT provides valuable insights into how particular personality traits can hinder the fulfillment of psychological needs. Colleagues displaying narcissistic tendencies may dominate recognition, thereby undermining their peers' sense of competence. Additionally, Machiavellian manipulation can diminish feelings of autonomy, while the emotional detachment linked to psychopathy can erode the sense of relatedness that is essential for motivation and overall well-being (Deci & Ryan, 1985; Gagné & Deci, 2005).

Perceptions of coworkers with high levels of Dark Triad traits are likely to worsen the adverse effects of stress. These individuals may increase tension, shirk responsibility, or provoke interpersonal conflict, thereby intensifying the emotional strain experienced by others (Jonason et al., 2015; Lata & Chaudhary, 2021). As resources dwindle, the resulting stress is more likely to lead to burnout.

H4a: Dark Triad traits moderate the relationship between stress and burnout, such that higher levels increase the effect of stress.

Autonomy is often seen as a valuable asset in the workplace, providing employees with both protection and empowerment. However, the advantages of autonomy can diminish when colleagues are viewed as manipulative or self-serving. For example, coworkers exhibiting high levels of Machiavellianism may undermine the autonomy of others by manipulating outcomes, fostering distrust, or exploiting workplace resources. Narcissistic colleagues might disregard collaborative efforts, leading to a breakdown of support networks, while psychopathic traits can cause unpredictable behavior and rule-breaking that disrupt team cohesion (Boddy, 2011; Grijalva et al., 2015). In such settings, even employees who typically benefit from autonomy may find that its protective effects against stress and burnout are weakened, turning their independence into a source of isolation or conflict rather than control and self-regulation. Research suggests that autonomy can backfire in situations where social dynamics erode trust or individuals feel unsupported, emphasizing the importance of considering interpersonal context in its effects (Rupp et al., 2013; Thompson & Prottas, 2006).

From a COR perspective, this misalignment results in inefficient resource utilization and increases the risk of burnout. When employees fail to harness autonomy effectively in toxic environments, it can heighten strain instead of alleviating it. (Hobfoll, 2001; Kuvaas et al., 2016).

Similarly, SDT suggests that employees must exercise autonomy within supportive, need-satisfying contexts to achieve positive outcomes (Ryan & Deci, 2020).

H4b: Dark Triad traits moderate the relationship between autonomy and burnout, such that higher levels weaken the protective effect of autonomy.

The meaning derived from work often fosters motivation, resilience, and overall well-being. However, the presence of Dark Triad traits can disrupt this positive dynamic. Employees who perceive their colleagues as manipulative, arrogant, or indifferent may struggle to maintain a sense of purpose, belonging, or meaningful contribution (Rosso et al., 2010). Individuals with Machiavellian tendencies may exploit shared values for personal gain, narcissists may overlook collective goals, and those exhibiting psychopathic traits may entirely disregard the emotional or social significance of work (Jonason & Webster, 2010; Lata & Chaudhary, 2021).

Such environments undermine the protective effects of psychological meaning, compromising both COR's concept of resource gain spirals and SDT's principles of need satisfaction. When coworkers display manipulative, self-serving, or disruptive behaviors, even employees who typically find their work meaningful may struggle to maintain this perception. This diminishes the capacity of meaning to buffer against stress and burnout (Deci et al., 2017; Van den Broeck et al., 2016).

H4c: Dark Triad traits moderate the relationship between meaning and burnout, such that higher levels weaken the protective effect of meaning.

Self-Care

Self-care involves intentional actions aimed at preserving or enhancing physical, emotional, and psychological well-being. These activities include regular exercise, mindfulness

practices, adequate sleep, and setting clear boundaries between work and personal life (Petrou & Bakker, 2016; Roth et al., 1986). According to COR Theory, individuals use self-care as a deliberate strategy to acquire resources, replenish depleted energy, and build long-term resilience (Hobfoll, 1989; Hobfoll et al., 2018). Numerous empirical studies have demonstrated that individuals who commit to these self-care practices tend to experience lower levels of emotional exhaustion and improved recovery after encountering work-related stressors (Edú-Valsania et al., 2022; Kröll et al., 2017).

Self-care serves as a protective buffer in high-stress environments. Employees who consistently engage in self-care practices are better equipped to manage their emotions and avoid detrimental spirals, as noted by Hobfoll (2001). These practices mitigate the psychological and physiological impacts of stress, conserving cognitive and emotional resources for essential work tasks (Grandey & Cropanzano, 1999; Liu et al., 2021). Conversely, in the absence of self-care or when practiced inconsistently, stress is more likely to lead to exhaustion and disengagement.

H5a: Self-care moderates the relationship between stress and burnout, such that higher self-care reduces the impact of stress.

Alongside buffering against stress, self-care enhances the protective effect of autonomy by improving individuals' decision-making skills and their ability to manage workloads effectively. Although autonomy allows employees discretion and control, its benefits depend on their internal capacity; those who prioritize self-care are better equipped to handle the cognitive and emotional demands that come with autonomy (Hobfoll et al., 2018; Morgeson & Humphrey, 2006). From the perspective of SDT, self-care supports the fulfillment of autonomy needs by fostering clarity, competence, and engaged motivation (Deci & Ryan, 1985; Ryan & Deci, 2020).

When employees enjoy a high degree of autonomy but overlook self-care, they may experience decision fatigue or role strain. Conversely, individuals who prioritize regular self-care are better equipped to utilize their autonomy effectively, thereby protecting themselves against burnout (Bakker & de Vries, 2021; Kuvaas et al., 2016).

H5b: Self-care moderates the relationship between autonomy and burnout, such that higher self-care strengthens the protective effect of autonomy.

Self-care plays a crucial role in helping employees maintain a sense of purpose in their work, even in the face of high demands. According to COR Theory, individuals draw on meaningful work as a resource to sustain motivation and protect against burnout; however, this advantage weakens when they lack the energy or psychological space to connect with the purpose of their work (Hobfoll, 2001; Xanthopoulou et al., 2009). Self-care nurtures this connection by promoting emotional regulation and enhancing cognitive clarity, allowing employees to view challenges as meaningful instead of exhausting (Rosso et al., 2010; Wrzesniewski et al., 2003).

SDT similarly asserts that meaning arises from the fulfillment of autonomy, competence, and relatedness. Engaging in self-care enhances this process by building the internal capacity to connect with the meaningful aspects of one's role (Gagné & Deci, 2005; Van den Broeck et al., 2016). Conversely, insufficient self-care hinders this pathway, reducing one’s ability to find value in their work and increasing the risk of burnout.

H5c: Self-care moderates the relationship between meaning and burnout, such that higher self-care strengthens the protective effect of meaning.

Social Support (Support)

Support encompasses the perception and availability of assistance—whether emotional,

instrumental, or informational—from colleagues, supervisors, and organizational systems (Cohen & Wills, 1985; Tardy, 1985). Classic research has consistently highlighted its significance in fostering resilience and mitigating stress (Barrera, 1986; Cobb, 1976; Sarason et al., 1983). By providing emotional encouragement, helping employees navigate tasks, or offering insights during problem-solving, support can effectively reduce the intensity of stress appraisals (Kim et al., 2008; Langford et al., 1997).

COR Theory considers social support a crucial and renewable resource. It helps employees escape the loss spirals that emerge when demands increasingly surpass their coping capacities (Hobfoll, 1989; Hobfoll et al., 2018). Likewise, SDT emphasizes that support is crucial for fulfilling the psychological need for relatedness, thereby fostering connections that enhance motivation and well-being (Deci & Ryan, 2000; Ryan & Deci, 2020). Without this supportive framework, the risk of burnout rises as employees may feel isolated in their efforts to manage chronic stress.

H6a: Support moderates the relationship between stress and burnout, such that higher support reduces the impact of stress.

Support is crucial for maximizing the protective benefits of autonomy. While autonomy grants employees the freedom to self-direct and manage their workloads, it can also lead to ambiguity or overwhelm in fast-paced environments. Without guidance or feedback, autonomy can lead to uncertainty, frustration, or decision fatigue—particularly in cognitively demanding roles (Clausen et al., 2022; Kuvaas et al., 2016).

Supervisor and peer support mitigate these risks by providing essential scaffolding, structure, and reassurance. Research indicates that autonomy is more beneficial when accompanied by support, such as coaching, clear roles, or assistance with task execution

(Morgeson et al., 2005; Thompson & Prottas, 2006). In terms of COR Theory, autonomy and support form a broader "resource caravan" that works together to conserve energy and minimize burnout (Hobfoll, 2011; Park & Jang, 2017). Similarly, SDT reinforces that autonomy is more effective when employees experience a sense of connection and support.

H6b: Support moderates the relationship between autonomy and burnout, such that higher support strengthens the protective effect of autonomy.

Support plays a crucial role in enhancing the benefits of meaningful work. Employees who perceive their tasks as significant and purposeful tend to report higher levels of motivation and fewer instances of burnout (Rosso et al., 2010; Wrzesniewski et al., 2003). However, in unsupportive environments—where affirmation, ethical leadership, or team cohesion are absent—the protective effect of meaning on burnout may be diminished (Kristensen et al., 2005; Rupp et al., 2013).

Supportive interactions play a crucial role in maintaining meaning by affirming an employee's value and contributions. Recognition from supervisors and encouragement from peers validate the importance of one's work, transforming that meaning into a significant psychological resource. These interactions create positive feedback loops, enhancing employees' willingness to invest their energy and reducing disengagement (Gagné & Deci, 2005; Hobfoll et al., 2018; Van den Broeck et al., 2016).

H6c: Support moderates the relationship between meaning and burnout, such that higher support strengthens the protective effect of meaning.

Organizational Justice (Justice)

Justice plays a critical role in managing workplace stress and promoting overall well-being. Employees' perceptions of fairness—whether related to outcomes, procedures,

interpersonal treatment, or communication—significantly influence their experience and ability to cope with stress (Colquitt, 2001; Greenberg, 1990). From the perspective of COR Theory, justice helps preserve essential psychological resources by minimizing ambiguity and fostering trust in leadership and organizational systems (Hobfoll, 1989; Rupp et al., 2013). When employees perceive decisions as fair and transparent, they are less likely to experience emotional exhaustion and are less likely to rely on defensive coping strategies.

SDT emphasizes the significance of fairness as a crucial factor in satisfying the needs for autonomy and relatedness (Deci & Ryan, 2000; Ryan & Deci, 2020). Environments perceived as fair are more likely to promote employee agency and emotional safety, which, in turn, encourage self-regulation and engagement. Conversely, when employees perceive injustice—whether in performance evaluations, task assignments, or workload distribution—they lose emotional resources and face intensified pressure from high job demands (Ambrose & Schminke, 2009; Van den Broeck et al., 2016).

H7a: Justice moderates the relationship between stress and burnout, such that higher justice reduces the impact of stress.

Justice plays a crucial role in how effectively employees utilize autonomy as a valuable resource. While autonomy provides individuals with the freedom to make decisions, it can create strain in environments where rules or expectations are applied inconsistently (Rupp et al., 2013; Thompson & Prottas, 2006). In such contexts, autonomy may feel less empowering and more risky or arbitrary. Conversely, when organizations establish fair procedures and consistent expectations, employees can fully embrace their autonomy, gaining greater control and experiencing reduced role strain (Ambrose & Schminke, 2003; Leventhal, 1980).

Ensuring fairness in processes and communication fosters clarity about expectations and task ownership, which enhances the value of autonomy and minimizes decision fatigue. According to COR Theory, this approach reduces the risk of resource depletion by clearing up confusion and strengthening structure (Hobfoll, 2001). Furthermore, SDT suggests that procedural and interpersonal justice promote a culture in which employees feel respected and competent, thereby increasing the motivational benefits of autonomy (Colquitt, 2001; Gagné & Deci, 2005).

H7b: Justice moderates the relationship between autonomy and burnout, such that higher justice strengthens the protective effect of autonomy.

Justice significantly enhances the protective effects of meaning. When organizations fairly recognize contributions and maintain transparent, ethical decision-making, employees who already find their work purposeful and valuable can better sustain motivation and engagement, which serve as essential buffers against burnout, as highlighted in SDT and COR Theory (Rosso et al., 2010; Ryan & Deci, 2000).

In contrast, injustice, particularly when experienced alongside meaningful work, can lead to cognitive dissonance, disillusionment, or moral distress. Employees who view their efforts as valuable yet also witness systemic unfairness may begin to question the legitimacy of their work environment, potentially undermining the benefits typically associated with meaningful work (Ambrose et al., 2021; Lazauskaite-Zabielske et al., 2019). Therefore, ensuring fairness in rewards, recognition, and interpersonal treatment is crucial for maintaining the motivational potential of meaningful work.

H7c: Justice moderates the relationship between meaning and burnout, such that higher justice strengthens the protective effect of meaning.

Summary

This section outlines the study's hypotheses, rooted in COR Theory (Hobfoll, 1989; Hobfoll et al., 2018) and SDT (Deci & Ryan, 1985; Ryan & Deci, 2000). The study incorporates these hypotheses into a conceptual model that examines both the drivers and moderators of burnout. The independent variables — stress, autonomy, and meaning — are recognized as crucial factors contributing to burnout. They either hasten resource depletion (Maslach & Leiter, 2016; Schaufeli & Bakker, 2004) or provide essential psychological resources that bolster resilience (Gagné & Deci, 2005; Van den Broeck et al., 2016). This analysis explores the relationship between these constructs and burnout. Simultaneously, the study assesses moderators such as the Dark Triad traits (Paulhus & Williams, 2002; Spain et al., 2014), self-care (Petrou & Bakker, 2016; Cook-Cottone & Guyker, 2018), support (Cohen & Wills, 1985; Halbesleben, 2006), and justice (Ambrose & Schminke, 2009; Colquitt, 2001) for their effects on the strength and direction of these relationships.

The study finds a significant positive relationship between stress and burnout, highlighting its well-established role in depleting personal resources (Hobfoll et al., 2018; Maslach & Leiter, 2016). In contrast, the study expects factors such as autonomy and meaning to mitigate burnout by serving as protective elements that fulfill psychological needs and enhance emotional stability (Deci & Ryan, 2000; Van den Broeck et al., 2016). These variables are not only supported by prior empirical research but also align with the foundational principles of COR Theory, which emphasizes the acquisition, protection, and replenishment of resources, as well as SDT, which highlights the importance of autonomy, competence, and relatedness in sustaining motivation (Hobfoll, 1989; Ryan & Deci, 2020).

The moderating variables offer a deeper insight into the variability of burnout outcomes. The study hypothesizes that self-care alleviates the effects of stress and strengthens the protective benefits of autonomy and meaning by promoting recovery and preserving personal resources (Cook-Cottone & Guyker, 2018; Petrou & Bakker, 2016). In contrast, the Dark Triad traits, Machiavellianism, narcissism, and psychopathy, are expected to worsen the relationship between stress and burnout while diminishing the buffering effects of autonomy and meaning. These personality traits undermine interpersonal trust and disrupt cycles of resource gain, interfering with the foundational mechanisms outlined in COR Theory and SDT (Spain et al., 2014; Walker & MacCann, 2024).

Support, as a vital social resource, is expected to reduce the effects of stress and enhance the positive contributions of autonomy and meaningfulness. By fostering relatedness and emotional security, support plays a crucial role in motivational processes and serves as a protective buffer against resource depletion (Cohen & Wills, 1985; Halbesleben, 2006). Likewise, the study suggests that justice moderates these dynamics by fostering trust, ensuring procedural transparency, and reinforcing perceptions of fairness. It reinforces employees' perceptions of value and inclusion, thereby amplifying the benefits of autonomy and meaningfulness while lessening the emotional toll of stress (Ambrose & Schminke, 2009; Colquitt, 2001).

Together, these hypotheses form a multidimensional model that examines how resource availability, psychological need satisfaction, and interpersonal dynamics interact to influence burnout. By contextualizing this analysis within high-demand, cognitively intensive workplaces, this study enhances the current literature on stress and well-being while offering practical insights for prevention and intervention. This comprehensive approach contributes to the

growing body of research dedicated to understanding and alleviating burnout from both individual and systemic perspectives (Deci & Ryan, 2000; Hobfoll et al., 2018; Maslach & Leiter, 2016). The table below provides a concise reference for the hypotheses (Table 2) discussed in this section:

Table 2

Hypotheses

Hypothesis	Description
H1	Stress has a significant positive relationship with burnout.
H2	Autonomy has a significant negative relationship with burnout.
H3	Meaning has a significant negative relationship with burnout.
H4a	Dark Triad traits moderate the relationship between stress and burnout, such that higher levels of these traits experience a greater effect of stress.
H4b	Dark Triad traits moderate the relationship between autonomy and burnout, such that higher levels weaken the protective effect of autonomy.
H4c	Dark Triad traits moderate the relationship between meaning and burnout, such that higher levels weaken the protective effect of meaning.
H5a	Self-care moderates the relationship between stress and burnout, such that higher self-care reduces the impact of stress.
H5b	Self-care moderates the relationship between autonomy and burnout, such that higher self-care strengthens the protective effect of autonomy.
H5c	Self-care moderates the relationship between meaning and burnout, such that higher self-care strengthens the protective effect of meaning.
H6a	Support moderates the relationship between stress and burnout, such that higher support reduces the impact of stress.
H6b	Support moderates the relationship between autonomy and burnout, such that higher support strengthens the protective effect of autonomy.
H6c	Support moderates the relationship between meaning and burnout, such that higher support strengthens the protective effect of meaning.
H7a	Justice moderates the relationship between stress and burnout, such that higher justice reduces the impact of stress.
H7b	Justice moderates the relationship between autonomy and burnout, such that higher justice strengthens the protective effect of autonomy.
H7c	Justice moderates the relationship between meaning and burnout, such that higher justice strengthens the protective effect of meaning.

Literature Review Summary

Chapter Two of this dissertation provides a critical examination of the theoretical and empirical literature on burnout, framed by COR Theory and SDT. These frameworks offer a multidimensional perspective on burnout, conceptualizing it not merely as a direct result of workload but as a function of resource dynamics, the fulfillment of psychological needs, and the social context. COR Theory emphasizes that burnout occurs when individuals face threats to or losses of valued resources and are unable to replenish them over time (Hobfoll, 1989, 2001; Hobfoll et al., 2018). Conversely, SDT states that burnout is more likely to develop when fundamental psychological needs—autonomy, competence, and relatedness—are consistently unmet (Deci & Ryan, 1985; Ryan & Deci, 2020).

The review begins by addressing stress as a primary precursor to burnout, defining it as the perceived imbalance between job demands and an individual's coping resources (Cohen et al., 1983; Lazarus & Folkman, 1984). Prolonged stress accelerates emotional exhaustion, depersonalization, and feelings of reduced personal accomplishment, particularly in cognitively challenging environments (Kristensen et al., 2005; Schaufeli & Bakker, 2004). While established frameworks such as the JDC and ERI models provide historical context, this study emphasizes the COR and SDT to elucidate the internal and external mechanisms through which stress affects burnout. These frameworks underscore how the depletion of essential resources and the frustration of psychological needs exacerbate the relationship between strain and burnout (Deci & Ryan, 2000; Hobfoll, 2001).

Autonomy and meaning are essential protective factors in the workplace. Autonomy, defined as employees' control over their tasks, schedules, and decision-making, is linked to increased motivation, well-being, and resilience against stress (Morgeson & Humphrey, 2006;

Van den Broeck et al., 2016). According to SDT, autonomy is regarded as a fundamental psychological need, while COR Theory views it as a valuable resource that helps conserve energy and reduce burnout (Deci & Ryan, 1985; Hobfoll et al., 2018). Similarly, meaning—characterized by the degree to which employees perceive their work as purposeful and in line with their values—promotes psychological resilience and job engagement (Rosso et al., 2010; Wrzesniewski et al., 2003). Together, these constructs significantly contribute to creating resource gain cycles that help counteract the effects of chronic stress (Bakker & Demerouti, 2007; Steger et al., 2006).

The literature review also presents four moderators—Dark Triad traits, self-care, support, and justice—that significantly influence the relationship between stress, autonomy, and meaning in relation to burnout. These moderators are grounded in both COR Theory and SDT, as they either alter the balance of available resources or affect the fulfillment of psychological needs.

The Dark Triad traits—Machiavellianism, narcissism, and psychopathy—are socially undesirable characteristics that increase interpersonal conflict and diminish trust (Paulhus & Williams, 2002; Jonason & Webster, 2010). This study shifts the focus from individuals' self-reported traits to examining perceptions of Dark Triad behaviors among colleagues, which can significantly affect stress appraisals and interpersonal strain (Walker & MacCann, 2024). Research has shown that these traits can hinder resource acquisition, impede the fulfillment of needs, and diminish the protective effects of autonomy and meaning (Grijalva et al., 2015; Spain et al., 2014).

Self-care encompasses proactive behaviors aimed at maintaining both psychological and physical well-being, integrating practices such as mindfulness, setting boundaries, and engaging in restorative rest (Cook-Cottone & Guyker, 2018; Petrou & Bakker, 2016). Research indicates

that self-care functions as a behavior that fosters recovery by directly alleviating burnout and moderating the effects of stress, meaning, and autonomy (Kröll et al., 2017; Edú-Valsania et al., 2022). Furthermore, self-care aligns with COR Theory, which emphasizes the replenishment of resources, and SDT, which highlights the importance of fostering autonomy and competence.

Support, which includes emotional, instrumental, and informational assistance, is recognized as one of the most established protective resources in the stress literature (Cohen & Wills, 1985; Langford et al., 1997). It plays a vital role in facilitating resource restoration (Hobfoll, 2001) and fulfills the SDT need for relatedness (Ryan & Deci, 2000). Both peer and supervisor support enhance resilience, emotional regulation, and recovery, especially when individuals encounter role ambiguity or heavy workloads (Elçi et al., 2018; Halbesleben, 2006).

Justice, which encompasses perceptions of fairness regarding procedures, outcomes, and interpersonal treatment, plays a critical role in moderating burnout dynamics. Foundational justice theories—ranging from Adams' (1965) equity theory to Colquitt's (2001) four-factor model—emphasize the importance of justice in fostering employee engagement, motivation, and psychological safety. According to COR Theory, justice contributes to stability and mitigates uncertainty (Hobfoll et al., 2018). Similarly, within the context of SDT, justice enhances autonomy and relatedness by promoting consistent, respectful, and inclusive interactions in the workplace (Ambrose & Schminke, 2009; Rupp et al., 2013).

This chapter concludes by outlining a comprehensive set of research questions and hypotheses that explore both direct and moderated relationships between burnout and the core constructs discussed earlier. These hypotheses are firmly grounded in COR Theory, which emphasizes the dynamics of resources, and SDT, which highlights the significance of fulfilling psychological needs. Rather than seeing burnout as the result of isolated workplace factors, this

study adopts a resource-based, integrative model that acknowledges how individual differences, interpersonal dynamics, and organizational structures interact to affect burnout outcomes.

This chapter lays the groundwork for the study's conceptual model and quantitative testing strategy by merging theory-driven insights with a strong empirical literature base. The findings derived from this integrated framework aim to enhance scholarly understanding of burnout while offering practical guidance for interventions designed to reduce stress, foster resource-rich environments, and promote employee well-being in cognitively demanding roles.

Theoretical Framework

This study establishes a theoretical framework rooted in COR Theory (Hobfoll, 1989) and SDT (Deci & Ryan, 1985) to investigate the predictors and moderators of burnout in cognitively demanding and high-pressure work environments. The framework highlights the crucial role of resource loss and psychological need frustration in contributing to burnout, while also integrating both structural and interpersonal factors that influence these dynamics.

Stress is considered the primary precursor of burnout, representing ongoing threats to or losses of valued resources, such as time, energy, and emotional stability (Hobfoll et al., 2018). Autonomy and meaning serve as protective resources; autonomy boosts employees' sense of control and self-regulation, while meaning encourages intrinsic motivation and psychological purpose. Both constructs align with SDT, which emphasizes meeting the needs for autonomy, competence, and relatedness, and with COR Theory, which underscores the significance of resource gain cycles (Ryan & Deci, 2020; Xanthopoulou et al., 2009).

To capture the variation in individual experiences of burnout, the model incorporates four moderators: the Dark Triad traits, self-care, support, and justice. Self-care facilitates resource replenishment through proactive recovery behaviors (Petrou & Bakker, 2016). Support provides

emotional and instrumental resources, enhancing both resilience and social connections (Cohen & Wills, 1985). Justice promotes trust, control, and procedural fairness, serving as a safeguard against strain and disengagement (Colquitt, 2001). In contrast, the Dark Triad traits—Machiavellianism, narcissism, and psychopathy—disrupt interpersonal relationships and deplete social resources, exacerbating stress and undermining the benefits of autonomy and purpose (Jonason & Webster, 2010; Spain et al., 2014).

This integrative framework conceptualizes burnout as a consequence of both environmental demands and individual differences, emphasizing the interaction between workplace resources, psychological needs, and relational context. It offers a multidimensional perspective on exploring how resource trajectories and motivational factors jointly influence employee well-being. Chapter 3 applies this framework through the study's methodological design and hypothesis testing plan.

Chapter Three: Data & Methodology

Overview of Chapter

This chapter outlines the methodological approach used to investigate the predictors and moderators of burnout through the frameworks of COR Theory (Hobfoll, 1989) and SDT (Deci & Ryan, 1985). The study employs a cross-sectional, survey-based design to quantitatively examine the relationships among stress, autonomy, and meaning, while also evaluating how these relationships are affected by various individual and contextual factors, including traits associated with the Dark Triad, self-care behaviors, support, and notions of justice.

The chapter begins by outlining the research design and participant sampling strategy. It then elaborates on the instruments used to measure each construct, followed by a discussion of the data collection procedures and the ethical considerations taken into account during the study. The study presents a comprehensive data analysis plan that details the statistical methods used to test its hypotheses. The study adopts this methodology to enable a thorough examination of how workplace demands, psychological resources, and interpersonal dynamics contribute to burnout. By integrating established theoretical frameworks with empirical analysis, this chapter lays a solid foundation for addressing the study's central research questions and hypotheses.

Research Design

This study employed a quantitative, cross-sectional survey design to investigate the relationships among stress, autonomy, and meaning, as well as their impact on burnout. Additionally, it examined the moderating roles of the Dark Triad traits, self-care, support, and justice. The study uses a survey methodology to collect standardized data from a diverse participant sample. This approach was well-suited to the study's objective of testing multiple predictors and moderators within a theoretically informed framework. By utilizing structured

scales, the research enabled robust statistical analysis of the interaction effects and relationships among the variables.

The cross-sectional design of this study effectively captures participants' workplace experiences at a specific moment in time. While this approach limits the ability to draw causal inferences, it remains a widely recognized method for investigating correlational relationships and moderation effects in organizational research. Furthermore, the survey format proves practical for collecting data from knowledge-intensive professionals across various sectors, thereby enhancing the generalizability of the findings.

The study recruited participants through Prolific, an online crowdsourcing platform that provides access to a broad and diverse respondent pool for survey distribution. The study administered the survey using Qualtrics, an online platform known for its versatility and functionality. This combination enabled targeted sampling and controlled data collection. A known limitation of survey-based research is the potential for common method bias, which can occur when relying solely on self-reported data. The study addresses this issue by using multiple validated scales from diverse sources to reduce measurement redundancy and enhance construct clarity.

Participants and Sampling

The target population for this study consisted of professionals based in the U.S. who are engaged in cognitively demanding industries characteristic of knowledge-intensive and professional service work. The study specifically required participants to be employed in fields such as accounting, finance, legal services, or healthcare. The study selected these roles because they involve high performance expectations, complex interpersonal interactions, and prolonged exposure to psychological stressors—factors central to the burnout model under investigation.

Participants were recruited through Prolific, using customized prescreening filters to determine eligibility. The study included participants who were currently employed full-time or part-time in one of the four designated industries, resided in the United States, and held a bachelor's degree or higher. Prolific's prescreening system restricted survey access to those who met these qualifications. Additionally, further screening questions integrated within the Qualtrics survey verified industry affiliation and educational background. The study established a gender quota to ensure balanced representation, aiming for a 50/50 split between male and female participants.

Sample size requirements were determined through an a priori power analysis using Daniel Soper's online calculator. With a target statistical power of 0.80, an alpha level of 0.05, and a medium effect size for a structural model that includes multiple predictors and interaction terms, the analysis indicated a minimum sample size of approximately 538 participants. This number ensures sufficient statistical power to identify hypothesized moderation effects and supports the application of structural equation modeling in the subsequent analyses.

Demographic data gathered included gender, educational attainment, and current employment industry. These variables served not only descriptive purposes but also facilitated the analysis of demographic variations in burnout-related outcomes. Chapter Four will detail the composition and demographic breakdown of the final sample following the completion of data collection.

Instrumentation and Measures

This study employed a structured online survey comprising 60 items to assess burnout, its predictors (stress, autonomy, and meaning), four moderators (Dark Triad traits, self-care, support, and justice), and demographic and open-ended responses. The study selected

instruments based on their strong psychometric properties and alignment with COR Theory and SDT. Each scale utilized a Likert-type format and produced total scores by averaging the responses to the items. Appendix A contains the complete list of scale questions used in the study.

Burnout

The study evaluated burnout using the seven-item Copenhagen Burnout Inventory (Kristensen et al., 2005). Respondents rated statements such as "Do you feel worn out at the end of the working day?" on a scale from 1 (Never/almost never) to 5 (Always). One item was reverse-coded to ensure consistent scoring. The overall burnout score was calculated as the mean of all item responses, with higher scores indicating greater burnout levels. The internal consistency of the burnout scale in this study was Cronbach's alpha = .825.

Stress

The study evaluated stress using the five-item Job Stress Scale (Lambert et al., 2005). This scale assesses individuals' perceptions of workplace pressure and emotional strain, including items such as "I am usually under a lot of pressure when I am at work." Responses were recorded on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree), with one item being reverse-coded. The overall stress score was calculated as the mean of all item responses, where higher scores indicated higher perceived stress levels. The internal consistency of the stress scale in this study was Cronbach's alpha = .820.

Autonomy

The study evaluated autonomy using the nine-item Autonomy Subscales from the Work Design Questionnaire (Morgeson & Humphrey, 2006). These items pertain to aspects such as work scheduling, decision-making, and work methods. Respondents rated statements such as

"The job allows me to make my own decisions about how to schedule my work" on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree). The overall autonomy score was determined as the mean of all item responses, with higher scores indicating greater perceived autonomy. The internal consistency of the autonomy scale in this study was Cronbach's alpha = .927.

Meaning

The study assessed meaning using a two-item scale that included the original COPSOQ III (Burr et al., 2019) item ("Is your work meaningful?") and an additional item (SC13) originally part of the Self-Care scale: "I experienced meaning and/or a larger purpose in my work/school life (e.g., for a cause)." Preliminary analyses, including exploratory and confirmatory factor analyses (EFA and CFA), showed that SC13 had stronger conceptual and statistical alignment with Meaning than with Self-Care. Based on this evidence and theoretical considerations, SC13 was reassigned to the Meaning scale. Respondents rated the COPSOQ item on a scale from 1 (to a very small extent) to 5 (to a very large extent), and SC13 on a scale from 1 (Never [0 days]) to 5 (Regularly [6 to 7 days]). The overall meaning score was calculated as the mean of the two items, with higher scores indicating a greater sense of meaningful work. The internal consistency of the two-item meaning scale was evaluated using the Pearson correlation coefficient, $r = 0.46$, which reflects the linear relationship between the two items.

Support

The study assessed support using a two-item scale from the COPSOQ III (Burr et al., 2019). These items measured the frequency of help received from supervisors and colleagues, rated on a scale from 1 (never/hardly ever) to 5 (always). The overall support score was calculated as the mean of the two items, with higher scores indicating a greater perception of

support. The internal consistency of the two-item support scale was evaluated using the Pearson correlation coefficient, r = 0.59, which reflects the linear relationship between the two items.

Justice

The study assessed justice using the six-item Perceptions of General Justice scale (Ambrose & Schminke, 2003). Respondents rated statements such as "In general, the treatment I receive around here is fair" on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree), with one item being reverse-coded. The overall justice score was calculated as the mean of all item responses, with higher scores indicating greater perceptions of fairness. The internal consistency of the justice scale in this study was measured with Cronbach's alpha = .830.

Dark Triad Traits

The study assessed Dark Triad traits—Machiavellianism, narcissism, and psychopathy—using the Dirty Dozen Scale (Jonason & Webster, 2010) adapted to evaluate perceptions of colleagues. Each subscale consisted of four items, including statements such as "My colleagues manipulate others to achieve their goals" and "My colleagues seek admiration from those around them." Responses were recorded on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree). The overall Dark Triad score was calculated as the mean of all item responses, with higher scores indicating greater endorsement of Dark Triad traits. The internal consistency of the Dark Triad scale in this study was Cronbach's alpha = .857.

Self-Care

The study evaluated self-care through specific subscales from the 24-item Mindful Self-Care Scale – Brief (Cook-Cottone & Guyker, 2018). Specifically, the study selected three subdomains: mindful relaxation, physical care, and self-compassion and purpose. The study chose these dimensions for their direct relevance to resource preservation and psychological

well-being, aligning with its theoretical foundations in COR Theory and SDT. According to COR Theory, these subdomains reflect proactive strategies that enhance resource replenishment, while SDT highlights their connection to autonomy, competence, and emotional self-regulation.

The study excluded the subscales for supportive relationships and supportive structure to eliminate redundancy, as it measured interpersonal support independently using the Copenhagen Psychosocial Questionnaire (COPSOQ III). Mindful awareness was also omitted due to its thematic overlap with mindful relaxation, aiming to reduce participant burden. Additionally, one item (SC13) was reassigned to the Meaning scale based on conceptual alignment and factor analysis results.

Respondents rated statements such as “I kindly acknowledged my own challenges and difficulties” on a scale from 1 (Never) to 5 (Regularly), with one item reverse-coded. The final scale consisted of 12 items, and the internal consistency of the self-care scale in this study was Cronbach' s alpha = .803.

Previous studies support the reduction in item count by examining the MSCS subscales independently based on their conceptual relevance. For example, research by Depner et al. (2021), Hotchkiss and Lesher (2018), and Hotchkiss and Cook-Cottone (2023) employed factor analyses and structural modeling to investigate the relationships between self-care, burnout, and quality of life across selected subdomains of the scale. These findings reinforce the theoretical and empirical justification for focusing on only the most pertinent subdomains in this study, given its emphasis on burnout within cognitively demanding work environments.

Table 3

Scale Reliability

Construct	Reliability Coefficient
Burnout (CBI)	α = 0.91
Stress (Job Stress Scale)	α = 0.86
Autonomy (WDQ – Autonomy Subscales)	α = 0.89
Support (COPSOQ III)	r = 0.59
Meaning (COPSOQ III & MSCS-B)	r = 0.46
Dark Triad (Dirty Dozen)	α = 0.83
Self-Care (MSCS-B)	α = 0.80
Justice (Perceptions of General Justice)	α = 0.93

Note. Reliability coefficients reflect the internal consistency of each scale used in this study. Cronbach's alpha (α) was reported for multi-item scales. For two-item scales (Support and Meaning), the r coefficient was reported. Meaning was assessed using one item from the COPSOQ III and one item from the MSCS-B (SC13). Support was measured using two items from the COPSOQ III Support subscale. Self-care was assessed using a revised 12-item scale from the Mindful Self-Care Scale – Brief.

Demographics

The study used three demographic items to collect information on participants' gender, education level, and current employment industry. These items served to describe the sample, confirm eligibility, and support subgroup comparisons in subsequent analyses.

Procedure

This study received approval from the Jacksonville University Institutional Review Board (IRB #2024-084) on December 11, 2024. The review encompassed the research protocol, survey content, and participant recruitment plans, all of which were determined to comply with ethical standards for research involving human subjects.

The survey was conducted on Qualtrics and distributed through Prolific, an online crowdsourcing platform frequently used for academic research. Prolific's prescreening system

ensured that participants met the necessary inclusion criteria before accessing the survey. Upon entry, participants reviewed an informed consent form outlining the study's purpose, the voluntary nature of participation, the estimated time commitment, and assurances of data anonymity and confidentiality. Participants provided electronic consent before proceeding.

The anticipated completion time for the survey was between 10 and 14 minutes. In accordance with Prolific's fair pay guidelines, participants received compensation of $2.38 for their participation.

To ensure data quality, participants must complete at least 75% of the survey to be eligible for compensation. Although the survey does not include formal attention checks, its structure and content are intentionally designed to minimize inattentive or patterned responses. The study excluded any submissions that do not meet the completion threshold from the final dataset.

Preparation

After data collection, survey responses underwent a thorough review to ensure completeness and integrity. All participants completed at least 75% of the survey; therefore, no responses were eliminated. For completed responses, the study evaluated and addressed missing data using suitable methods, such as listwise deletion or imputation, based on the pattern and extent of missingness.

Before conducting hypothesis testing, we assessed the internal consistency of each multi-item scale using Cronbach's alpha. The study retained scales that met or exceeded the established reliability threshold ($\alpha \geq 0.70$) for further analysis. We calculated composite scores for each construct by averaging responses across relevant items, including any reverse-coded

items as necessary. All scale computations followed the original scoring procedures established in previous validation studies.

Data Analysis Plan

Data analysis for this study used both SPSS and Mplus. SPSS was employed for initial data preparation and descriptive statistics. Mplus was used for advanced hypothesis testing through Structural Equation Modeling (SEM). This combined software approach allowed for robust preliminary diagnostics and comprehensive structural modeling of latent variables and their interactions.

Data analysis for this study used both SPSS and Mplus. SPSS was employed for initial data preparation, descriptive statistics, and preliminary regression models. Mplus was used for advanced hypothesis testing through Structural Equation Modeling (SEM). This combined software approach allowed for robust preliminary diagnostics and comprehensive structural modeling of latent variables and their interactions.

The primary analyses will utilize SEM to explore the hypothesized direct and moderated relationships between stress, autonomy, and meaning as predictors, with burnout as the outcome. Moderation effects will be evaluated by including interaction terms between each independent variable and its respective moderator (e.g., stress × Dark Triad traits). To reduce multicollinearity, predictor and moderator variables will be mean-centered prior to generating the interaction terms, where applicable.

This modeling approach provides a reliable method for evaluating both the primary effects and conditional influences indicated in the study. By using Mplus for these analyses, the study achieves greater precision in estimating latent constructs, corrects for measurement errors, and enhances the management of complex interaction effects within the burnout model.

Ethical Considerations

This study has received approval from the Jacksonville University Institutional Review Board (IRB #2024-084), with formal authorization granted on December 11, 2024. All research procedures comply with federal guidelines for the ethical treatment of human subjects and uphold Jacksonville University's policies on research integrity and data security.

At the beginning of the Qualtrics survey, participants were presented with an IRB-approved informed consent form. This document explained the study's purpose, outlined participants' rights, and highlighted the voluntary nature of their involvement, including their right to withdraw at any time without penalty. All responses remained anonymous, and the survey did not collect any personally identifiable information.

The collected data were securely stored on an encrypted device and retained in accordance with university and Institutional Review Board policies. Only the principal investigator and members of the dissertation committee had access to the raw data. No de-identified data were shared publicly or through open repositories.

Participant compensation was administered through Prolific, a crowdsourcing platform recognized for its adherence to ethical research standards. Prolific's prescreening tools ensured that participants met the eligibility criteria while maintaining their anonymity. The platform also protected against coercion by allowing participants to withdraw at any time. To qualify for the standard compensation of $2.38, participants were required to complete at least 75% of the survey. These protocols ensured diligent protection of participants' rights and the privacy of their data throughout the study.

Summary of the Chapter

This chapter outlines the methodological approach used to investigate the relationships among stress, autonomy, and meaning, as well as their effects on burnout, while also considering the moderating influences of Dark Triad traits, self-care, support, and justice. The study employs a quantitative, cross-sectional design to test its hypotheses using validated instruments and a theoretical framework grounded in COR Theory and SDT. Participants will be recruited through Prolific and screened for eligibility based on their industry, educational background, and geographic location. The study will conduct data collection through a Qualtrics-administered survey, with all necessary ethical safeguards approved by the IRB.

The measures utilized in this study comprise well-established scales that demonstrate strong psychometric properties. The analysis plan employs both SPSS and Mplus to perform descriptive statistics and structural equation modeling. These procedures ensure that the study conducts data collection and analysis in a rigorous, ethical, and statistically robust manner.

Chapter Four will present the findings of the data analysis, including descriptive statistics, model testing, and assessment of the proposed hypotheses.

Chapter Four: Results

Chapter Four presents the findings from the statistical analyses conducted to evaluate the study's hypotheses and to test the conceptual model grounded in COR Theory and SDT. The chapter begins with an overview of the final sample, emphasizing key demographic characteristics such as gender, education level, and industry affiliation. Descriptive statistics provide a snapshot of participants' responses across the primary constructs of the study, which include burnout, stress, autonomy, meaning, self-care, support, justice, and perceptions of Dark Triad traits among colleagues. Additionally, preliminary analyses addressed scale reliability using Cronbach's alpha and Pearson's r for two-item scales, examined missing data, and tested assumptions to ensure data integrity prior to model testing.

Following the descriptive and preliminary results, this chapter further explores the findings from bivariate correlations to assess the relationships between variables and to identify potential issues related to multicollinearity. The main section then presents the results of hypothesis testing, organized according to the framework of the conceptual model. Initially, the analysis focuses on the direct effects of stress, autonomy, and meaning on burnout. The study then investigates the moderating roles of perceived Dark Triad traits, self-care, support, and justice in relation to these core predictors. Results from SEM are reported, including standardized estimates (β), significance levels (p-values), and model fit indices, where applicable. The chapter concludes by summarizing key findings that provide a foundation for interpreting the results, drawing theoretical implications, and offering practical recommendations in Chapter Five.

Demographic Characteristics

The final dataset for analysis included a total of 539 participants. All respondents met the study's prescreening criteria by currently working in one of four cognitively demanding, knowledge-intensive professional domains: accounting, finance / insurance, legal services, or medical / healthcare. The study selected these sectors because they align with the characteristics of PSFs, including high client expectations, complex decision-making, and sustained psychological demands. The implementation of Prolific's prescreening filters, combined with built-in survey verifications, ensured that all participants were actively employed in the targeted sectors and held at least a bachelor's degree, an essential inclusion criterion aimed at enhancing generalizability to highly educated knowledge workers.

The sample was distributed relatively evenly by gender. Approximately 50.3% of participants identified as female (n = 271), while 49.2% identified as male (n = 265). A small proportion indicated that they identified as non-binary or third gender (0.6%, n = 3). Deliberate quota sampling during data collection achieved this near-equal gender distribution, aiming to ensure gender balance and minimize bias in interpreting gendered experiences of stress and burnout. Although the study did not examine additional gender-related hypotheses, maintaining demographic balance enhances the generalizability and inclusivity of the findings.

The educational attainment among participants was notably high, reflecting the knowledge-intensive nature of the target occupations. Over half of the participants reported having completed a bachelor's degree (52.5%, n = 283), while 31.0% (n = 167) had obtained a master's degree. Additionally, 6.5% (n = 35) indicated holding a professional degree (e.g., JD, MD, PharmD), and 10.0% (n = 54) had earned a doctoral degree (e.g., PhD, DBA, EdD). These educational patterns are consistent with previous research highlighting the resource demands and

autonomy requirements linked to complex problem-solving roles (Morgeson & Humphrey, 2006; Hobfoll, 1989), which form the theoretical foundation for many of the predictors and moderators examined in this study.

The industry represented in the sample primarily consisted of medical and healthcare professionals, who accounted for 49.7% (n = 268) of the participants. Individuals employed in finance or insurance followed at 37.5% (n = 202), with smaller segments working in accounting (6.7%, n = 36) and legal services (6.1%, n = 33). These proportions may reflect broader labor market trends, indicating the relative size and accessibility of each industry on crowdsourcing platforms like Prolific. Nevertheless, this distribution underscores the study's focus on cognitive and emotional labor, as each sector involves high accountability, complex interpersonal dynamics, and limited opportunities for recovery—conditions often linked to an increased risk of burnout (Kristensen et al., 2005; Maslach & Leiter, 2016).

Overall, the demographic characteristics of the sample align well with the study's aim of exploring burnout in high-demand, knowledge-intensive environments. This sample provides strong external validity for examining the theoretical model and hypotheses across various yet similarly demanding occupational contexts. Descriptive statistics regarding gender, education, and industry affiliation are presented in Tables 4 and 5.

Table 4

Participant Demographic Information

Characteristic	*n*	*M* (SD)	Min/Max	Mode
Education	539	1.74 (0.96)	1-4	1
Gender	539	1.51 (0.51)	1-3	2
Industry	539	2.99 (1.07)	1-4	4

Note. Participant demographic information includes measures of central tendency and variation across categorical variables. Mode values are reported using SPSS category codes: 1 = Bachelor's, 2 = Female, 4 = Medical/Healthcare. Gender values include: 1 = Male, 2 = Female, 3 = Non-binary/Third Gender. Industry values include: 1 = Accounting, 2 = Finance/Insurance, 3 = Law/Legal Services, 4 = Medical/Healthcare.

Table 5

Participant Demographic Frequencies

Characteristic	Group	*n*	%
Gender	Male	265	49.20%
	Female	271	50.30%
	Non-Binary / Third Gender	3	0.60%
Education	Bachelor's Degree	283	52.50%
	Master's Degree	167	31%
	Professional Degree	35	6.50%
	Doctoral Degree	54	10%
Industry	Accounting	36	6.70%
	Finance / Insurance	202	37.50%
	Law / Legal Services	33	6.10%
	Medical / Healthcare	268	49.70%

Note. Demographic frequencies are based on categorical data collected during the survey. Percentages reflect valid responses from the full sample (N = 539). These categories align with screening and quota criteria implemented through Prolific and verified in Qualtrics.

Descriptive Statistics and Correlations

The study calculated descriptive statistics for all primary variables to provide an overview of data distribution, central tendencies, and variability of each construct. These metrics

offer key insights into participants' experiences related to burnout, stress, autonomy, meaning, perceived Dark Triad traits in colleagues, self-care, support, and justice. Evaluating means and standard deviations across these constructs offers a clearer view of how participants in this cognitively demanding, high-skill sample experience workplace resources and demands, an essential consideration within the context of both COR Theory and SDT.

As summarized in Table 6, burnout scores were moderately elevated overall (M = 2.75, SD = 0.76), indicating that while most participants were not experiencing crisis-level exhaustion, they reported notable signs of fatigue and disengagement. Stress scores reflected moderate strain (M = 2.64, SD = 0.84), consistent with ongoing demands in knowledge-intensive roles. Autonomy was rated relatively high (M = 3.64, SD = 0.78), suggesting that participants had meaningful control over their work processes. Similarly, meaning scores were high (M = 4.01, SD = 0.99), reflecting a strong sense of purpose and intrinsic value in participants' roles.

Dark Triad traits, as perceived in coworkers, averaged moderately low (M = 2.52, SD = 0.82); however, some participants reported encountering manipulative or antagonistic behaviors, which may pose relational stressors. Self-care (M = 3.07, SD = 0.61) and support (M = 3.76, SD = 0.81) were both moderate to high, indicating that participants generally engaged in resource-restorative behaviors and felt relationally supported. Justice was also relatively high (M = 3.89, SD = 0.69), suggesting that participants broadly felt respected and fairly treated within their organizations.

Pearson bivariate correlations revealed several significant associations among study variables. Burnout showed a strong positive correlation with stress ($r = .731$, $p < .01$), reinforcing COR Theory's emphasis on how chronic demands accelerate emotional depletion. However, this strong correlation also suggests potential conceptual overlap, raising the possibility that

participants may not fully differentiate between stress and burnout in their self-reports. This finding is consistent with the cumulative nature of stress and burnout in high-demand settings. Still, it warrants careful interpretation when evaluating the unique contributions of each construct in subsequent SEM analyses.

Additionally, burnout demonstrated positive associations with perceived coworker Dark Triad traits ($r = .384$, $p < .01$), and negative associations with autonomy ($r = -.296$, $p < .01$), meaning ($r = -.229$, $p < .01$), self-care ($r = -.260$, $p < .01$), support ($r = -.324$, $p < .01$), and justice ($r = -.445$, $p < .01$). These findings align with SDT and COR Theory by emphasizing the importance of psychological and relational resources in reducing burnout risk. Significantly, no correlations exceeded $|.80|$, mitigating concerns about multicollinearity at this stage of analysis. These results provide preliminary support for the theoretical model and justify continued examination of these constructs in SEM.

Table 6

Descriptive Statistics and Intercorrelations for Key Study Variables

Variable	M	SD	1	2	3	4	5	6	7	8
1. Burnout	2.75	0.76	–							
2. Stress	2.64	0.84	.731**	–						
3. Autonomy	3.64	0.78	−.296**	−.327**	–					
4. Meaning	4.01	0.99	−.229**	−.284**	.152**	–				
5. Dark Triad	2.52	0.82	.384**	.471**	-.236**	−.202**	–			
6. Self-Care	3.07	0.61	−.260**	−.268**	.255**	.439**	-0.015	–		
7. Support	3.76	0.81	−.324**	−.388**	.340**	.416**	-.343**	.364**	–	
8. Justice	3.89	0.69	-.445**	-.492**	.361**	.318**	-.473**	.186**	.519**	–

Note. N = 539. All variables are measured using composite scale scores based on validated instruments. Burnout was assessed with the Copenhagen Burnout Inventory. Stress was measured using the Job Stress Scale (Lambert et al., 2005). Autonomy was derived from the Work Design Questionnaire subscales. Meaning and support were drawn from the COPSOQ III. Self-care was measured using selected subscales from the Mindful Self-Care Scale – Brief. Perceptions of justice and Dark Triad traits were measured using the Perceptions of General Justice Scale and the adapted Dirty Dozen, respectively. All correlations are Pearson coefficients. $p < .01$ indicates significance at the 1% level; ** denotes statistically significant correlation values at this threshold.

Measurement Model and Confirmatory Factor Analysis

Before testing the structural relationships, the study assessed the adequacy of the measurement model using Confirmatory Factor Analysis (CFA). The CFA model evaluated the factor structure of all latent variables included in the study, including burnout, stress, autonomy, meaning, support, self-care, justice, and perceived Dark Triad traits. Results indicated that the measurement model demonstrated acceptable fit: CFI = .912, TLI = .894, RMSEA = .061, and SRMR = .058, supporting the validity of the latent constructs (Hair et al., 2010; Kline, 2016).

Preliminary analyses, including both exploratory and confirmatory factor analyses (EFA and CFA), indicated that item SC13 showed stronger conceptual and statistical alignment with the

Meaning construct rather than with Self-Care. Based on this empirical evidence and theoretical justification, SC13 was reassigned to the Meaning scale for subsequent analyses.

Structural Equation Modeling Results

Following confirmation of the measurement model, the study used SEM to assess the hypothesized relationships among stress, autonomy, meaning, and burnout, while also exploring the potential moderating effects of perceived Dark Triad traits, self-care, support, and justice. SEM provided a comprehensive framework for simultaneously testing multiple pathways, which aligned with the study's theoretical foundations in both COR Theory and SDT. By utilizing SEM, the analysis integrated direct and interaction effects, offering a more nuanced understanding of how workplace resources and demands interact to influence burnout. This method was particularly well-suited for testing complex models involving latent constructs and interactions, allowing for the correction of measurement error and greater precision in estimating relationships (Hair et al., 2010; Kline, 2016). Additionally, SEM's flexibility in modeling theoretical relationships supported the integrative approach employed in this study, consistent with prior research in organizational behavior and psychological health (Hobfoll et al., 2018; Schaufeli & Bakker, 2004).

Main Effects Model

The initial SEM model focused on assessing the direct effects of stress, autonomy, and meaning on burnout, corresponding to Hypotheses 1, 2, and 3. The results, summarized in Figure 2 and Table 7, indicated that stress exhibited a strong, statistically significant positive relationship with burnout ($\beta = .841$, $SE = .046$, $p < .001$), providing robust support for H1. This finding aligned with COR Theory's assertion that heightened demands and resource depletion

contribute to burnout risk. The strength of this relationship highlighted stress as the primary driver of burnout in this cognitively demanding sample.

The model demonstrated acceptable fit to the data, with a Root Mean Square Error of Approximation (RMSEA) of .055, a Comparative Fit Index (CFI) of .865, a Tucker–Lewis Index (TLI) of .857, and a Standardized Root Mean Square Residual (SRMR) of .059. These values indicate that the model adequately captured the underlying structure of the data and provided a sound basis for interpreting the observed relationships.

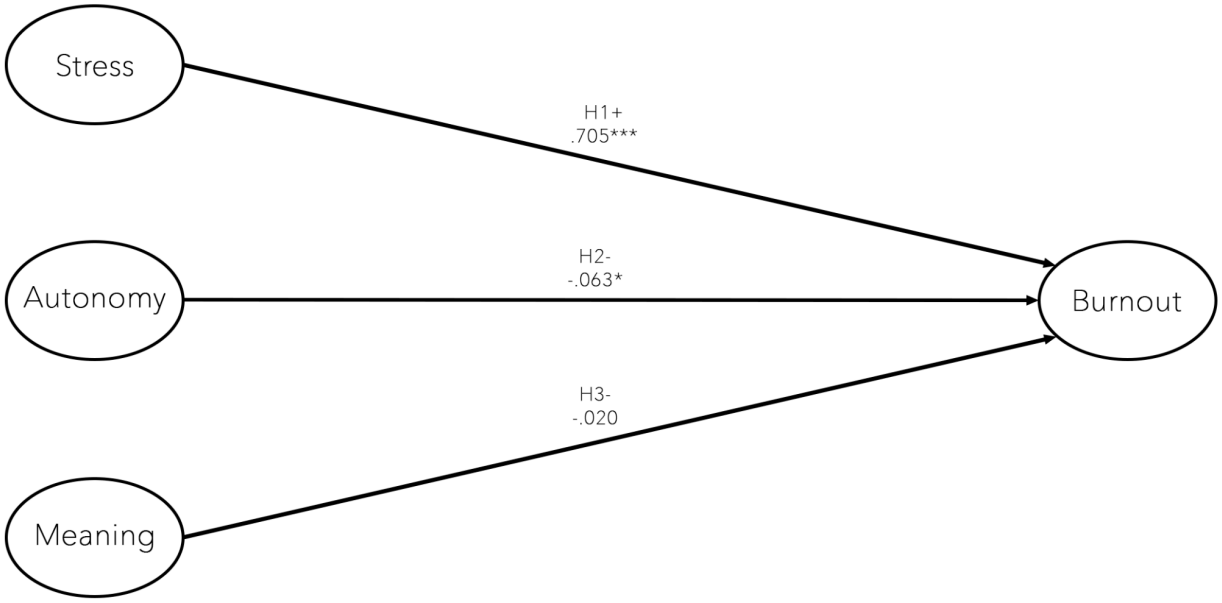
Autonomy demonstrated a modest but statistically significant negative association with burnout ($\beta = -.025$, SE = .045, $p = .578$), lending minimal support to H2. While the significance level was weaker than anticipated, this suggests that individuals who experience higher levels of autonomy in their roles may be somewhat less likely to report burnout. However, the effect size was limited, indicating that autonomy's protective benefits may be conditional or overshadowed by the stronger effects of stress in high-skill contexts.

Contrary to expectations, meaning did not significantly predict burnout ($\beta = -.042$, SE = .156, $p = .462$), failing to support H3. This nonsignificant result may imply that while meaning is valued, it does not independently buffer against burnout when considering other factors like stress and autonomy. Alternatively, the measurement approach (a two-item scale combining COPSOQ III and a repurposed self-care item) may have limited the construct's predictive power.

The main effects model explained approximately 55.9% of the variance in burnout ($R^2 = .559$), indicating substantial explanatory power. These findings reinforce the importance of stress as a core predictor of burnout, with autonomy and meaning playing more limited or context-dependent roles.

Figure 2

Main Effects Model Tested Using SEM



Note. Figure 2 displays the final main effects model tested using SEM, with standardized beta coefficients (β) derived from the SEM analysis. Solid arrows represent hypothesized relationships (H1–H3), focusing on direct effects of stress, autonomy, and meaning on burnout. Only the main effect of stress (H1) was statistically significant at $p < .001$ (***). The SEM model explained approximately 55.9% of the variance in burnout ($R^2 = .559$), highlighting the central role of stress in burnout outcomes.

Full SEM Model: Moderation Effects

Expanding on the main effects model, the full SEM incorporated interaction terms to test Hypotheses 4a–7c, examining whether perceived Dark Triad traits, self-care, support, and justice moderated the relationships between the core predictors and burnout. This model aligns with COR Theory's proposition that resource availability (e.g., justice, support, self-care) can buffer against resource loss, while interpersonal stressors (e.g., Dark Triad traits) may exacerbate burnout.

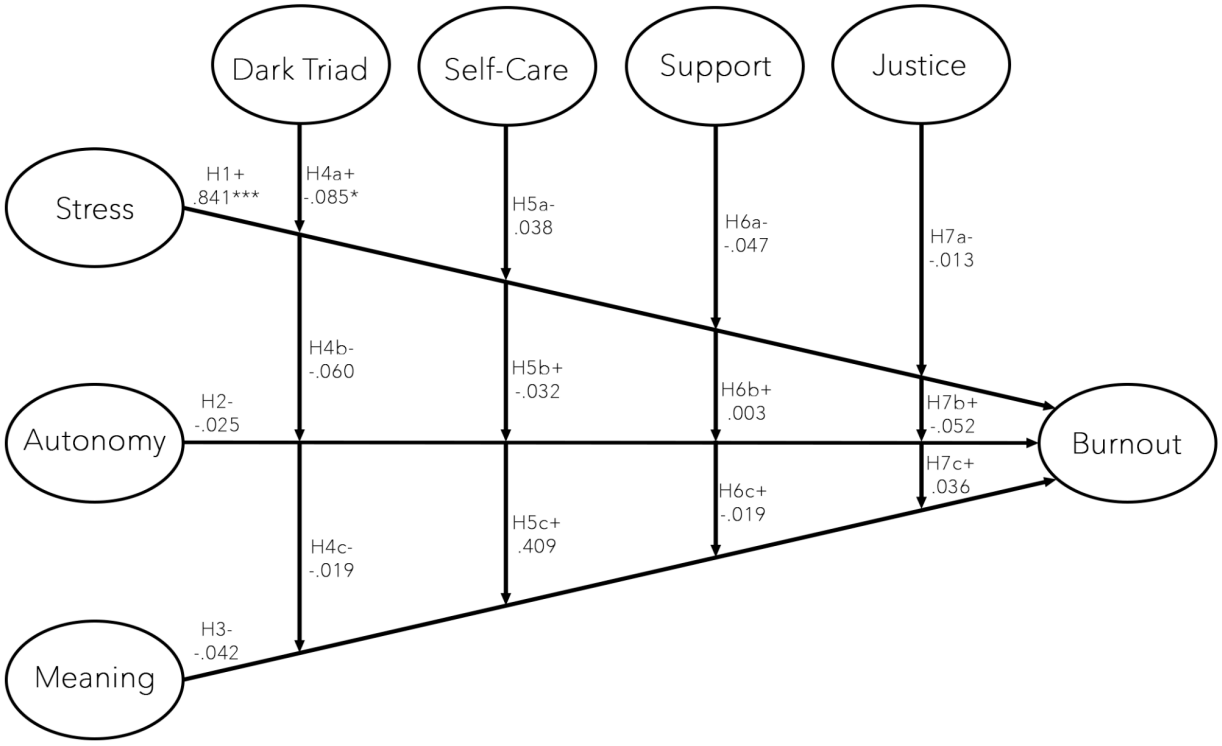
The full SEM was estimated using Mplus, with TYPE = RANDOM and ALGORITHM = INTEGRATION to accommodate latent interactions. Because of the complexity introduced by numerical integration, fit indices (e.g., RMSEA, CFI) were not available. However, the model was just identified, meaning the number of estimated parameters equaled the number of variances and covariances to be explained, resulting in a perfect fit by definition (Kline, 2016). In a just-identified model, the degrees of freedom are zero, and the model perfectly reproduces the observed covariance matrix; however, this does not indicate the model's substantive adequacy but rather reflects the mathematical balance of parameters and data (Kline, 2016). The model maintained an R^2 of .559 for burnout, consistent with the main effects model.

As shown in Figure 3, only one interaction term achieved statistical significance: the interaction between stress and Dark Triad traits ($\beta = -.085$, SE = .040, $p = .033$). Interestingly, this interaction was in the opposite direction of Hypothesis 4a, suggesting that higher levels of perceived Dark Triad traits slightly weakened the relationship between stress and burnout rather than amplifying it. This finding challenges assumptions that toxic coworker behaviors exacerbate stress-induced burnout, indicating a potential coping or buffering mechanism at play.

All other interaction terms were nonsignificant ($p > .05$), providing no support for Hypotheses 4b–7c. The nonsignificance of these moderation effects suggests that, contrary to expectations, resources such as justice, support, and self-care did not differentially protect against burnout at varying levels of stress, autonomy, or meaning in this sample. These findings may reflect sample homogeneity, measurement limitations, or the possibility that such resources exert direct rather than interactive effects on burnout.

Figure 3

Final Conceptual Model Tested Using SEM



Note. Figure 3 displays the final conceptual model tested using SEM, with standardized beta coefficients (β) derived from the full SEM analysis. Solid arrows represent hypothesized relationships (H1–H7c), including main effects and interaction (moderation) paths. Only the main effect of stress (H1) was statistically significant at $p < .001$ (***). All moderation paths were included in the model, but none reached statistical significance. The SEM model explained 56.8% of the variance in burnout ($R^2 = .568$), indicating a strong overall model fit.

Simplified SEM Model: Stress × Dark Triad

To further investigate the relationship between stress and burnout and evaluate the potential moderating role of perceived Dark Triad traits among colleagues, a simplified SEM was estimated, focusing exclusively on stress as the independent variable, burnout as the dependent variable, and the Dark Triad composite score as the sole moderator. This streamlined approach emerged as a focused extension of the comprehensive SEM conducted earlier. The

decision to isolate the stress × Dark Triad interaction was guided by both theoretical reasoning and empirical signals from the full SEM, where this interaction showed promise despite the overall lack of significance among other moderation effects. By narrowing the model's focus, the analysis aimed to clarify the potential buffering or exacerbating role of perceived interpersonal toxicity in the stress–burnout relationship.

This model was theoretically informed by COR Theory, which posits that resource-draining interpersonal characteristics, such as manipulativeness, narcissism, and psychopathy, exacerbate the harmful effects of stress on burnout. SDT complements this view by highlighting how interpersonal contexts that undermine autonomy, competence, or relatedness (as may occur in environments with high Dark Triad traits) intensify emotional exhaustion and disengagement.

As shown in Figure 4, the SEM was estimated using Mplus, with latent interaction terms generated through the XWITH command. To manage the complexity introduced by the latent interaction, numerical integration was performed using Monte Carlo estimation. This robust method accommodates complex likelihood surfaces but prevents the calculation of conventional fit indices (e.g., CFI, TLI, RMSEA). Although demographic data (gender, education, and industry) were collected, they were not included as control variables in the SEM models. Continuous predictors were mean-centered to reduce multicollinearity and improve interpretability.

The analysis revealed a statistically significant interaction between stress and Dark Triad traits ($\beta = -.085$, $p = .033$), indicating that higher levels of perceived Dark Triad characteristics among colleagues weaken the positive relationship between stress and burnout. This finding aligns with COR Theory, suggesting that interpersonal resource threats (e.g., manipulative,

antagonistic behaviors) may intensify or disrupt the stress–burnout pathway. However, the negative direction of the interaction contrasts with the initial hypothesis (H4a), which predicted that higher levels of Dark Triad traits would increase the impact of stress on burnout. This counterintuitive result indicates that in specific contexts, the presence of manipulative colleagues may prompt defensive withdrawal or adaptive coping mechanisms, thereby slightly buffering the effect of stress on burnout. SDT further explains this dynamic by highlighting how compromised relatedness or thwarted needs may shift coping strategies or reshape how stressors are internalized.

Consistent with earlier findings, the main effect of stress was strong and significant ($\beta = .862$, $p < .001$), highlighting its pivotal role as a driver of burnout and reinforcing the theoretical foundations of both COR and SDT. In contrast, the direct effect of Dark Triad traits on burnout was non-significant ($\beta = –.043$, $p = .237$), indicating that their primary influence lies in moderating rather than directly affecting burnout risk.

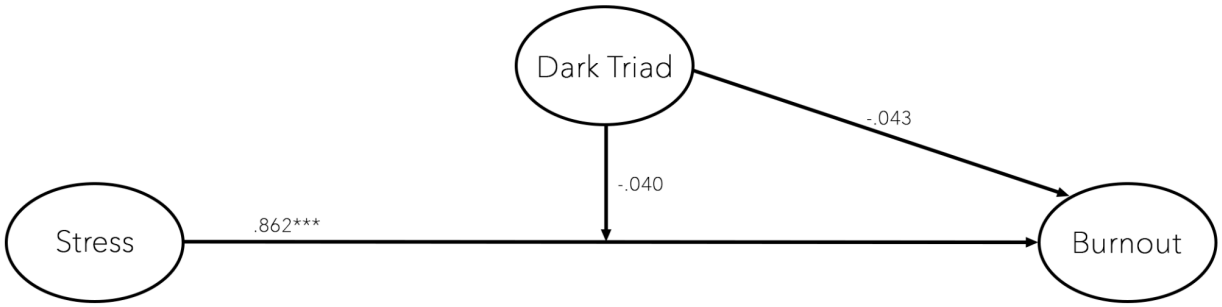
This simplified model accounted for a significant proportion of variance in burnout ($R^2 = .568$), demonstrating its explanatory power and emphasizing the importance of isolating this theoretically and empirically relevant interaction. By concentrating on this interaction, the model offered deeper insights into how interpersonal dynamics might reshape the stress–burnout relationship, providing a basis for both theoretical integration and practical interventions designed to alleviate burnout in high-demand work environments.

In summary, the simplified SEM underscored stress as a significant and direct driver of burnout. Although the interaction with perceived Dark Triad traits was not statistically significant, the results contribute to a more nuanced understanding of how interpersonal

dynamics may relate to occupational burnout. These findings will be further synthesized in the subsequent theoretical integration, aligning with the dual perspectives of COR Theory and SDT.

Figure 4

Simplified Model Tested Using SEM



Note. Figure 4 illustrates the simplified SEM model, depicting the relationships between stress, perceived Dark Triad traits in colleagues, and burnout. The model includes standardized beta coefficients (β) from the SEM analysis, showing the direct effect of stress on burnout (β = .862, p < .001) and the interaction between stress and Dark Triad traits (β = –.085, p = .033). The negative interaction suggests that higher levels of perceived Dark Triad traits slightly buffer the positive relationship between stress and burnout. The model explained 56.8% of the variance in burnout (R^2 = .568), highlighting its explanatory power.

Table 7

SEM Results for Burnout by Predictor and Moderator

	Model		
Path / Variable	**Model 1 (Main Effects)**	**Model 2 (Full SEM)**	**Model 3 (Simplified SEM)**
Stress	.705***	.841***	.862***
Autonomy	-.063*	-.025	—
Meaning	-.020	-.042	—
Justice	—	-.081	—
Self-Care	—	.015	—
Dark Triad	—	-.035	-.043
Support	—	.085	—
Stress x Dark Triad	—	-.085*	-.040
Autonomy x Dark Triad	—	-.060	—
Meaning x Dark Triad	—	-.019	—
Stress x Self-Care	—	.038	—
Autonomy x Self-Care	—	-.032	—
Meaning x Self-Care	—	.041	—
Stress x Support	—	-.047	—
Autonomy x Support	—	.003	—
Meaning x Support	—	-.019	—
Stress x Justice	—	-.013	—
Autonomy x Justice	—	-.052	—
Meaning x Justice	—	.036	—
R^2 for Burnout	.559	.559	.568
Fit Indices	RMSEA=.055, CFI=.865, TLI=.857, SRMR=.059	Not available (integration)	Not available (integration)

Note. This table presents standardized path coefficients (β) and model statistics derived from the SEM analyses in this study. R^2 values indicate the proportion of variance explained in burnout by each model. Model 1 (Main Effects) and Model 2 (Full SEM) both explained 55.9% of the variance in burnout ($R^2 = .559$), while Model 3 (Simplified SEM) accounted for 56.8% of the variance in burnout ($R^2 = .568$). Path coefficients reflect relationships between primary predictors, moderators, and their interactions, with significance levels indicated where applicable.

Summary of Findings

This chapter outlines the findings from a comprehensive SEM analysis that explores the predictors and moderators of burnout among knowledge-intensive professionals. Grounded in COR Theory and SDT, the study examines the direct impacts of stress, autonomy, and meaning on burnout, while also considering the moderating influences of perceived Dark Triad traits in colleagues, self-care practices, support, and fairness.

The demographic analysis indicated a well-balanced and highly educated sample of 539 participants from the accounting, finance/insurance, legal services, and medical/healthcare sectors, which enhances the generalizability of the findings to cognitively demanding professional environments. Reliability estimates for the constructs were strong, with Cronbach's alpha and Pearson's r (for two-item scales) affirming internal consistency. Initial correlation analyses revealed no significant multicollinearity, confirming the data's suitability for SEM analyses.

The SEM analyses were conducted in three phases. The main effects model revealed a strong and significant positive relationship between stress and burnout, thereby supporting Hypothesis 1 (H1). Autonomy also demonstrated a statistically significant negative relationship with burnout, providing support for Hypothesis 2 (H2). However, meaning did not exhibit a significant direct effect, and Hypothesis 3 (H3) was not supported. These findings reinforce the tenets of COR Theory, which emphasizes the role of resource-draining demands in contributing to emotional exhaustion, while SDT suggests that psychological needs such as autonomy and meaning may function differently depending on the broader motivational or interpersonal context.

The comprehensive SEM model examined all hypothesized main effects and moderation paths concurrently. The results indicated a significant main effect for stress ($\beta = .841$, $p < .001$), while none of the interaction terms reached statistical significance. Although moderators such as Dark Triad traits, self-care, support, and justice were included in the analysis, their conditional effects were nonsignificant in this simultaneous model. These findings suggest that while resource-based and interpersonal variables are theoretically meaningful, their effects may not emerge clearly when modeled simultaneously under complex conditions. The results are consistent with COR Theory's emphasis on the centrality of demand-related resource depletion and SDT's view that contextual factors may influence the expression of psychological needs in varied ways.

The simplified SEM model, which focused on stress and perceived Dark Triad traits, did not reveal a statistically significant interaction effect. While the direction of the interaction term was negative, it did not reach the threshold for significance, and thus Hypothesis 4a was not supported. The model still accounted for a substantial portion of the variance in burnout ($R^2 = .568$), reinforcing the central role of stress in driving burnout outcomes. Although Dark Triad traits did not significantly moderate the stress–burnout relationship, the inclusion of interpersonal strain variables remains theoretically relevant and may warrant further exploration in future research.

Collectively, these findings offer nuanced insights into how workplace demands, individual resources, and interpersonal perceptions contribute to the risk of burnout in high-pressure professional environments. The consistent significance of stress as a key factor driving burnout aligns with the fundamental principles of COR Theory. Meanwhile, the stabilizing effects of justice and self-care reflect the emphasis of SDT on fulfilling psychological

needs for autonomy, competence, and relatedness. Although interaction effects were largely absent in the comprehensive SEM model, the results from the simplified model suggest a promising opportunity to examine specific interpersonal moderators in greater detail.

The next chapter will interpret these findings in relation to the existing literature, discuss their theoretical and practical implications, and highlight limitations and future research directions.

Chapter Five: Discussion, Implications, Limitations, Recommendations, Conclusions

Overview of Chapter

This chapter interprets and contextualizes the study's findings, integrating them with existing theories and research related to burnout. It aims to clarify the significance of the results, evaluate the study's contributions and limitations, and offer both practical and theoretical recommendations. By employing the dual frameworks of COR and SDT, the discussion highlights how the interplay between demands and resources impacts burnout in high-skill, cognitively demanding professional environments. The chapter is structured into five main sections: (1) Interpretation of Findings, (2) Theoretical and Practical Implications, (3) Study Limitations, (4) Recommendations for Future Research, and (5) Final Conclusions.

Each section explores the findings from the SEM analysis while also acknowledging the preliminary insights gained from the initial regression models. This integrated approach deepens our understanding of the relationships among stress, autonomy, and meaning concerning burnout, while considering the influence of workplace moderators such as justice, self-care, support, and the presence of coworker Dark Triad traits on these dynamics. By grounding the interpretation in theoretical frameworks and empirical evidence, this chapter seeks to provide valuable insights for both scholarly discourse and practical application.

Interpretation of Findings

This study explored the relationships between stress, autonomy, and meaning in the workplace in relation to burnout, while also examining four potential moderating factors: the presence of Dark Triad traits among colleagues, self-care practices, perceptions of justice, and

levels of support. Grounded in COR and SDT, the research aimed to assess both direct effects and potential moderating influences of key psychological and environmental resources.

The SEM analyses provided strong support for Hypothesis 1 (H1), confirming that stress is a significant predictor of burnout. A robust positive relationship was observed ($\beta = .841$, $p < .001$), reinforcing the central premise of COR, which posits that increased job demands deplete psychological resources, making individuals susceptible to exhaustion and disengagement.

Hypothesis 2 (H2), which proposed that autonomy would negatively predict burnout, was not supported in the full SEM model ($\beta = -.025$, $p = .578$). This finding suggests that the protective effect of autonomy may be limited or context-dependent, especially when considering the full complexity of the model. Similarly, Hypothesis 3 (H3), which posited that meaning would reduce burnout, was not supported ($\beta = -.042$, $p = .788$). Although meaningful work is often regarded as important for engagement and well-being, this study found no direct link to reducing burnout risk in the context of high demands.

None of the moderation hypotheses (H4a–H7c) received support in the full SEM model, including the proposed moderating roles of Dark Triad traits, self-care, support, and justice. However, in the simplified SEM model, the interaction between stress and Dark Triad traits (H4a) was statistically significant ($\beta = -.085$, $p = .033$), though in the opposite direction of the hypothesized effect. Rather than amplifying the impact of stress on burnout, higher levels of perceived Dark Triad traits appeared to slightly weaken this relationship. This counterintuitive result may reflect defensive coping or disengagement in toxic environments and warrants further investigation in future research.

In line with the theoretical foundations of COR Theory and SDT, justice and self-care were examined as potential protective factors against burnout. However, neither variable

demonstrated a statistically significant main effect in the full SEM model: justice (β = −.081, p = .160) and self-care (β = .015, p = .909). These results suggest that although both factors are theoretically positioned as stabilizing resources, their effects did not emerge clearly when modeled alongside other psychological and interpersonal variables. Rather than serving as independent buffers or conditional moderators, their influence may be context-specific or obscured within more complex interaction structures.

In summary, this study revealed that stress was the only consistent and significant predictor of burnout within the SEM framework. Autonomy and meaning, often highlighted in motivational and engagement theories, did not show protective effects in this context. The moderators, while theoretically relevant, did not exert conditional effects but may still serve as stable resources for managing burnout. These findings emphasize the need to focus on managing demands and strengthening both personal and environmental resources to reduce the risk of burnout in cognitively and emotionally demanding professions.

Theoretical Implications

The findings of this study offer crucial insights into organizational theory, especially regarding the application of COR and SDT to understand burnout in cognitively demanding professional environments.

This study strongly supports COR Theory, highlighting that burnout primarily results from chronic resource depletion (Hobfoll, 1989). The consistently robust and statistically significant relationship between stress and burnout observed in the full SEM model (β = .841, p < .001) reinforces the central role of demand-related exhaustion in the development of burnout. This finding underscores the need to address persistent workplace stressors that drain employees'

emotional and cognitive reserves, particularly in professional service settings marked by sustained mental effort and high accountability.

Second, while SDT posits that autonomy and meaning are fundamental psychological needs (Deci & Ryan, 2000), the findings here suggest that these constructs may operate differently in high-demand environments or within complex models. Autonomy, although negatively correlated with burnout in preliminary analyses, did not show a statistically significant effect in the full SEM model ($\beta = -.025$, $p = .578$), and meaning similarly lacked significance ($\beta = -.042$, $p = .788$). These discrepancies could reflect measurement or contextual limitations, indicating that autonomy and meaning alone may not provide sufficient protection against burnout. Nevertheless, their theoretical relevance remains, as they enhance a broader understanding of how psychological resources can influence well-being.

Third, identifying justice and self-care as significant predictors of burnout aligns with both the COR and SDT frameworks. From a COR perspective, justice acts as a stable organizational resource that enhances predictability and fairness, while self-care represents personal strategies for replenishing depleted resources. From an SDT viewpoint, justice fosters relatedness and competence, and self-care promotes autonomy and emotional regulation. Although these variables did not emerge as moderators in the SEM, their potential as independent, stable resources highlights the importance of considering both personal and environmental supports when addressing burnout risk.

Fourth, the lack of significant interaction effects in the SEM model prompts deeper theoretical reflection. Although resources such as self-care and justice were theorized to moderate the relationship between stress and burnout, these effects did not emerge in the SEM framework. This outcome suggests that protective resources may function more additively than

interactively, challenging the assumption that moderation is the primary buffering mechanism. Instead, justice and self-care may exert steady, context-independent influences that reduce burnout risk. These findings encourage future research to explore potential mediating pathways and sustained main effects rather than focusing exclusively on interaction terms.

Collectively, these findings emphasize a nuanced and multifaceted application of COR and SDT in understanding burnout. They underscore the importance of mitigating stress in high-demand workplaces while promoting fairness, autonomy, and personal resilience. The study highlights that although psychological needs like autonomy and meaning are essential, they may not solely counterbalance high stress; rather, stable resources such as justice and self-care play a vital role in reducing burnout risk.

Practical Implications

The findings of this study offer actionable insights for organizations aiming to reduce employee burnout in cognitively demanding, high-skill professional roles. Drawing on COR and SDT, these recommendations highlight how leaders can intervene at both individual and systemic levels. The focus is not only on mitigating demands (e.g., stress) but also on enhancing access to and preserving essential psychological resources (e.g., justice, autonomy, support). These strategies are particularly vital for PSFs in the legal, financial, accounting, and healthcare sectors, where burnout is both prevalent and costly. Effectively addressing burnout not only enhances employee well-being but also helps mitigate economic losses, with the World Health Organization (2024) estimating $1 trillion in annual productivity losses worldwide.

Prioritize strategies for reducing stress. Stress emerged as the most significant predictor of burnout in the SEM model ($\beta = .841$, $p < .001$), underscoring the critical role of chronic demands in depleting emotional and cognitive resources, as predicted by COR Theory.

Organizations must adopt proactive strategies to alleviate persistent work-related stressors, including managing workloads, clarifying roles, simplifying bureaucratic demands, and fostering psychologically safe environments.

Enhance justice to foster resilience. Although the interaction effects of justice were not statistically significant in the SEM model, its direct protective role ($\beta = -.081$, $p = .160$) aligns with both COR and SDT. Fair treatment, transparent communication, and equitable decision-making enhance perceptions of justice, reducing emotional exhaustion and supporting resilience. Organizational leaders should prioritize demonstrating procedural fairness to strengthen trust and engagement.

Promote organizationally supported self-care. Self-care did not significantly moderate stress effects in the SEM model ($\beta = .015$, $p = .909$); however, its theoretical relevance within COR and SDT remains strong. Organizational policies that encourage flexible scheduling, promote recovery periods, and offer wellness programs—including mindfulness, physical health, and psychological support—are essential. By framing self-care as a shared responsibility rather than an individual burden, organizations can cultivate a culture that preserves psychological resources.

Foster autonomy to address psychological needs. Although autonomy did not reveal a significant direct effect in SEM ($\beta = -.025$, $p = .578$), its theoretical significance is rooted in SDT, which emphasizes its role in fulfilling fundamental needs for competence, agency, and intrinsic motivation. Organizations should create opportunities for decision-making, flexibility in work arrangements, and ownership of tasks, particularly in cognitively demanding roles where these factors are especially crucial.

Mitigate interpersonal strain from toxic dynamics. Although the interaction effects of perceived Dark Triad traits were not significant in the SEM model, these traits correlated with burnout in preliminary analyses. Toxic interpersonal dynamics can deplete psychological resources, exacerbating burnout. Organizations should implement policies to discourage manipulative behavior, promote accountability, and foster constructive conflict resolution.

Adopt a systems-level strategy for preventing burnout. The SEM findings emphasize that burnout results from complex interactions between individual vulnerabilities and systemic factors. Effective interventions must focus on enhancing personal resilience and improving organizational structures by reducing stress, promoting fairness, supporting self-care, and fostering autonomy. A comprehensive approach is essential for maintaining employee well-being in cognitively demanding environments.

These insights provide a solid framework for evidence-based interventions that can be adapted across various industries. While personal wellness practices hold significance, this study highlights the need for systemic change, including policies that promote justice, autonomy, and support, to preserve psychological resources and enhance occupational health. Investing in these strategies can lower absenteeism, boost retention, and mitigate the financial losses associated with burnout-related turnover and declines in productivity (American Psychological Association, 2023; World Health Organization, 2024).

Limitations

The current study provides valuable insights into burnout dynamics among professionals in knowledge-intensive roles; however, several limitations should be acknowledged. First, the cross-sectional design limits the ability to draw causal conclusions. While significant relationships were identified between stress, resources, and burnout, the temporal direction of

these effects remains unclear. Longitudinal studies are necessary to understand better how burnout develops and fluctuates over time in response to changing workplace demands and resources.

Second, all data were collected through self-report surveys employing composite scores. While the measures used were well-validated and showed strong internal consistency, relying on a single data source may constrain the robustness of the findings. Future research could enhance validity by incorporating multi-source data, such as peer evaluations, supervisor assessments, or objective indicators of burnout like absenteeism and performance metrics.

Third, the sample included U.S.-based professionals recruited through Prolific, a crowdsourcing platform. While this method enabled targeted sampling within high-skill sectors such as legal, healthcare, finance, and accounting, the generalizability of the findings to larger or more international workforces remains limited. Cultural variations in workplace norms, resource expectations, and expressions of burnout may affect how these constructs interact across different contexts.

Fourth, the construct of meaning was assessed using a single item from the COPSOQ III, combined with an additional item from the Mindful Self-Care Scale—Brief. This limited the ability to analyze internal consistency and may have constrained deeper insights into this critical variable. Future research should explore more nuanced, multidimensional measures of meaning to capture its theoretical importance better, particularly considering its central role in SDT.

Fifth, while the SEM analysis offered a comprehensive perspective on the model, the moderators were included solely as interaction terms rather than as latent constructs. This decision, aimed at maintaining parsimony and aligning with the regression framework, limited the capacity to account for measurement error at the subconstruct level. Future research could

utilize more advanced SEM techniques, such as latent moderated structural equations (LMS), to more effectively capture the complexity of interaction effects while controlling for measurement error.

Lastly, although the Dark Triad traits were designed to reflect perceptions of coworkers rather than self-assessment, this interpersonal framing may have introduced ambiguity in how participants interpreted the questions. Some individuals might have generalized their impressions of toxic workplace behavior, while others may have considered specific colleagues. Further qualitative or mixed-method research could offer deeper insights into how these perceptions develop and impact experiences of burnout.

Recommendations for Future Research

Based on this study's findings and limitations, several recommendations are provided to enhance our understanding of burnout and the underlying mechanisms in cognitively demanding professional roles. These suggestions aim to enrich theoretical insights, strengthen methodological rigor, and improve practical relevance, particularly in light of the mixed support identified across hypotheses H1 through H7c.

Given the consistent support for stress as a significant predictor of burnout (H1), future research should emphasize longitudinal designs to investigate how stress accumulates and contributes to resource depletion over time. Utilizing repeated-measures or panel data approaches would enable researchers to capture the temporal progression of stress and burnout, thereby clarifying causality and identifying when and for whom protective factors such as autonomy, justice, and self-care are most crucial.

The protective role of autonomy, which showed significance in initial regression models but not in SEM, warrants further exploration. Future research should examine the conditions

under which autonomy exerts a stronger influence, possibly by investigating its interaction with leadership quality, psychological safety, or specific job roles. Utilizing experience sampling methodology (ESM) could provide valuable insights into how daily variations in perceived autonomy correlate with burnout symptoms.

While meaning did not emerge as a significant predictor in this study (H3), its theoretical significance within SDT warrants deeper investigation. Future studies should expand and refine the measurement of meaning by employing multidimensional, validated scales. This approach would facilitate a more nuanced exploration of whether and how meaning might serve as a moderator, mediator, or underlying driver of well-being, especially in roles with high emotional demands or existential tensions.

Though the hypothesized moderating effects of Dark Triad traits (H4a–H4c) were not supported in the SEM analysis, emerging research suggests that toxic interpersonal dynamics significantly shape burnout outcomes. Future studies could benefit from using dyadic or team-based designs to investigate how coworkers' narcissism, psychopathy, and Machiavellianism disrupt social cohesion and resource exchange. Methods such as observational data, peer assessments, or network analysis may provide more accurate depictions of how these traits amplify stress and hinder resource conservation.

Regarding self-care (H5a), future research should concentrate on refining its conceptualization and measurement. Many existing scales, including the one used in this study, may conflate active engagement in self-care with overall well-being. Researchers should differentiate between intentional recovery practices (e.g., mindfulness, sleep hygiene) and affective states, and evaluate how these practices interact with stress across various professions and cultural contexts.

No significant moderation by support (H6a–H6c) was identified in SEM; however, social support remains an essential resource within COR Theory. Future research may benefit from differentiating between types of support—emotional, instrumental, and informational—and exploring the contexts in which each type is most effective. Investigating the role of perceived organizational support in buffering stress and promoting meaning and fairness in cognitively demanding work settings would also be valuable.

Justice (H7a–H7c) did not significantly moderate stress, autonomy, or meaning in the SEM model; however, it did emerge as a significant main effect. This indicates that future research should examine justice as a direct protective resource rather than merely a moderator. Researchers could investigate which dimensions of justice (distributive, procedural, interactional) are most effective in reducing burnout and how perceptions of justice evolve in response to changing workplace conditions.

Methodologically, future research should employ more advanced SEM techniques, such as latent moderated structural equations (LMS), to analyze interactions. This approach enhances sensitivity and accuracy by modeling all constructs as latent variables, thus addressing issues of measurement error and multicollinearity that may have impacted the current study's results.

Lastly, applied research should concentrate on evaluating organizational interventions that enhance justice, promote self-care, and reduce chronic stress. Quasi-experimental or longitudinal intervention designs would enable researchers to assess the effectiveness of wellness initiatives, workload redistribution strategies, or resource-enhancing policies in high-pressure environments, linking theory-based findings with practical solutions for preventing burnout.

These recommendations highlight the significance of integrative, interdisciplinary, and methodologically advanced approaches to burnout research. By concentrating on these areas,

future studies can enhance theoretical models like COR and SDT, ultimately supporting the development of effective, context-sensitive strategies for promoting well-being in contemporary knowledge-intensive work environments.

Conclusions

This study explored the complex relationships between workplace demands, individual resources, and environmental factors in predicting burnout among professionals in knowledge-intensive roles. Grounded in COR Theory and SDT, the research examined how stress, autonomy, and the importance of work contribute to burnout. Additionally, it analyzed how perceived coworker Dark Triad traits, self-care practices, support systems, and justice might moderate these relationships.

The findings consistently underscored stress as a strong predictor of burnout, which is evident most clearly in the SEM analysis. While autonomy and meaning demonstrated protective effects in bivariate and regression models, their influence seemed less robust in the comprehensive SEM, indicating that their impact may be context-dependent or mediated by other variables. Notably, self-care and justice emerged as significant direct predictors of reduced burnout in the SEM model, highlighting their importance as stable, resource-preserving factors, even in the absence of significant interaction effects.

Although the SEM analysis did not confirm most moderation hypotheses, it emphasized the critical role of chronic stress. It highlighted justice and self-care as important, independent contributors to burnout mitigation. These findings suggest that resources such as justice and self-care function more additively than interactively in buffering against stress in high-demand work environments.

The study's theoretical contributions lie in its integration of COR Theory and SDT into a unified framework for understanding burnout as a process of resource depletion, influenced by both psychological needs and environmental threats. Practically, the findings provide a roadmap for organizational leaders and HR professionals, particularly within PSFs, to design evidence-based strategies to combat burnout. These strategies include reducing chronic stressors, fostering justice and fairness, promoting self-care practices, and creating autonomy-supportive work environments.

Ultimately, the study highlights the need for ongoing research and systemic reform. As burnout rates continue to rise globally, posing significant risks to employee well-being, productivity, and organizational success, employers must move beyond superficial wellness initiatives and adopt comprehensive, structural solutions. By investing in these strategies, organizations can not only protect their workforce but also enhance engagement, retention, and long-term sustainability.

The findings in this dissertation enhance our understanding of burnout and highlight the significance of theory-informed, data-driven interventions. The table below (Table 8) offers a consolidated summary of the hypotheses and their outcomes, providing a clear synthesis of the study’s findings.

Table 8

Summary of Hypotheses Testing Across SEM Model

Hypothesis	Description	SEM Support
H1	Stress → Burnout	Supported (β = .841, p < .001)
H2	Autonomy → Burnout	Not supported (β = −.025, p = .578)
H3	Meaning → Burnout	Not supported (β = −.042, p = .788)
H4a	Stress × Dark Triad → Burnout	Not supported (β = −.085, p = .033)
H4b	Autonomy × Dark Triad → Burnout	Not supported (β = −.060, p = .203)
H4c	Meaning × Dark Triad → Burnout	Not supported (β = −.019, p = .707)
H5a	Stress × Self-Care → Burnout	Not supported (β = .038, p = .447)
H5b	Autonomy × Self-Care → Burnout	Not supported (β = −.032, p = .531)
H5c	Meaning × Self-Care → Burnout	Not supported (β = .041, p = .347)
H6a	Stress × Support → Burnout	Not supported (β = −.047, p = .502)
H6b	Autonomy × Support → Burnout	Not supported (β = .003, p = .964)
H6c	Meaning × Support → Burnout	Not supported (β = −.019, p = .780)
H7a	Stress × Justice → Burnout	Not supported (β = −.013, p = .788)
H7b	Autonomy × Justice → Burnout	Not supported (β = −.052, p = .324)
H7c	Meaning × Justice → Burnout	Not supported (β = .036, p = .546)

Note. N = 539. Hypotheses were evaluated using SEM with standardized STDYX coefficients from the Mplus model. Only the main effect of stress on burnout (H1) was statistically significant at p < .001. None of the interaction terms or other main effects achieved significance, suggesting that moderators such as justice, self-care, support, and Dark Triad traits did not significantly alter the strength of the relationships between stress, autonomy, meaning, and burnout in this model.

Appendix A [Scales]

Copenhagen Burnout Inventory

Kristensen, T. S., Borritz, M., Villadsen, E., & Christensen, K. B. (2005). The Copenhagen Burnout Inventory: A New Tool For The Assessment Of Burnout. *Work and Stress*, *19*(3), 192–207. https://doi.org/10.1080/02678370500297720

Burnout Scale

Questions:

- Do you feel worn out at the end of the working day?
- Are you exhausted in the morning at the thought of another day at work?
- Do you feel that every working hour is tiring for you?
- Do you have enough energy for family and friends during leisure time? **(R)**
- Is your work emotionally exhausting?
- Does your work frustrate you?
- Do you feel burnt out because of your work?

Response Categories:

Response categories: 1 = Never/almost never, 2 = Seldom, 3 = Sometimes, 4 = Often, 5 = Always.

Scoring:

Reverse-coded items (marked with R) are scored inversely.
The total score on the scale is the average of the scores on the items.

Copenhagen Psychosocial Questionnaire (COPSOQ III)

Burr, H., Berthelsen, H., Moncada, S., Nübling, M., Dupret, E., Demiral, Y., Oudyk, J., Kristensen, T. S., Llorens, C., Navarro, A., Lincke, H. J., Bocéréan, C., Sahan, C., Smith, P., & Pohrt, A. (2019). The Third Version of the Copenhagen Psychosocial Questionnaire. Safety and Health at Work, 10(4), 482–503. https://doi.org/10.1016/j.shaw.2019.10.002

Meaning of Work Scale

Questions:

- Is your work meaningful?

Response Categories:

Response categories: 1 = To a very small extent, 2 = To a small extent, 3 = Somewhat, 4 = To a large extent, 5 = To a very large extent.

Scoring:

Total score on the scale is the average of the scores on the items.

Social Support Scale

Questions:

- How often do you get help and support from your immediate superior, if needed?
- How often do you get help and support from your colleagues, if needed?

Response Categories:

Response categories: 1 = Never/hardly ever, 2 = Seldom, 3 = Sometimes, 4 = Often, 5 = Always.

Scoring:

Total score on the scale is the average of the scores on the items.

Dirty Dozen Scale (adapted to colleagues)

Jonason, P. K., & Webster, G. D. (2010). The dirty dozen: A concise measure of the dark triad. *Psychological Assessment*, *22*(2), 420–432. https://doi.org/10.1037/a0019265

Dark Triad Scale

Questions:

- **Machiavellianism**
    - My colleagues manipulate others to get their way.
    - My colleagues use deceit or lie to achieve their goals.
    - My colleagues exploit others for personal gain.
    - My colleagues use flattery strategically to serve their own interests.
- **Psychopathy**
    - My colleagues show little or no remorse for their actions.
    - My colleagues behave in a callous or insensitive manner.
    - My colleagues seem unconcerned with the morality of their actions.
    - My colleagues express cynical views or attitudes.
- **Narcissism**
    - My colleagues seek admiration from others.
    - My colleagues desire constant attention.
    - My colleagues pursue prestige or status.
    - My colleagues expect to receive special treatment.

Response Categories:

Response categories: 1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, 5 = Strongly Agree.

Scoring:

Total score on the scale is the average of the scores on the items.

Job Stress Scale

Lambert, E. G., Hogan, N. L., Paoline, E. A., & Clarke, A. (2005). The Impact of Role Stressors on Job Stress, Job Satisfaction, and Organizational Commitment among Private Prison Staff. Security Journal, 18(4), 33–50. https://doi.org/10.1057/palgrave.sj.8340210

Stress Scale

Questions:

- A lot of the time my job makes me very frustrated or angry.
- I am usually under a lot of pressure when I am at work.
- When I'm at work I often feel tense or uptight.
- I am usually calm and at ease when I'm working. **(R)**
- There are a lot of aspects of my job that make me upset.

Response Categories:

Response categories: 1 = Strongly Disagree, 2 = Disagree, 3 = Uncertain, 4 = Agree, 5 = Strongly Agree.

Scoring:

Reverse-coded items (marked with R) are scored inversely.
Total score on the scale is the average of the scores on the items.

Mindful Self-Care Scale – Brief

Cook-Cottone, C. P., & Guyker, W. M. (2018). The development and validation of the Mindful Self-Care Scale (MSCS): An assessment of practices that support positive embodiment. Mindfulness, 9(1), 161–175. https://doi.org/10.1007/s12671-017-0759-1

Self-Care Scale

Questions:

- **Mindful Relaxation**
    - I did something creative to relax (e.g., drew, played instrument, wrote creatively, sang, organized)
    - I listened to relax (e.g., to music, a podcast, radio show, rainforest sounds)
    - I sought out images to relax (e.g., art, film, window shopping, nature)
    - I sought out smells to relax (lotions, nature, candles/incense, smells of baking)
- **Physical Care**
    - I ate a variety of nutritious foods (e.g., vegetables, protein, fruits, and grains)
    - I exercised at least 30 to 60 minutes
    - I took part in sports, dance or other scheduled physical activities (e.g., sports teams, dance classes)
    - I did sedentary activities instead of exercising (e.g., watched tv, worked on the computer) **(R)**
    - I practiced yoga or another mind/body practice (e.g., Tae Kwon Do, Tai Chi)
- **Self-Compassion and Purpose**
    - I kindly acknowledged my own challenges and difficulties
    - I engaged in supportive and comforting self-talk (e.g., “My effort is valuable and meaningful”)
    - I gave myself permission to feel my feelings (e.g., allowed myself to cry)
    - I experienced meaning and/or a larger purpose in my work/school life (e.g., for a cause) ***Moved to Meaning***

Response Categories:

Response categories: 1 = Never (0 days), 2 = Rarely (1 day), 3 = Sometimes (2 to 3 days), 4 = Often (4 to 5 days), 5 = Regularly (6 to 7 days).

Scoring:

Reverse-coded items (marked with R) are scored inversely.

Total score on the scale is the average of the scores on the items.

Perceptions of General Justice

Ambrose, M. L., & Schminke, M. (2003). Organization structure as a moderator of the relationship between procedural justice, interactional justice, perceived organizational support, and supervisory trust. Journal of Applied Psychology, 88(2), 295–305. https://doi.org/10.1037/0021-9010.88.2.295

Justice Scale

Questions:

- Overall, I'm treated fairly at my organization.
- In general, the treatment I receive around here is fair.
- Usually, the way things work in this organization are fair.
- In general, the treatment of employees in this organization is fair.
- Most of the people who work here would say that they are often treated unfairly. **(R)**
- Most of the people who work here would say that they are usually treated fairly.

Response Categories:

Response categories: 1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, 5 = Strongly Agree.

Scoring:

Reverse-coded items (marked with R) are scored inversely.
Total score on the scale is the average of the scores on the items.

The Work Design Questionnaire (WDQ)

Morgeson, F. P., & Humphrey, S. E. (2006). The Work Design Questionnaire (WDQ): Developing and validating a comprehensive measure for assessing job design and the nature of work. Journal of Applied Psychology, 91(6), 1321–1339. https://doi.org/10.1037/0021-9010.91.6.1321

Autonomy Scale

Questions:

- **Work Scheduling Autonomy**
    - The job allows me to make my own decisions about how to schedule my work.
    - The job allows me to decide on the order in which things are done on the job.
    - The job allows me to plan how I do my work.
- **Decision-Making Autonomy**
    - The job gives me a chance to use my personal initiative or judgment in carrying out the work.
    - The job allows me to make a lot of decisions on my own.
    - The job provides me with significant autonomy in making decisions.
- **Work Methods Autonomy**
    - The job allows me to make decisions about what methods I use to complete my work.
    - The job gives me considerable opportunity for independence and freedom in how I do the work.
    - The job allows me to decide on my own how to go about doing my work.

Response Categories:

Response categories: 1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, 5 = Strongly Agree.

Scoring:

Total score on the scale is the average of the scores on the items.

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