HEC MONTRÉAL
École affiliée à l'Université de Montréal

Work Addiction as a Resource Threat Among Healthcare and Social Services Workers

par
Francis Maisonneuve

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Cette thèse intitulée :

La dépendance au travail comme menace aux ressources des travailleuses et travailleurs de la santé et des services sociaux

Présentée par :

Francis Maisonneuve

a été évaluée par un jury composé des personnes suivantes :

Michel Cossette
HEC Montréal
Président rapporteur

Denis Chênevert
HEC Montréal
Directeur de recherche

Sylvie Guerrero
ESG UQAM
Membre du jury

Paola Spagnoli
University of Campania Luigi Vanvitelli
Examinatrice externe

Jean-François Harvey
HEC Montréal
Représentant du directeur de HEC Montréal

Résumé

La dépendance au travail est une dépendance comportementale qui se produit sans consommation de substances psychoactives. Plusieurs équipes de recherche dans des domaines variés (comportement organisationnel, gestion des ressources humaines, psychologie) ont investi du temps et des efforts pour la définir et la mesurer. Malgré ces efforts, de nombreuses questions subsistent, notamment en ce qui concerne ses antécédents et ses conséquences au niveau des individus, des équipes et des organisations. En outre, malgré les nombreuses recherches menées dans le domaine des soins de santé et des services sociaux, les personnes travaillant dans ce secteur vital sont sous-représentées dans la littérature sur la dépendance au travail. En s'appuyant sur la théorie de la conservation des ressources, cette thèse vise à contribuer en générant des connaissances qui éclairent à la fois la théorie et la pratique.

Dans le premier chapitre, nous étudions les effets bénéfiques de la reconnaissance des patients chez les médecins et autres soignants, ainsi que la manière dont elle affecte l'épuisement émotionnel, et puis l'intention de quitter la profession. La dépendance au travail est introduite comme une condition limite délétère qui atténue la force des relations testées. L'originalité de ce chapitre réside dans son modèle théorique et son approche à deux études pour comparer comment différentes populations du même secteur réagissent à l'interaction entre la reconnaissance des patients et la dépendance au travail.

Dans le second chapitre, nous étudions un levier organisationnel, le climat éthique, et sa relation avec la dépendance au travail. La dépendance au travail agit comme un médiateur entre le climat éthique et deux résultats pertinents dans les soins de santé et les services sociaux : l'intention de quitter la profession et la qualité perçue des soins. En outre, sur la base de la théorie de l'apprentissage social, l'ancienneté dans l'organisation est ajoutée en tant que modérateur afin d’évaluer si les membres les plus récents sont plus affectés par leur perception du climat éthique. L'originalité de ce chapitre tient à son échantillon représentatif et diversifié de travailleuses et travailleurs de la santé à travers le Canada ainsi qu’à sa complémentarité théorique entre la conservation des ressources et l'apprentissage social.

Dans le troisième chapitre, après avoir identifié les conséquences négatives de la dépendance au travail, nous nous penchons sur les facteurs potentiels susceptibles d'en atténuer l'émergence. Nous proposons une triple interaction entre les heures de travail hebdomadaires, la sécurité psychologique et la confiance en soi et leur influence combinée sur la dépendance au travail. Ce chapitre vise à clarifier les effets du temps investi au travail sur la dépendance au travail et la manière dont la perception d'un contexte et d'une ressource personnelle modifie cette relation. L'originalité de ce chapitre provient de son apport au débat concernant l'influence du temps de travail sur la dépendance et la manière dont des conditions particulières interagissent pour protéger une population spécifique : les gestionnaires de premier niveau.

Mots clés : dépendances au travail, santé et services sociaux, théorie de la conservation des ressources, reconnaissance, épuisement émotionnel, intention de quitter la profession, climat éthique, qualité des soins, sécurité psychologique, confiance en soi, méthodes quantitatives, modélisation par équation structurelle, régression logistique, régressions polynomiales, analyse de la surface de réponse.

Méthodes de recherche : méthodes quantitatives, modélisation par équation structurelle, régression logistique, régressions polynomiales, analyse de la surface de réponse.

Abstract

Work addiction is a behavioral addiction which occurs without the consumption of psychoactive substances. Researchers in organizational behavior, human resources management, and psychology have invested time and effort to define and measure it. Despite these efforts, many questions remain, notably regarding its antecedents and consequences at the individual, team, and organizational levels. In addition, despite widespread research done in healthcare and social services settings, individuals working in this vital sector are underrepresented in the work addiction literature. Using the conservation of resources theory as its theoretical background, this dissertation aims to contribute by generating knowledge which informs both theory and practice.

In the first chapter, we study the beneficial effects of patient recognition among physicians and other caregivers as to how it affects emotional exhaustion, and in turn, the intention to quit the profession. Work addiction is introduced as a deleterious boundary condition which dampens the strength of the tested relationships. The originality of this chapter resides in its theoretical model and two-study approach to compare how different populations in the same sector react to the interaction between patient recognition and work addiction.

In the second chapter, we study an organizational lever, ethical climate, and its relationship with work addiction. Work addiction acts as a mediator between ethical climate and two relevant outcomes in healthcare and social services: the intention to quit the profession and the perceived quality of care. Furthermore, informed by social learning theory, organizational tenure is added as a moderator to better understand if newer members are more acutely affected by their perception of ethical climate. The originality of this chapter stems from its representative sample of diversified healthcare workers across Canada and its theory blending between conservation of resources and social learning.

In the third chapter, after identifying negative outcomes of work addiction, we delve into potential factors which could help alleviate its emergence. We propose a three-way

interaction between weekly worked hours, psychological safety, and self-confidence and their combined influence on work addiction. This chapter aims to disentangle the effects of worked hours on work addiction and how a perceived contextual and personal resource alter this relationship. The originality of this chapter originates from the debate regarding the influence of worked hours on work addiction and how boundary conditions interact to protect a specific population: first-level managers.

Keywords: work addictions, healthcare and social services, conservation of resources theory, recognition, emotional exhaustion, intention to leave the profession, ethical climate, quality of care, psychological safety, self-confidence, quantitative methods, structural equation modeling, logistic regression, polynomial regression, response surface analysis

Research methods: quantitative methods, structural equation modeling, logistic regression, polynomial regression, response surface analysis

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"People who cannot find time for recreation are sooner or later to find time for illness."

– John Wanamaker

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Forword

This dissertation is composed of three articles. A previous version of Chapter 2 was submitted and published in the *British Medical Journal: Quality and Safety* (Maisonneuve et al., 2024). Chapter 1 will be submitted for publication to *Healthcare Management Review*. Chapter 3 will be submitted for the 2025 edition of the European Academy of Management (EURAM) conference.

Regarding the implication of each cited author for the chapters, they contributed in the following manner:

Chapter 1: FM: Project administration, Investigation, Conceptualization, Data curation, Formal analysis, Methodology, Writing – original draft, Writing – review and editing. DC: Project administration, Investigation, Funding acquisition, Supervision, Writing – review and editing. SK: Methodology, Writing – review and editing. MEBL: Writing – review and editing.

Chapter 2: FM: Project administration, Investigation, Conceptualization, Data curation, Formal analysis, Methodology, Writing – original draft, Writing – review and editing. PG: Conceptualization, Formal analysis, Methodology, Writing – original draft, Writing – review and editing. DC: Investigation, Funding acquisition, Methodology, Supervision, Writing – review and editing. CG: Project administration, Funding acquisition, Writing – review and editing. ACB: Project administration, Writing – review and editing.

Chapter 3: FM: Project administration, Investigation, Conceptualization, Data curation, Formal analysis, Methodology, Writing – original draft, Writing – review and editing. DC: Investigation, Funding acquisition, Supervision, Writing – review and editing.

Introduction

According to the World Health Organization (WHO), the costs associated with psychological health issues at work are estimated at 1 trillion USD worldwide in terms of lost productivity. The same report concludes that around 15% of the working population worldwide is grappling with psychological health issues (WHO, 2022). Burnout is one of the best-known forms of psychological health problems in the workplace. That said, burnout is not the problem itself, but rather a symptom of a deeper problem. One known cause of this symptom is work addiction, a pathological relationship with work that is detrimental to physical and psychological health in working adults (Clark et al., 2016; Ng et al., 2007). Defined as: "being overly concerned about work, to be driven by an uncontrollable work motivation, and to put so much energy and effort into work that it impairs private relationships, spare-time activities and/or health" (Andreassen et al., 2014; 8), work addiction is considered here as a behavioral addiction unrelated to psychoactive substance use (Atroszko & Atroszko, 2020). It is estimated that between 10% and 30% of the adult population suffer from work addiction (Andreassen, 2014; Sussman et al., 2011) and manifests through behaviors that are intrinsically harmful to the individual, entourage, and organization. For example, reducing leisure time, experiencing negative emotions outside of work, and obsessing over work (Andreassen et al., 2012). According to this perspective, rooted in the literature on behavioral addictions, work addiction is distinct from positive forms of work investment, such as engagement (Griffiths et al., 2018). In addition to increasing the risk of burnout, work addiction is also associated with lower job satisfaction, life satisfaction, sleep quality, and more stress (Clark et al., 2016). Considering the serious repercussions of this phenomenon for a significant proportion of the working population, it seems important to focus on a better understanding of the nomological network of work addiction.

More precisely, this dissertation focuses on a specific population: individuals working in the healthcare and social services (HSS) sector. As countries all over the globe face numerous challenges in a post-Covid-19 world (accessibility, capacity, digitalization) (Androutsou et al., 2021), great pressure is bestowed upon HSS workers

who are constrained to do more with less. As a population often inhabited by a strong dedication to their mission of providing quality care, it might prove to be a population particularly at risk of developing work addiction over time. Despite these risk factors, scant empirical attention is given to this population in the work addiction literature. However, a healthy population requires healthy HHS workers, and as such, this empirical gap deserves to be addressed. This dissertation thus aims to identify what are the consequences of work addiction among HSS workers and its antecedents, both in terms of risk factors and organizational levers to diminish it. The following sections present a summary of the work addiction construct, the theoretical framework of the dissertation, its context, structure, and contributions.

The History of Defining and Measuring Work Addiction

Mapping the evolution of work addiction is a delicate task as scholars do not agree either on its definition or its operationalization. In fact, scholars barely agree on the name, a recurring debate being the distinction between "workaholism" and "work addiction" (Atroszko, 2024; Griffiths et al., 2018; Morkevičiūtė & Endriulaitienė, 2023). Separating such closely named concepts raises questions: What is the difference, if any? What are we measuring? With what tools? *Does it matter?* The following section presents a condensed summary of potential answers.

The first appearance of the word "workaholism" is attributed to Wayne Oates (1968; 1971), a professor of psychology of religion. In his seminal book, *Confessions of a Workaholic: The Facts About Work Addiction*, Oates offers the following definition for workaholism (1971; 1): "It means addiction to work, the compulsion or the uncontrollable need to work incessantly." The word workaholism was a success in the general population and became widely used (Griffiths et al., 2018; Spence and Robbins, 1992). However, for the next twenty years, few peer-reviewed articles were published regarding workaholism or work addiction. A major issue regarding scientific research on workaholism at the time was the lack of a properly psychometrically validated scale to measure it. As such, the first books and articles were mainly anecdotal evidence from practitioners providing support to workaholics (i.e., Machlowitz, 1980).

Inspired by the input from practitioners, Bryan Robinson and his colleagues (1992) developed a scale to measure work addiction and validated it over time (1994, 1995; 1999). The scale, the Work Addiction Risk Test (or WART), is composed of 25 items informed by clinicians helping work addicts. These items were developed at a rate of 5 items per symptom associated with work addiction (Robinson & Phillips, 1995): overdoing, self-worth, control-perfectionism, intimacy, and mental preoccupation. Later, those were rebranded as sub-dimensions: inability to delegate, self-worth, control, impaired communication, and compulsive tendencies (Robinson, 1998). Of note, the validity of the WART was tested against self-reported scales aiming to detect Type-A behavior, a personality disorder characterized by "rapid pace of living and competitive achievement strivings, which are essential components of work addiction" (Robinson, 1999; 203). For Robinson (1999; 200), work addiction is a "learned response to a dysfunctional family" where individuals become stressed, impatient, and experience notable health problems from overworking. This etiology regarding family systems is unique to Robinson and colleagues (1992; 1999) and was not invoked in any other definitions or measurement of work addictions since. For many years, the WART was considered the gold standard regarding the measure of work addiction. However, is not used as much in contemporary research, losing ground to newer alternatives. This slow disappearance over time can be attributed to a lack of proper definition, in addition to concerns regarding its validity (Clark et al., 2020; Mudrack, 2006).

Around the same time, other researchers aimed to provide a validated scale to measure workaholism. Janet Spence and Ann Robbins (1992; 162) defined being workaholic as: "a person who exhibits three properties: in comparison to others, the workaholic is highly involved, feels compelled or driven to work because of inner pressures, and is low in enjoyment of work." As such, they developed the Workaholism Battery (or WorkBAT) which includes the measurement of the three dimensions: work involvement (7 items), drivenness (7 items), and work enjoyment (9 items). Their approach provides six different worker profiles, which are not covered in this introduction, the main point being that workaholics score high on both involvement and drive. The results of the article validating the scale offered insights into workaholism: workaholics worked more hours and had more health complaints than non-workaholics.

The worked hours were associated with high drivenness, the compulsive aspect of workaholism, rather than high enjoyment. This indicated that workaholics do not like their work: they are compelled to work more to evade feelings of guilt or uneasiness. Despite these insights, the WorkBat has rarely been used since its creation, suffering from poor internal consistency and construct validity (Schaufeli et al., 2009). Today, it is a vestigial measurement tool regarding research on workaholism (Morkevičiūtė et al., 2021).

The WorkBat and WART coexisted for 17 years, almost unrivaled in terms of assessing workaholism. In 2009, a group of researchers led by Wilmar B. Schaufeli proposed an updated definition and measure regarding workaholism. Schaufeli and his colleagues (Akihito Shimazu and Toon W. Taris) introduced the Dutch Workaholism Scale (or DUWAS); where they defined workaholism as a two-dimensional construct (Schaufeli et al., 2009; 322): "the tendency to work excessively hard (the behavioral dimension) and being obsessed with work (the cognitive dimension), which manifests itself in working compulsively." In their theorization, workaholism is not merely long working hours, but an excessive working behavior and difficulty disengaging from work beyond economic or social gains. Thus, workaholics do not work to gain more resources, but to protect themselves from negative emotions felt when not working. Of note, this occurs even when the workaholic perceives that their behavior is harming other spheres of their life (i.e., their health, family, community, etc.). In addition, the cited article presented workaholism as an intrinsically negative construct which contrasts with its positive counterpart: work engagement. Workaholism and work engagement were later theorized by other researchers as a harmful and constructive form of heavy work investment, respectively (Harpaz & Snir, 2012; Snir & Harpaz, 2014). Of note, the DUWAS was developed using and adapting previously existing items. The "compulsive tendencies" subscale of the WART was used to build the items for "working excessively" and the "drive" subscale of the WorkBAT was used to build the items for "working compulsively". Supported by a concise definition, solid theorization, and being only 10 items (5 per dimension), the DUWAS became a success among workaholism scholars. As of today, it is the most used scale in empirical research on the topic (Morkevičiūtė et al., 2021).

Despite the popularity of the DUWAS, another measure regarding work addiction was proposed by Cecile Shou Andreassen and her colleagues (Mark D. Griffiths, Jørn Hetland, Ståle Pallesen, 2012), the last one for the current section. The Bergen Work Addiction Scale (or BWAS) was born from the idea of thoroughly integrating the construct into the addiction literature. As such, the authors propose a 7-item scale rated on temporal anchors (1=Never, 5=All the time), each item representing a core element of addiction: salience, mood modification, tolerance, withdrawal, conflict, relapse, and problems (World Health Organization, 1992). They also presented a polythetic approach where an individual scoring 4 or more on 4 or more of the 7 items could be categorized as a work addict. The BWAS presented work addiction as a single dimension construct, contrary to the previous scales. However, its underlying theorization is similar regarding the intrinsically undesirable nature of work addiction, where work addicts work more than non-addicts to evade negative feelings, which can lead to health problems. Later, Griffiths, one of the co-authors of the BWAS, acted as first author for an article (Griffiths et al., 2018) which presented work addiction as a construct completely distinct from workaholism. The latter was presented as a more generic term used by the general population to denote: "excessive working irrespective of whether the consequences are advantageous or disadvantageous" (Griffiths et al., 2018; 848). Andreassen and colleagues (2018) responded to this claim that both terms (workaholism and work addiction) refer to the same phenomenon, highlighting instead the importance of separating them from engagement, commitment, and other proximal constructs. The workaholism/work addiction distinction is still up for debate (Atroszko, 2024; Griffiths, 2024b; Morkevičiūtė & Endriulaitienė, 2023).

Today, the DUWAS and the BWAS coexist, and irrespective of the chosen scale, their respective literatures are often seen simultaneously cited within the same article. While many scholars interested in the topic of workaholism/work addiction today would probably disagree with Griffiths (2024b), due to the popularity of the term workaholism in peer-reviewed journals (Morkevičiūtė et al., 2021; 2023), it is interesting to see the term work addiction thrive alongside it. On this topic, another scale regarding workaholism emerged recently. The Multidimensional Workaholism Scale (MWS) was developed by Malissa A. Clark, Rachel Williamson Smith, and Nicholas J. Haynes in

2020. The scale is built on a multidimensional theorisation whereas workaholism is the intersection of motivational, cognitive, emotional, and behavioral dimensions. Boasting already 200 citations at the time of writing, the MWS appears to be a viable option to measure workaholism, although its theorisation is more distant from the literature specifically on work addiction. It will be interesting to monitor how the DUWAS and MWS coexist in the following years.

For the present dissertation, the appellation "work addiction" will be used with the definition provided by the BWAS, as an intrinsically harmful behavioral addiction. This choice is informed by recent empirical results and conceptual arguments which highlight the distinction between work addiction and positive constructs. The following section proposes a deep dive into this reflection.

Work Addiction Is Not Engagement, Commitment, or Heavy Work Investment

Throughout the past decades of research regarding work addiction, many adjacent constructs were studied alongside it, but also were confounded with it. To properly address the issues explored within this dissertation, it appears of paramount importance to distinguish work addiction from other forms of intense relationships with work. Foremost, as established in the previous section, work addiction, defined within the confines of the BWAS, is inherently negative (Andreassen, 2014). As such, it is distinct from engagement (Shimazu and Schaufeli, 2009) and commitment (Boatemaa et al., 2019). Starting with engagement, it was initially developed as the constructive opposite of burnout, defined as: "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption." (Schaufeli et al., 2002; 74). While absorption, defined as "being fully concentrated and deeply engrossed in one's work" (Seppälä et al., 2009; 460), can be akin to work addicted behavior, it does not include the obsessive-compulsive aspect of addiction. A similar discussion can be had regarding vigor and dedication. Engaged workers experience having boundless energy and pride towards their work (Balducci et al., 2010), whereas work addicts report shame while not working and obsess over finding more time to work (Andreassen et al., 2012). When the distinctions are presented as such, the theoretical differences between the constructs

appears quite clearly. As for the empirical distinction, following the creation of the Utrecht Work Engagement Scale (UWES), Schaufeli and his colleagues (Schaufeli et al., 2008; 2009) published various studies which provided empirical evidence regarding the discriminant validity of their respective scales. Most notably, work engagement is related to higher job satisfaction and lower burnout, whilst work addiction is the opposite. Seven years after the creation of the UWES, engagement was ultimately theorized not as the opposite of burnout, but of work addiction specifically due to the reasons listed above (Schaufeli et al., 2009).

Following with commitment, this construct experienced a similar endeavor by scholars to differentiate it from related constructs, namely motivation (Meyer et al., 2004). Commitment today is defined through its three forms: affective, normative and continuance. They are all related to lower levels of turnover intention, but have distinct effects on other variables, including performance, satisfaction, and organizational citizenship behavior (Yahaya & Ebrahim, 2016). Commitment is often defined as high identification, involvement, and loyalty towards one's organization (Porter al., 1974). This can be mistaken as work addiction due to the involvement sub-dimension, presented as a: "willingness to exert considerable effort toward organizational goal accomplishment" (Yahaya & Ebrahim, 2016; 200). However, commitment differs from work addiction in theory as it is a volitional process whereby the individual chooses to commit themselves. Mercurio (2015), in an integrative literature review, identified affective commitment towards the organization as the "core essence" of organizational commitment, presented as an intrinsically positive individual judgement towards one's organization which has beneficial outcomes for all stakeholders. This is distinct from work addiction where individuals lose control over their degree of investment into work. Work addiction is not commitment as it is neither volitional nor a positive emotional experience. Furthermore, affective commitment also differs empirically as it is linked to higher performance (Baird et al., 2019) and citizenship behaviors (Solinger et al., 2008), while work addiction acts as a negative antecedent to those outcomes (Clark et al., 2016). Furthermore, work addiction is also distinct from overcommitment, a harmful "inability to withdraw from work obligations" (Balducci et al., 2020; 9435). The two constructs are similar in their characterization of a form of excessive investment at work

(Siegrist, 1996), and both have been related to negative outcomes such as burnout (Littman-Ovadia et al., 2014). However, they differ as overcommitment is theoretically entrenched in a pathological need for approval (Andreassen & Pallesen, 2016; Siegrist, 2001), rather than an addiction to work. Regarding empirical distinctions, few studies looked at both constructs simultaneously. One such occurrence was by Avanzi et al. (2020), where they identified that overcommitment is closer to neuroticism while workaholism has a stronger relationship with conscientiousness. Further research is necessary to appropriately distinguish the two constructs further.

Additionally, regarding the distinction of work addiction from related constructs, this segment must address the literature on heavy work investment (HWI). Harpaz and Snir (2014) proposed HWI as a concept which integrates workaholism as a dispositional subtype of HWI. In this specific framework, workaholism, defined as individuals who are addicted to their work, is differentiated from work-devoted (high passion), leisure-low-interested (preferring work), and intimacy-avoiders (aiming to spend time away from relationships) (Snir & Harpaz, 2012). Workaholism is operationalized as a function of time where workaholics work one standard deviation above the regional average (Snir & Zohar, 2008). Furthermore, workaholism is presented as a consequence of work addiction (Snir & Harpaz, 2012; 236) where the latter is theorized as an internal, stable, and uncontrollable factor. Despite using the same words (workaholism and work addiction), the theorization provided in the HWI framework is completely different from the theorization proposed by the work addiction literature. First, work addiction is not a mere issue of worked hours (Griffiths et al., 2018; Griffiths, 2024a), as symptoms include behavioral and emotional responses outside of work. Second, work addiction is not an immutable condition inherently held by some individuals. Such a position nullifies the opportunity to consider how the organization of work can both contribute to exacerbating or limiting the emergence of work addiction. Thinking about work addiction in terms of internal and stable factor oversimplifies the role of the environment in addiction behaviors and their consequences.

Overall, the perspective put forward in this dissertation rejects of the notion of "neutral" or "good" work addiction. Addiction, at its core, is a deleterious loss of control

which results in human suffering. Under this definition, studies which theorize the added value of enthusiastic and engaged workaholics (see Machlowitz, 1980; Spence & Robbins, 1992) are misleading. They are perhaps measuring and writing about HWI, engagement, or commitment; but certainly not work addiction. The enjoyment of work (or not) is irrelevant when discussing work addiction. To go even further, it is not about enjoyment: it is about actively spending more time working, working to reduce negative feelings, being stressed when not working, perceiving that work is taking over one's life yet not being able to refrain to correct course. It can be, quite literally, working yourself to death. Removing work enjoyment as a criterion allows a more parsimonious exploration of the phenomenon, clarifies the theoretical underpinning of work addiction, and places its research firmly in the addiction literature. Work addiction as a maladaptive coping mechanism in response to organizational factors is coherent with proposed theorization and empirical evidence from both organizational behavior and addiction literatures in addition to allowing the formulation of falsifiable hypotheses regarding explanations and predictions. Ultimately, work addiction is akin to other behavioral addictions (Griffiths et al., 2018) and even has similar behavioral and emotional patterns as drug addiction, such as intense negative feelings during withdrawal phases (see hyperkatifeia defined by Koob, 2020). It is not about enjoying work or not, it is about escaping pain. This position further cements the use of the BWAS to fully position this dissertation in an addiction framework when exploring work addiction. To continue to the next section, one could argue it is about resource conservation and investment.

Theoretical Background: COR Theory

The present dissertation is anchored within the conservation of resources (COR) theory developed by Stevan E. Hobfoll (Hobfoll, 1989). First introduced in 1989, the basic tenet of the COR is that individuals aim to obtain, protect, and invest their resources. The definition of resource evolved over the years, the most recent being (Hobfoll et al., 2018; 113): "personal, material, energy and condition resources" which support goal attainment. As such, resources are almost anything which helps individuals reach their objectives. As a theory related to both motivation and stress (Hobfoll, 2001), the COR theory explains and predicts how individuals behave when their resources are threatened or lost. The

theory evolved over the years (Halbesleben et al., 2014; Hobfoll & Freddy, 1993; Hobfoll, 2001; Hobfoll, 2011; Hobfoll et al., 2018), addressing critics and providing clarifications regarding definitions and applications of the COR. The pillars of the COR theory are summarized as follows (Hobfoll et al., 2018; 106):

> **"Principle 1: Primacy of loss principle**. Resource loss is disproportionately more salient than resource gain.
>
> **Principle 2: Resource investment principle**. People must invest resources in order to protect against resource loss, recover from losses, and gain resources.
>
> **Principle 3: Gain paradox principle**. Resource gain increases in salience in the context of resource loss. That is, when resource loss circumstances are high, resource gains become more important—they gain in value.
>
> **Principle 4: Desperation principle**. When people's resources are outstretched or exhausted, they enter a defensive mode to preserve the self which is often defensive, aggressive, and may become irrational.
>
> **Corollary 1:** Those with greater resources are less vulnerable to resource loss and more capable of resource gain. Conversely, individuals and organizations who lack resources are more vulnerable to resource loss and less capable of resource gain.
>
> **Corollary 2: Resource loss cycles.** Because resource loss is more powerful than resource gain, and because stress occurs when resources are lost, at each iteration of the stress spiral individuals and organizations have fewer resources to offset resource loss, and these loss spirals gain in momentum as well as magnitude.
>
> **Corollary 3: Resource gain spirals.** Because resource gain is both of less magnitude and slower than resource loss, resource gain spirals tend to be weak and develop slowly."

Furthermore, the COR theory mobilizes two other concepts which are relevant to the understanding of this dissertation. First, resource passageways (Hobfoll, 2011) explain why resource investment strategies vary in effectiveness in different contexts. More specifically, resource passageways are "ecological conditions that either foster and nurture or limit and block resource creation and sustenance" (Hobfoll et al., 2018; 106). As such, organizational climates and human resources management policies can play an important role in the mobility and accumulation of resources. These boundary conditions can be tested, and in turn, inform us regarding practical implications. Second, resource signals (Halbesleben et al., 2014) are occurrences in work environments which inform individuals that resources are available. Resource signals, contrary to resources proper, are largely under the control of others. For example, trust (Halbesleben & Wheeler, 2015) and recognition from valued sources (peers, supervisors, clients, etc.) are resource signals: they grant information to the focal individual that their actions (resource investments) are heading towards resource gains. Specifically, investing time and effort into their work will lead to gains in the form of material and condition resources. Ultimately, the COR theory structures the theorization of dynamic processes whereas individuals invest, protect, and acquire resources to avoid the stress associated with resource threat and loss.

Studying work addiction within the COR theory provides the opportunity to theorize it as a maladaptive resource investment strategy which emerges in response to an adverse work context. Intense demands require investment, or more precisely, overinvestment of time and effort into work, which encourages individuals to develop a pathological relationship with their work. No one starts their day thinking: *I can't wait to work to the point where my relationships and health suffer*; yet important percentages of individuals qualify as work addicts in adult populations across studied national samples (Quinones & Griffiths, 2015). Consequently, understanding which organizational contexts nurture work addiction is of great importance in diminishing the issues associated with it (burnout, turnover, physical pain; Clark et al., 2016). In addition, shedding light upon which resources hinder work addiction can help reduce the presence or the severity of said issues. Again, organizational climates and the organization of work may affect the occurrence of work addiction. Using the COR theory allows the formulation of falsifiable hypotheses regarding antecedents and outcomes associated with work addiction

formulated in a resource perspective. In this dissertation, work addiction is presented as a potential deleterious boundary condition which nullifies the benefits of patient recognition by neutralizing the ability to detect resource signals as such. Furthermore, tested consequences of work addiction are theorized as manifestations of resource loss, notably, in the form of increased intention to quit the profession and decreased perceived quality of care. In addition, contextual and personal resources are tested as potential protective factors. In summary, the COR theory provides a rich framework in which to study work addiction in a healthcare and social services context.

The Healthcare and Social Services Context

The healthcare and social services (HSS) sector is a vital part of the public services granted to any population. Individuals working in HSS, both caregivers and support employees, are often inhabited by a mission to provide safe and quality care and this vocational aspect is at the heart of research in HSS. Unfortunately, in this context, work addiction could thrive as dedicated workers invest more time into their work than initially expected. In addition, many advanced economies face issues regarding an aging population, which is a double burden for healthcare systems as the population requires more care while fewer workers enter the workforce. In turn, mandatory overtime emerges as a solution to staff shortages and high turnover puts undue pressure on team members who refuse to jump ship; further threatening the emergence of work addiction in this specific population. Despite these growing threats to the well-being of HSS workers, few empirical studies have tested the effects of work addiction on them. Of those, the majority investigated work addiction as an antecedent to negative work attitudes and behaviors such as burnout (Brown & Pashniak, 2018; Kwak et al., 2018), work-family conflict (Gillet et al., 2021; Huyghebaert et al., 2018), and low job satisfaction (Burke et al., 2006b, Dordoni et al., 2019). Few others focused on physical symptoms, namely lower back pain (Nihei et al., 2022) and inflammation (Girardi et al., 2019). Overall, the studied relationships are mostly direct effects; testing work addiction as an underlying mechanism (see Platania et al., 2022) or boundary condition (see Li et al., 2020) among HSS workers being an even rarer occurrence.

These observations converge towards the identification of a gap in the literature regarding work addiction in HSS: how does work addiction affect HSS workers in more complex nomological networks? What are the relevant organizational antecedents of work addiction among HSS workers? How does work addiction affect organizational behavior processes in HSS settings? In summary, this dissertation provides new insights regarding the emergence, manifestation, and consequences of work addiction among HSS workers. A population who, despite widespread empirical attention, is still underrepresented in the work addiction literature.

Structure and Summary

The structure of the present dissertation is designed to study work addiction in diverse nomological positions. Chapter 1 focuses on work addiction as a moderator. Using the notion of resource signals within the COR theory (Halbesleben et al., 2014), Chapter 1 identifies work addiction as a threat to caregivers which prevents them from benefiting from patient recognition. In turn, this exposes them to emotional exhaustion and harms their intention to remain in healthcare (Jourdain & Chênevert, 2010). The chapter presents two distinct samples: one exclusively composed of physicians and the other composed of various caregivers excluding physicians. This replication explores the same phenomenon across different populations to provide more nuanced contributions. The results highlight the importance of managing work addiction among physicians, as it threatens their ability to develop a resource gain spiral. However, work addiction did not seem to be as disruptive among the diversified group of caregivers, as patient recognition maintained its beneficial relationships with the outcome variables. As healthcare organizations around the world are rebuilding in the aftermath of the Covid-19 pandemic, protecting healthcare workers' emotional resources, and retaining them in their role is of paramount importance. Relatedly, valuing patient recognition emerges as a salutary strategy.

Chapter 2 tests an organizational-level lever which could help diminish work addiction and its negative outcomes among healthcare workers: ethical climate. Work addiction is positioned as a mediator between ethical climate and relevant outcomes. While overwork climate was identified as a potential factor which favors work addiction (Afota et al., 2021; Mazzeti et al., 2014), ethical climate was not previously directly tested

as an antecedent to work addiction. On the contrary, ethical climate invites thoughtful and respectful interactions between the organizations and its members and among themselves (Olson, 1998). Providing this specific climate acts as a beneficial resource passageway for healthcare workers, increasing the efficiency of their investment at work (Hobfoll et al., 2018). Such climate discourages workers to invest pathologically into their work, as their environment supports resource gain. Having more resources allows healthcare workers better investment into their patients, which in itself is a demanding task (Campbell et al., 2000; Devoe et al., 2002). Furthermore, as their resources are not threatened, they do not wish to quit their profession (Jourdain & Chênevert, 2010). In addition, social learning theory (Bandura, 1977) was invoked to introduce tenure as an important moderator. Indeed, individuals with low tenure are more sensitive to their new work context, and as such, more affected by the presence (or lack thereof) of an ethical climate. This finding further informs management decisions regarding onboarding practices in healthcare organizations.

Chapter 3 proposes boundary conditions which could protect first-level managers in HSS from long worked hours. Work addiction is thus positioned as the dependent variable. Among this population, which deals with both strategic and operational roles (Delaye & Boudrandi, 2010), working many hours is often the norm. It is important to note that work addiction is not merely long working hours (Griffiths, 2024a), but could emerge as a maladaptive resource investment strategy to address these hours. Two moderators are proposed as mechanisms to alleviate the relationship between worked hours and work addiction. The first, psychological safety (Edmonson, 1999; Kahn, 1990), is proposed as an individual perception that interpersonal risks are worth taking (Liang et al., 2012). This is theorized as a resource passageway (Hobfoll, 2011) which allows managers to act upon a much healthier strategy to face the obstacles associated with their role. The second is self-confidence, defined as a manager's belief in their ability to manage their team effectively (Bobbio & Manganelli, 2009). This personal resource is proposed to accentuate the influence of psychological safety as confident managers are more willing to profit from a psychologically safe team. Results indicate that both moderators only reduce the overall increase in work addiction as work hours increase. However, when both are perceived as low, work addiction was high even when worked

hours were not. Results from the three chapters allow for the formulation of relevant contributions, both to theory and practice.

Contributions: Theory

Each chapter of this dissertation provides valuable theoretical contributions. Chapter 1 explores resource signals, environmental cues which inform us that resources are coming, one of the least studied aspects of the COR theory (Halbesleben et al., 2014). Those signals, while being under the control of others, can still have beneficial effects regarding job attitudes unless thwarted by a pathological relationship with work. Precisely, work addicted physicians reported the same level of patient recognition than their non-work-addicted peers, yet did not benefit from this resource signal. As such, resource signals must be interpreted as such to be positively related to desirable outcomes. Work addiction, as a maladaptive coping mechanism, prevents addicts from valuing recognition as a resource signal as it does not signal them towards more work. Furthermore, study 2 in this chapter informs us that different populations react differently, despite sharing the same sector of activity. Replication studies help contextualize the generalization of the results. Chapter 1 is among the first empirical studies to provide insights regarding resource signals and work addiction.

Chapter 2 contributes by shedding light upon the relationship between an organizational climate and work addiction, in addition to its consequences for the workers and the patients. Ethical climate (Olson, 1998), theorized as a positive resource passageway (Hobfoll, 2011), influences the resource investment strategy of healthcare workers. By providing guidance and support to healthcare workers, ethical climate informs them how to constructively invest themselves into their work, which in turn favorizes the intent to stay and better care. Thus, organizational climate nurtures perceived in-role performance through healthy resource investment strategies. In addition, this relationship is exacerbated for workers with low tenure, as predicted by the social learning theory (Bandura, 1977). Chapter 2 contributes through an exercise in theory blending of the COR theory and the social learning theory to both explain and predict why newcomers would be more aware of organizational norms and the behavior of their peers as a benchmark for their level of resource investment at work.

Chapter 3 contributes by adding a nuanced perspective on the emergence of work addiction regarding worked hours. This chapter answers a call to research to study psychological safety within a COR framework (Newman et al., 2017). Integrating psychological safety as a resource passageway allows to test how the perception of one's work ecosystem alters behavior. In addition, it is among the first studies to include psychological safety in the nomological network of work addiction. The most notable contribution of this chapter is that a reasonable amount of weekly worked hours was a necessary yet insufficient condition to attain low levels of work addiction. Psychological safety and self-confidence both contribute, not by reducing the influence of high worked hours, but by protecting managers from work addiction even at low worked hours. These results highlight the complexity of resource investment and how both contextual and personal resource intertwine to shape behavior.

Overall, this dissertation generates new knowledge regarding the theorization of work addiction (as a risky resource investment strategy affected by organizational factors), its etiology (organizational and team climate, worked hours, self-confidence), consequences (intention to quit the profession, quality of care), and so, among a vital yet understudied population.

Contributions: Practice

The present dissertation aims to contribute to practice in various ways. First, providing HSS organizations with guidelines regarding the management of work addiction among their workers is the core of the presented practical contributions. Most studies regarding work addiction in HSS treat it as an independent variable. As examples, see Balducci et al. (2022) for job behavior and Nihei et al. (2022) for physical health. Furthermore, when studied as a dependent variable, the tested antecedents are personality (Burke et al., 2006a) and type of motivation (van Beek et al., 2012). Those factors, while interesting, are out of reach of the sphere of influence of HSS organizations. Morkevičiūtė et al. (2021) in their systematic review and meta-analysis identified only 33 articles published in the past 15 years which tested antecedents for work addiction, all sectors of activity combined, and 29 of them focused on personality traits and motivation. As such, organizations are left with the notion that work addiction is a threat to the wellbeing of

their workers, but without a concrete solution to curb this pathological relationship with work. As such, the proposed models in chapters 2 and 3 introduce antecedents which can be affected by the structure of work within HSS organizations, namely ethical climate and worked hours. In addition, Chapter 3 provides relevant boundary conditions which can also be influenced by human resource management policies. This overall novel approach to work addiction sheds light upon organizational decisions and human resources management practices which could limit work addiction among HSS workers, and in turn, alleviate its negative effects.

Second, the quasi totality of studies regarding work addiction depicts its negative impacts for individuals regarding their psychological health (Kasemy et al., 2020; Ofei-Dodoo et al., 2021), physical health (Salanova et al., 2016), intention to remain in healthcare (Maisonneuve et al., 2024), work-family conflict (Gillet et al., 2021), etc. Yet, many organizations present workers who invest an inordinate number of hours in their work as organizational champions. In the light of the results in the cited articles and the chapters of this dissertation, this strategy appears to be a major risk for these organizations, and most importantly, for their workers. For example, Chapter 1 concludes that work addicted physicians do not benefit from the recognition they receive, despite receiving as mush as non-addicts and Chapter 2 concludes that work addiction is related to lesser quality of care and higher intention to quit the profession. No one begins their career with the aspiration of becoming a work addict, and as such, organizations should actively create an environment which does not entice its workers to cut their leisure time for more work until it threatens their health (Griffiths et al., 2018).

Third, on the heels of the previous point, fostering an ethical climate within healthcare organizations emerges as the most salient practical contribution of the present dissertation. Ethical climate refers not only to the deontological notion of providing care morally, but also dealing with conflict as it arises and providing healthcare workers with opportunities for individual growth (Olson, 1998). Chapter 2 covers this in detail through a diversified and representative Canadian sample. Ethical climate, in opposition to an overwork climate (Mazzetti et al., 2016), is related to lower work addiction which in turn allows workers to fully invest their resources into quality care for their patients. As such,

all stakeholders in healthcare (organizations, workers, patients) benefit from the creation and implementation of an ethical climate. In addition, the results of Chapter 2 inform human resources management practices that tenure plays an important when presenting the ethical climate of the organization. Individuals with low tenure are particularly sensitive to the norms and climate of their new environment (Bandura, 1977). HSS workers, even with extensive experience elsewhere, must be exposed to the ethical climate of the organization to fully benefit from it. Chapter 3 further informs HSS organizations to develop psychological safety among their teams and self-confidence within their managers. The presence of these two factors can have a beneficial effect for first-level managers, especially when the amount of time they spend working is adequate. Proactive talent management and psychological safety culture should be developed among HSS installations.

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Chapter 1
Can Work Addicts Perceive Resource Signals? Comparing the Impact of Patient Recognition in Interaction with Work Addiction Among Physicians and Other Caregivers in Canada

Francis Maisonneuve[1], Denis Chênevert[1], Steven Kilroy[2], & Marie-Ève Beauchamps-Legault[3]

1: HEC Montréal, Quebec, Canada
2: Trinity College, Dublin, Ireland
3: Université Laval, Quebec, Canada

Abstract

Introduction: Physicians and healthcare workers are under increasing pressure, putting opportunities for recognition in jeopardy and nurturing work addition. Drawing on the conservation of resources (COR) theory and the notion of resource signals, we examine in two studies a moderated mediation model whereby patient recognition is proposed to alleviate their intention to leave their profession in healthcare through reduced emotional exhaustion, and work addiction is examined as a moderator in this proposed relationship.

Method: Study 1 uses regression analysis on cross-sectional data to test the proposed hypotheses using a sample of physicians (N=134). Study 2 uses the same approach with a diversified sample of healthcare workers without physicians (N=383).

Results: Patient recognition was significantly and negatively related to the intention to quit the profession via emotional exhaustion. Work addiction moderated the indirect relationship such that high work addiction disrupted the beneficial impact of recognition, but only among the physician sample.

Conclusion: Patient recognition acts as a resource signal which encourages physicians and healthcare workers to remain in their profession, with lower emotional exhaustion representing an underlying mechanism. However, among physicians, high work addiction nullifies this process. Organizations should incentivize patient contact and the expression of recognition. Physicians struggling with work addiction should be closely monitored.

Keywords: physician, healthcare, patient recognition, emotional exhaustion, work addiction, intention to quit the profession

1.1 Introduction

The work of a physician is characterized by high constant demands (Zeng et al., 2021), which can adversely affect their attitude at work and their mental health (Ofei-Dodoo et al., 2021). The same can be said for caregivers more generally (Hall et al., 2016), which are individuals hired to care for patients but who are not physicians (i.e., nurses, occupational therapists, social workers, etc.). For individuals in direct contact with patients in healthcare settings, having to interact with many patients is a core demand, but it is also an opportunity to receive recognition from them (Chênevert et al., 2021b). Patients showing appreciation whilst under the care of a physician can help the latter offset the hardships of working in healthcare (Zgierska et al., 2014). In the present study, we use the notion of resource signal within the conservation of resources (COR) theory (Halbesleben et al., 2014; Hobfoll, 1989) to explore the potentially beneficial effect of patient recognition as a resource signal for physicians and healthcare workers. Such signal may ultimately alleviate their emotional exhaustion and, in turn, their propensity to leave their profession.

The presence of patient recognition should act as a beneficial resource signal, thus protecting caregivers and physicians alike from further emotional challenges that they experience in executing their work. Previous studies concluded that recognition from supervisors can help retain healthcare workers (Chênevert et al., 2021a). In a similar vein, we postulate that without such a signal, lack of recognition could potentially lead to an emotional resource loss spiral (Hobfoll et al., 2018). Inherent to COR theory, and specifically its "primacy of resource loss" principle, removing oneself from a situation of resource loss is of paramount importance for humans so that they can protect their remaining resources (Hobfoll, 2011). Accordingly, we propose a mediation process where decreased emotional exhaustion acts as the underlying mechanism between patient recognition and intention to quit the profession.

In addition, we propose work addiction, which can be defined as a "compulsive and uncontrollable need to work incessantly" (Oates, 1971; 1) as a behavioral addiction which could disrupt the perception of patient recognition. This pathological relationship with work could exacerbate the risk of loss spirals (van Beek et al., 2014) due to work addicts' compulsion to work excessively (Schaufeli et al., 2009b) and avoidance of non-work activities (Griffiths et al., 2018). This overinvestment at work threatens one's resources in addition to leading addicts to care exclusively about resources which allows them to work more. Work-addicted physicians and caregivers could thus be less sensible to recognition, miss the signal, and ultimately, deplete their emotional resources. In time, this will incentivize (or force) them to quit their profession when all resources have run out.

Work addiction is a relevant moderator in a physician sample as it has been observed disproportionately among individuals with a high income (Snir & Harpaz, 2012) and a high education level (Schaufeli, 2016). Overall, becoming a physician is synonymous with massive effort and time invested in the process. At the same time, work addiction has also been studied among diverse healthcare workers samples whereby deleterious effects have been observed in prior research (Maisonneuve et al., 2024a). As such, given the same issues and contexts are present for both physicians and healthcare workers whereby work addiction is a serious and pervasive issue, understanding work addiction among them is relevant. Ultimately, workers in healthcare and social services organizations are known to be at risk of emotional exhaustion (Woo et al., 2020) and could certainly benefit from patient recognition (Jourdain & Chênevert, 2010). Accordingly, this article contains two studies, whereas the first one has a sample comprised exclusively of physicians and the second of diversified healthcare workers without physicians. This allows for a more in-depth examination of the phenomenon while also offering more nuanced results among distinct populations working in the same settings.

The present article addresses the call for research by Halbesleben et al. (2014) to explore the relatively nascent topic of resource signals, which can profoundly affect employees' attitudes at work. Despite being a decade old, this call for research remains mostly unanswered. Specifically, we address this gap in existing research by exploring

the mediating role of emotional exhaustion in the relationship between patient recognition and intention to leave the profession. In addition, we investigate the concept of work addiction, which could act as a potent contextual variable, interfering with resource signals in predicting such pertinent outcomes. Understanding the boundary conditions of recognition from patients is an area of research which is virtually unexplored (Chênevert et al., 2021a) notwithstanding that knowledge on this topic can significantly enrich theory and practice. Practically speaking, our study will therefore uncover whether it is beneficial to develop human resources management programs limiting work addiction among physicians and caregivers to prevent exhaustion and, ultimately, an exodus from the profession.

1.2 Theory and Hypotheses

1.2.1 Patient Recognition and Emotional Exhaustion

To explain the processes involved in the perception of recognition, we draw on the notion of resource signals inherent to the COR theory. The basis of the COR theory is that: "individuals strive to obtain, retain, foster, and protect those things they centrally value" (Hobfoll, 2018; 104) to function properly. Within the COR theory, resource signals are environmental cues which indicate that a specific investment will lead to desirable outcomes (Halbesleben et al., 2014). As such, in our predictions, recognition is not a resource by itself, as it is controlled by another person (Halbesleben & Wheeler, 2015). Other examples of resource signals include perceived trust (Halbesleben & Wheeler, 2015), justice (Neveu & Kakavand, 2019), and flexibility (Valcour et al., 2011). Despite COR theory being popular in organizational research, the notion of resource signals is rarely considered and studied.

Patient recognition, defined as the patient's explicit expression of the appreciation for the care and treatment received (Jourdain & Chênevert, 2010), can be a potent resource signal for caregivers and physicians. Patient recognition informs physicians and caregivers that their investment (time and effort) can lead to resources (i.e., self-efficacy, positive affect). As such, spending time with a patient along the care trajectory can be

valuable to maintain and develop their emotional resources, thereby dampening emotional challenges encountered. These resources, in turn, can be invested in future patients. In a perfect scenario, this can create a resource-gain spiral, whereby each patient's signal leads to more emotional resources than initially invested (Hobfoll et al., 2018).

On the contrary, the absence of such signals could potentially lead to an emotional resource loss spiral (Hobfoll et al., 2018). Indeed, every patient requires emotional investment, which can represent significant spent personal resources over time. Emotional exhaustion, defined as "a lack of energy and a feeling that one's emotional resources are used up" (Cordes & Dougherty 1993; 623), particularly affects individuals who work directly with the public. This is due to the people-work aspect of their job, which requires them to manage the emotions of others as well as their own (Maslach & Jackson, 1981). Physicians and caregivers, who are regularly involved in managing their emotions, while interacting with ill patients, are unsurprisingly a population subject to high levels of emotional exhaustion (Chênevert et al., 2021b; Lin & Chang, 2015; Maresca et al., 2022; Patel et al., 2018).

In summary, patient recognition, as a resource signal, informs caregivers and physicians that despite emotional demands inherent to their role, they are recognized and that their work should lead to beneficial resources. In this respect, patient recognition protects physicians and caregivers from emotional exhaustion (Chênevert et al., 2021; Jourdain & Chênevert, 2010). As such, we hypothesize the following.

H1: Patient recognition is negatively related to emotional exhaustion.

1.2.2 Patient Recognition, Emotional Exhaustion, and Intention to Leave the Profession

Among physicians and caregivers, emotional exhaustion is a strong predictor of turnover two years later (Willard-Grace et al., 2019). Among physicians, an increase in perceived demands can increase emotional exhaustion, leading to an increase in intention to quit (Chênevert et al., 2022; Moreno-Jiménez et al., 2012). Demand-induced emotional exhaustion can act as an antecedent to the intention to quit the healthcare profession among nurses (Jourdain & Chênevert, 2010) and caregivers in general (Alarcon, 2011;

Chênevert et al., 2019). Inherent to COR theory and the 'primacy of resource loss' principle (Hobfoll, 2011), removing oneself from a resource loss situation is paramount for individuals to protect their remaining resources (Hobfoll et al., 2018; Williams et al., 2020). As such, emotionally exhausted individuals in the medical profession could be tempted to change their profession to protect themselves from an environment which puts them at risk of burnout (Dewa et al., 2014; Rothenberger, 2017). Thus, emotional exhaustion can act as an underlying mechanism linking demands (or lack of resources) and the propensity to leave the profession.

In the same logic, we propose a process whereby when patient recognition is perceived, it signals physicians and caregivers to continue investing their resources (i.e., emotional, energetic) into future patients. As stated in the previous hypothesis, patient recognition limits emotional exhaustion by acting as a resource signal (Halbesleben et al., 2014). Working in an environment which informs caregivers that resources are present, and other resources are imminent, should help alleviate emotional exhaustion and, in turn, motivate them to remain in their current profession to benefit from said resources. When patient recognition is perceived, it can enable them to continue to invest their resources (i.e., emotional, energetic) into future patients, thereby experiencing resource gain spirals over time (Hobfoll, 2011). When physicians' resources are not lost or threatened with loss, they are less likely to experience emotional exhaustion, which, in turn, should diminish their intention to quit the medical profession (Grow et al., 2019). As such, we propose the following.

H2: Emotional exhaustion mediates the negative relationship between patient recognition and intention to quit the profession.

1.2.3 Work Addiction as a Moderator

Work addiction, defined as: "being overly concerned about work, to be driven by an uncontrollable work motivation, and to put so much energy and effort into work that it impairs private relationships, spare-time activities and/or health" (Andreassen, 2014; 3), could prove to have a deleterious effect regarding the influence of patient recognition. As becoming and working as a physician is highly demanding, there could be a self-selection

bias where physicians are probably more prone to work addiction than the general population. Despite this apparent match between physicians and work addiction, the systematic review and meta-analysis conducted by Di Stephano & Gaudiino (2019) revealed that few empirical studies used physicians as a sample when studying this phenomenon. In addition, working in healthcare environments, irrespective of being a physician, can nurture work addiction, such as among caregivers (Maisonneuve et al., 2024a) and among healthcare managers (Maisonneuve et al., 2024b). However, it is plausible to suggest that work addiction among these various caregivers could manifest differently, due notably to the differences in professional socialization; a hypothesis which has so far not been empirically tested.

For work addicts, work is their sole objective, and non-work activities generate anxiety and guilt (Andreassen, 2014; Griffiths et al., 2018;), which explains why minimal resources are invested in socialization (Astakhova & Hogue, 2013; Ng et al., 2007). We propose that work addicted physicians and caregivers will invest excessive time and effort into administering treatments or providing services to patients, at the expense of being open to grasping signals in their environment, such as signals involving patient recognition. It is this obsessive relationship with work which makes work addiction deleterious to individuals (Houlfort et al., 2014). As such, reducing the time invested for and the value accorded to patient recognition will certainly diminish the beneficial impact of said recognition on emotional exhaustion.

Work addiction, as a pathological resource investment at work (Hobfoll, 2011; van Beek et al., 2014), can lead to the over-exertion of energetic and emotional resources with the potential to exacerbate the emergence of emotional exhaustion. Being overly task-focused might prevent work addicts from realizing the full benefits afforded by the resource signal of patient recognition. In other words, physicians and caregivers with high work addiction will not experience this benefit as their addiction will disrupt the resource signal. Since the effect of patient recognition will not be as strong for work addicts, they will face a steeper resource loss spiral, leaving them more likely to leave the profession to recoup their lost resources (Hobfoll et al., 2018; Wen et al., 2018; Williams et al., 2020). Conversely, caregivers with a low work addiction will be able to “pick up” the resource

signal from their grateful patients, allowing patient recognition to reduce emotional exhaustion and, in turn, their intention to quit the profession. As such, we formulate the following hypotheses. Figure 1.1 represents the complete theoretical model.

H3a: Work addiction moderates the relationship between patient recognition and emotional exhaustion such that the negative relationship will be weaker when work addiction is high rather than low.

H3b: Work addiction moderates the relationship between patient recognition and intention to quit the profession through emotional exhaustion such that the negative indirect relationship will be weaker when work addiction is high rather than low.

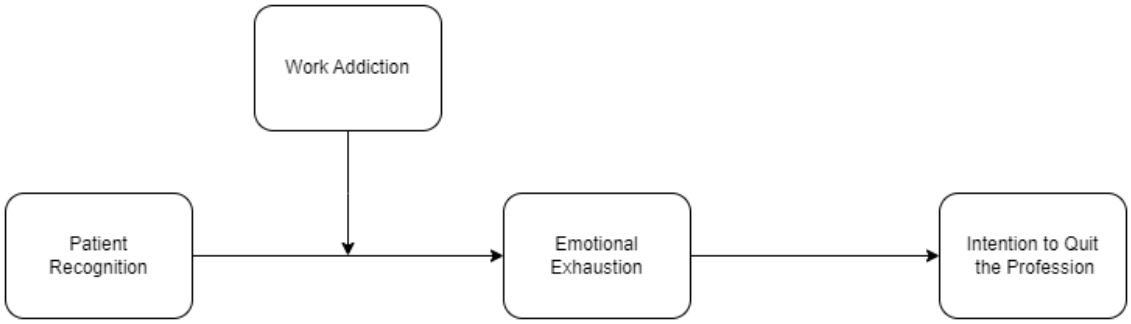

Figure 1.1: Theoretical Model

1.3 Study 1: Method

1.3.1 Research Design

Participants were all physicians working in eastern Canada. After receiving approval from our research ethics board, an online survey was sent to all individuals with medical degrees working in this rural region with the help of local government officials; for a total of eight participating towns. Approximately 500 physicians across multiple healthcare installations were contacted this way in the fall of 2018. We used an online questionnaire with an opening statement guaranteeing anonymity and confidentiality. Participants had to express their informed consent after reading the project description and no incentives were provided.

1.3.2 Measures

First, to measure patient recognition, we used the scale developed by Jourdain & Chênevert (2010). The scale is self-rated and contains 3 items rated on a seven-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). A sample item is: “Patients show their appreciation for the contribution I make to their well-being”. Second, to measure emotional exhaustion, we used the corresponding subscale of the Maslach Burnout Inventory (Maslach et al.,1996). The scale is self-rated and contains 5 items rated on a four-point scale ranging from 1 (never) to 4 (many times per week). A sample item is: “I feel emotionally drained from my job.” Third, to measure the intention to quit the profession, we used a contextualized version of the scale proposed by Kelloway et al. (1999). The scale is self-rated and contains 3 items rated on a seven-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). The measure was contextualized to reflect the specific experience of physicians rather than healthcare workers more generally. A sample item is: “It is likely that I will abandon my medical specialization.” Fourth, to measure work addiction, we used the Bergen Work Addiction Scale (BWAS) developed by Andreassen et al. (2012). The scale is self-rated and contains 7 items rated on a seven-point rating scale ranging from 1 (strongly disagree) to 7 (strongly agree). A sample item is: “I prioritise work over hobbies, leisure activities, and exercise.” All scales were translated to French and back-translated to English (Brislin, 1970) before building the online questionnaire.

We introduced three control variables: gender, age, and average weekly worked hours. Gender and age have been previously studied in research on emotional exhaustion, and results show that females and younger individuals are usually more prone to emotional exhaustion (Brady et al., 2021). Worked hours are controlled to better isolate the impact of work addiction, as addiction is not merely a high hour count (Griffiths, 2024).

1.4 Study 1: Results

We received 158 responses over the course of two weeks (32% response rate). However, 24 were removed from the sample due to abundant missing data. Therefore, the final sample was 134 respondents; 75.4% of participants were women (101), the average age was 43.9 (SD: 8.7) with an average of 15.6 years of experience (SD: 9.6). Table 1 presents demographic statistics.

Variables (N=134)	Frequency	Percentage
Gender		
Woman	102	76,1
Man	32	23,9
Age		
25 to 34	22	16,4
35 to 44	56	41,8
45 to 54	41	30,7
55 to 64	13	9,7
65 and up	2	1,4
Hours Worked per Week		
Less than 40	13	9,7
40 to 49	37	27,6
50 to 59	51	38,1
60 and up	33	24,6

Table 1.1: Demographics (Study 1)

Considering the cross-sectional and single-source nature of the data, we tested for common method bias (Podsakoff et al., 2003) using two approaches. First, we used

Harman's single factor test, and the results revealed that no general factor was observed in the unrotated factor structure. The explained variance was 36%, indicating that common method bias is not a major concern as it is below the recommended 50% threshold (Malhotra et al., 2006). Second, we conducted a collinearity diagnostic, and all variance inflation factors were below 1.7, under the recommended threshold of 2.5 or below (Johnston et al., 2018). Those results indicate that common method bias is unlikely to be an issue. As such, we proceeded with our main analyses. Table 2 presents the means, standard deviations, correlations, and Cronbach's α. All alpha coefficients are above 0.8, which indicates good internal consistency.

Variables	M	SD	1	2	3	4	5	6	7
1. Patient Recognition	5.39	1.14	(0.94)						
2. Emotional Exhaustion	2.66	0.75	-0.338**	(0.88)					
3. IQP	3.19	1.66	-0.287**	0.588**	(0.91)				
4. Work Addiction	4.14	1.20	-0.112	0.431**	0.169	(0.82)			
5. Gender			-0.051	0.259**	0.035	-0.119	*NA*		
6. Age	43.87	8.66	0.070	-0.267**	-0.153	-0.196*	-0.110	*NA*	
7. Hours Worked	51.59	11.38	0.096	0.107	0.141	0.414**	-0.320**	-0.313**	*NA*

Table 1.2: Means, SD, correlations, and alphas

IQP = Intention to quit the profession
Gender coded 0 = man, 1 = woman
N=134, * p < 0.05, **p < 0.01 (two-tailed)

After observing the absence of a significant correlation between patient recognition and work addiction, we further probed this relationship. Specifically, to rule out the possibility that one group (e.g., those who are addicted versus those who are not) received more recognition than the other, we used the following supplementary analysis. Using the cut-off point proposed by Andreassen et al. (2012) of scoring 4 and higher on 4 or more items of the BWAS, we created a dummy coded variable (0= not work addicted, 1= work addicted). We then conducted a one-way ANOVA to compare the means of

patient recognition between the two groups. The difference was not significant (F(1.132) = [1.089], p = 0.299), indicating that work-addicted and non-work-addicted physicians did not receive statistically different amounts of recognition. Of note, 24 respondents (18%) were classified as addicted to work, leaving 110 respondents (82%) to be labeled as being at low risk of suffering from work addiction.

The PROCESS macro (Hayes, 2017) (Model 7) in SPSS 28 was used to test our hypotheses after standardizing all independent variables. We proceeded with a 5000-bootstrap sample and a 95% confidence interval to test the mediation and moderation hypotheses. Regarding the control variables, neither age nor worked hours yielded a significant relationship with emotional exhaustion or intention to quit the profession. However, gender ($\beta = 0.29$, $p < 0.001$) (coded 0=man and 1=woman) had a significant relationship with emotional exhaustion, whereby women reported higher levels of emotional exhaustion than men. This result is consistent with previous studies on the subject (Brady et al., 2021).

Regarding the hypotheses, H1 stated that patient recognition is negatively related to emotional exhaustion among physicians. The result was significant and in the predicted direction ($\beta = -0.29$, $p < 0.001$), thereby lending support for H1. H2 posited that emotional exhaustion mediates the negative relationship between patient recognition and intention to quit the profession. The results indicated that the indirect effect was significant and in the predicted direction ($\beta = -0.17$, 95% CI [-0.27, -0.05]). Furthermore, the direct effect of patient recognition on intention to quit the profession was not significant ($\beta = -0.10$, $p = 0.169$), indicating an indirect-only mediation (Zhao et al., 2010). These results support H2.

H3a proposed that work addiction moderates the relationship between patient recognition and emotional exhaustion. We obtained a significant result in the predicted direction ($\beta = 0.167$, $p = 0.037$). Furthermore, we probed the interaction at -1 and +1 standard deviation (see Aiken & West, 1991; Dawson, 2014). The relationship between patient recognition and emotional exhaustion was significant at low work addiction ($\beta = -0.459$, 95% CI [-0.69, -0.23], $p < 0.001$), but was not significant at high work addiction ($\beta = -0.125$, 95% CI [-0.32, 0.07], $p = 0.205$), thereby supporting H3a. The interaction is presented in Figure 2.

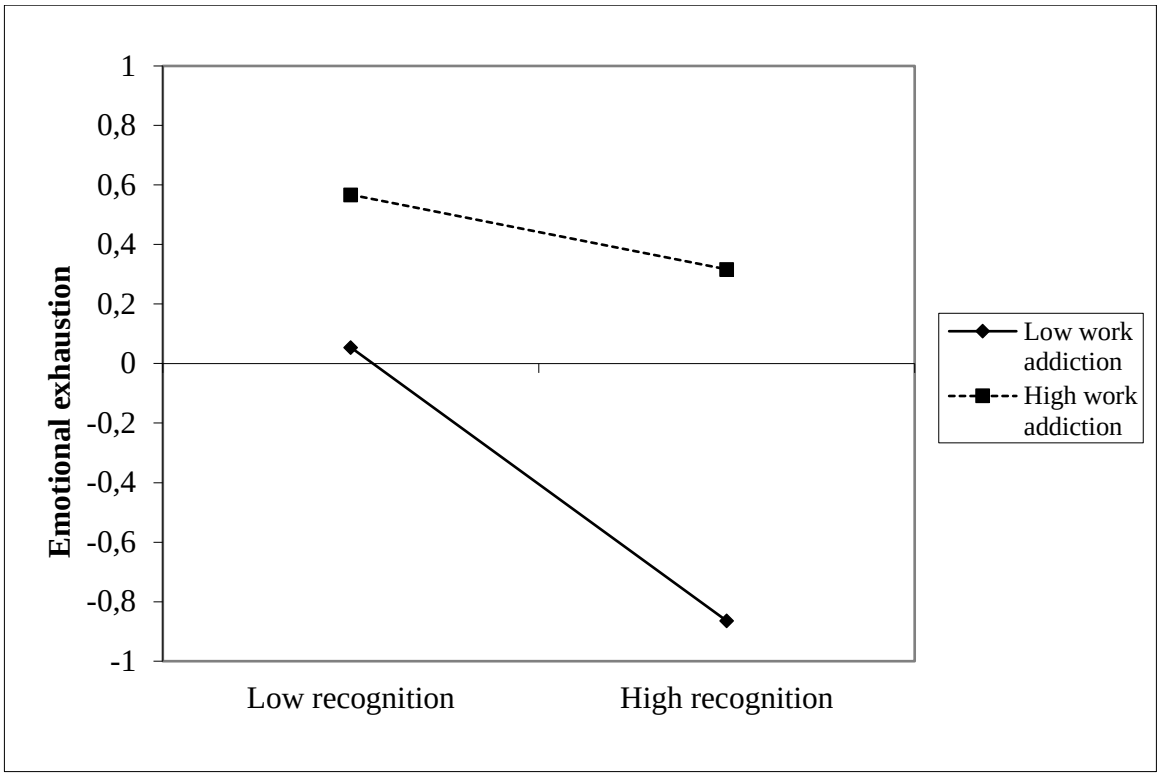

Figure 1.2: Results of the moderation (Study 1)

Finally, H3b proposed that work addiction moderates the indirect relationship between patient recognition and intention to quit the profession through emotional exhaustion. We obtained a significant index of moderated mediation (0.096, 95% CI [0.005, 0.187]). In addition, we obtained significant results whereby the indirect effect of patient recognition was significant at low (β = -0.264, [-0.42, -0.09]) but not at high (β = -0.072, [-0.18, 0.05]) levels of work addiction. Furthermore, the contrast between the two effects was also significant (0.19, [0.01, 0.37]), providing support for H3b. Table 3 presents the overall results.

	Emotional exhaustion		Intention to quit the profession	
Variables	β	SE	β	SE
Control				

Gender	0.29**	0.07	-0.10	0.08
Age	-0.09	0.08	0.02	0.08
Worked hours	0.01	0.09	0.06	0.08
Direct effects				
P. R.	-0.29**	0.07	-0.10	0.08
W. A.	0.42**	0.08		
E. E.			0.58**	0.08
P. R. x W. A.	0.17*	0.08		
Indirect effects				
P. R.			-0.17*	0.05
P. R. x W. A.			0.10*	0.05
R^2	0.40		0.37	

Table 1.3: Full model results (Study 1)

N= 134, * *p < 0,05; ** p < 0,01 (two-tailed).* SE = Standard error

P. R. = patient recognition, W. A. = work addiction, E. E. = emotional exhaustion

1.5 Study 2: Method

1.5.1 Research Design

After receiving approval from the research ethics board of the university and of the targeted organization, we collected data among healthcare workers within an integrated centre for health and social care across around 30 installations in the spring of 2024. Considering that this centre is composed of many installations, a formal response rate is difficult to establish. An online questionnaire was sent to employees via the human resources department of the centre. Again, confidentiality was guaranteed, and written

consent to participate had to be obtained before starting the questionnaire. No incentives were provided to participants.

1.5.2 Measures

All measures are identical to Study 1, except for emotional exhaustion, which was measured using the validated 3-item version of the MBI, which uses a 7-point Likert scale (Riley et al., 2018). Also, work addiction was measured using a temporal anchorage (1 = never, 5 = always)[1].

1.6 Study 2: Results

Overall, 383 full responses were received over the course of a month, and Table 4 presents demographic statistics. In addition, the most represented profession was nursing, composing 31.6% of the sample, followed by social workers (12.3%). Other professions included psychologists, occupational therapists, and medical technologists.

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Variables (N=383)	Frequency	Percentage
Gender		
Woman	334	87.2
Man	47	12.3
Non-binary	2	0.5
Age		
34 or less	79	20.6
35 to 44	145	37.9
45 to 54	104	27.1

[1] These changes were due to data collection being part of a larger research initiative and had to be adapted for the entirety of the project.

55 to 64	50	13.1
65 and up	5	1.3
Hours Worked per Week		
Less than 40	338	88.3
40 to 49	34	8.8
50 to 59	4	1.1
60 and up	7	1.8

Table 1.4: Demographics (Study 2)

Like Study 1, the data was cross-sectional and single source, and therefore we tested for common method bias (Podsakoff et al., 2003). First, the Harman's single factor test indicated no general factor in the unrotated factor structure. The explained variance was 25%, below the established threshold of 50% recommended by Malhotra et al. (2006). Second, all variance inflation factors were below 1.3 which is below the recommended threshold of 2.5 (Johnston et al., 2018). Overall, those results indicate that common method bias does not pose a threat to our data, and we proceeded with the statistical analyses. Table 5 presents the means, standard deviations, correlations, and Cronbach's α on the diagonal.

Variables	M	SD	1	2	3	4	5	6	7
1. Patient Recognition	5.35	1.21	(0.93)						
2. Emotional Exhaustion	3.37	1.32	-0.183*	(0.78)					
3. IQP	3.62	1.83	-0.150*	0.568**	(0.93)				
4. Work Addiction	2.29	0.83	-0.008	0.422**	0.271**	(0.85)			
5. Gender			-0.011	0.001	0.089	-0.016	*NA*		
6. Age	42.80	9.41	0.120*	-0.059	-0.171**	0.042	0.059	*NA*	

7. Hours	35.30	6.67	-0.041	0.085	-0.019	0.046	0.073	0.044	*NA*

Table 1.5: Means, SD, correlations, and alphas (Study 2)

IQP = intention to quit the profession
Gender coded 0 = man, 1 = woman, 1.5 = non-binary
N=383, * p < 0.05, **p < 0.01 (two-tailed)

Following the procedures of Study 1, we created a dummy coded variable (0= not work addicted, 1= work addicted) using the polythetic approach proposed by Andreassen et al. (2012). Using a one-way ANOVA, results indicated that the mean of patient recognition was not significantly different between work addicted and non-work-addicted workers ($F(1,381) = [0.146]$, $p = 0.702$). In this sample, only 47 (12%) respondents were identified as being addicted to work, in contrast to 336 (88%) identified as not being addicted to work.

We then proceeded to test our hypotheses with the PROCESS macro (Hayes, 2017) (Model 7) in SPSS 28 after standardizing all variables to provide comparable effect sizes. To test the overall model involving mediation and moderation, a 5000-bootstrap sample with a 95% confidence interval was used. Regarding control variables, age was associated with lower levels of intention to quit the profession ($\beta = -0.12$, $p = 0.005$) and gender with higher levels ($\beta = 0.09$, $p = 0.024$). No other significant correlations were observed.

H1 proposed that patient recognition is negatively related to emotional exhaustion. H1 was supported as the relationship was significant and in the predicted direction ($\beta = -0.19$, $p < 0.001$). H2 proposed that emotional exhaustion mediates the negative relationship between patient recognition and intention to quit the profession. H2 was also supported as the indirect effect was significant and in the predicted direction ($\beta = -0.10$, 95% CI [-0.15, -0.05]). In addition, the direct effect of patient recognition on intention to quit the profession was not significant ($\beta = -0.04$, $p = 0.381$), indicating an indirect-only mediation (Zhao et al., 2010). The results of H1 and H2 fully replicate those of Study 1.

Third, H3a proposed that work addiction moderates the relationship between patient recognition and emotional exhaustion. H3a was not supported as the interaction term was not significant ($\beta = 0.04$, $p = 0.411$). H3b proposed that work addiction

moderates the indirect relationship between patient recognition and intention to quit the profession. The index of moderated mediation was also not significant (0.021, 95% CI [-0.035, 0.077]) and therefore H3b was not supported. As a means of comparison, Figure 3 presents the results of H3a.

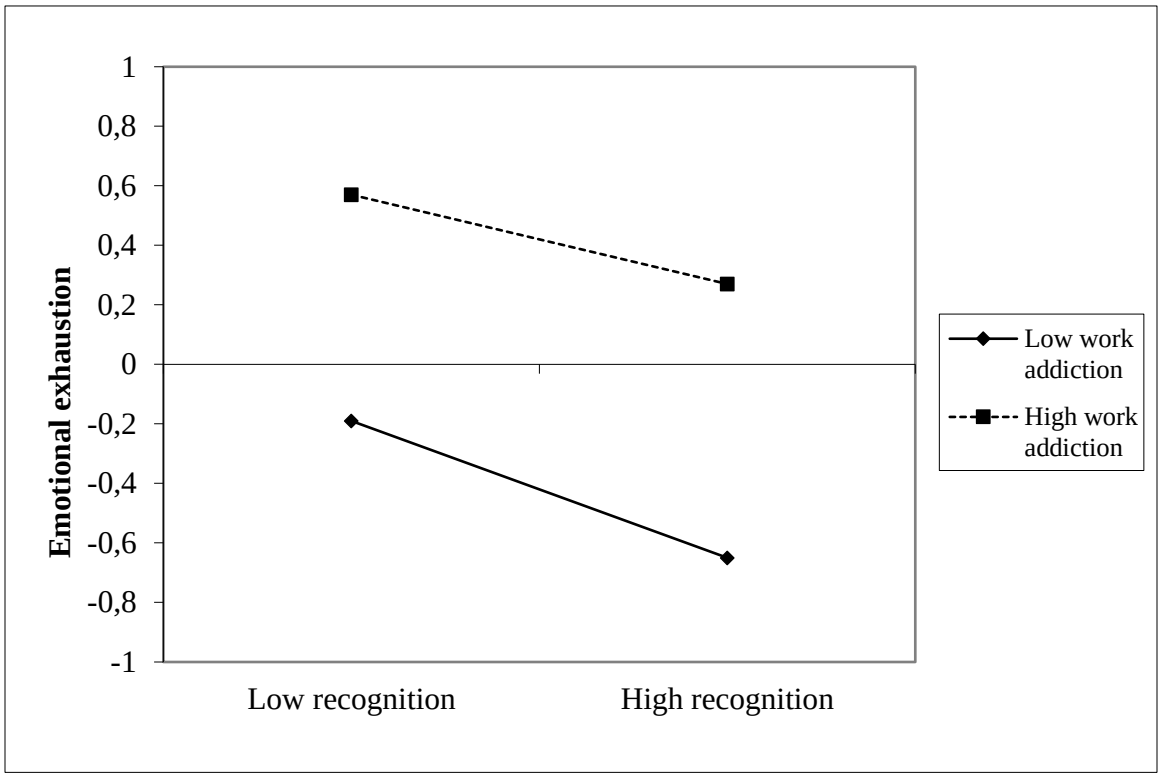

Figure 1.3: Results of the moderation (Study 2)

The results regarding the moderation did not replicate those of Study 1. The lack of significant result regarding the moderation led us to test if major differences between the diverse professional groups within the sample could explain such results. We thus proceeded with post hoc pairwise comparisons regarding mean work addiction among the various professions and controlled for multiple comparisons using Bonferroni. The overall ANOVA indicated no significant differences ($F(5,377) = [1.436]$, $p = 0.210$), and no contrast was significant. We conducted a final exploratory analysis, using Welch's T-test, to test the difference between the mean work addiction among the physician and caregiver samples. To provide comparable results, we converted the mean and standard deviation (SD) of work addiction of physicians on a 5-point scale, yielding a mean of 2.96

and a SD of 0.86. The difference was significant (t(225.4733) = 7.83, p < 0.001). These results inform us that the discrepancy between the observed results is due to the distinction between the samples and not within-sample variation. Table 6 presents the complete results for Study 2.

	Emotional exhaustion		Intention to quit the profession	
Variables	β	SE	β	SE
Control				
Gender	0.01	0.05	0.09*	0.04
Age	-0.08	0.05	-0.12**	0.04
Worked hours	0.07	0.05	-0.02	0.04
Direct effects				
P. R.	-0.19**	0.05	-0.04	0.04
W. A.	0.42**	0.05		
E. E.			0.55**	0.04
P. R. x W. A.	0.04	0.05		
Indirect effects				
P. R.			-0.10*	0.03
P. R. x W. A.			0.02	0.03
R^2	0.22		0.35	

Table 1.6: Full model results (Study 2)

N = 383. ** p < 0,05; ** p < 0,01 (two-tailed)*. SE = Standard error
P. R. = patient recognition, W. A. = work addiction, E. E. = emotional exhaustion

1.7 Discussion

The results from the presented studies indicate that the distal association between patient recognition and the intention to quit the profession can be explained by emotional exhaustion. In line with COR theory (Hobfoll et al., 2018), physicians and caregivers receiving recognition from their patients treat it as a resource signal, enticing them to keep investing resources into their work without risking emotional exhaustion, as it is perceived

to be a worthwhile investment. This, in turn, is associated with lower intention to quit the profession, since resources are perceived to be available in their current environment. As they do not perceive their resources to be under threat nor do they feel the need to recover lost resources, they do not need to exit their profession.

Furthermore, work addicted physicians did not benefit from patient recognition despite receiving the same amount as their non-work-addicted peers. Work addiction disturbs the process through which resource signals shelter physicians from entertaining thoughts to quit their profession. However, the same results were not observed among caregivers, indicating that work addiction is not experienced in the same way. Both replicated and non-replicated results provide valuable theoretical insights and practical implications.

1.7.1 Theoretical Contributions

Important theoretical contributions can be derived from the aforementioned results. First, this chapter contributes to refining the notion of resource signals, one of the least explored aspects of the COR theory (Halbesleben et al., 2014). Resource signals represent information stemming from the environment or other individuals and indicate if an investment is worth pursuing. Caregivers and physicians can benefit from such environmental cues which impact their work attitudes.

Regarding physicians specifically, unlike resources, they need to be aware of resource signals, and individual experience can alter how signals are perceived in the work context. In other words, resource signals can benefit physicians if they are willing or able to detect them as such. We observed that work-addicted physicians self-reported the same level of recognition from patients as the non-addicted yet did not benefit from it to the same extent. This indicates that work addiction does not prevent the detection of recognition; it interferes with its interpretation as a resource signal. This is an important distinction which highlights the idiosyncratic nature of resource signals. Work addiction leads the afflicted individuals to work beyond their limits, focusing their attention on opportunities to work incessantly (Oates, 1971). Recognition, while still being received, is not integrated as a resource signal as it does not nurture more work or provide valuable

rewards such as monetary gain or social prestige. As specified by the COR theory, individuals strive to obtain what they deem as valuable i.e., what allows them to fulfill their goals. Those who are not addicted to work perceive recognition as a resource signal, as it indicates that their goal of providing quality care is being achieved. Furthermore, work addiction tends to dampen the quality of social interactions cues (Astakhova & Hogue, 2013), reducing their value in the eyes of the addicts. As work addicts lack the ability to interpret resource signals as such while overinvesting themselves into work, this context places them at risk of emotional exhaustion, which eventually leads them to think about exiting the profession to replenish their resources (Hobfoll et al., 2018; Williams et al., 2020). Work-addicted physicians could also distance themselves from the profession over time due to a perceived lack of desired personal rewards and benefits that was envisaged when entering it (Wiederhold et al., 2018).

Following this logic, we also contribute by highlighting that work addiction does not affect everyone working in a healthcare setting in the same manner. Indeed, this is not to suggest that work addiction has no consequences among caregivers, far from it. Our results indicate a significant relationship with emotional exhaustion, and previous findings also point in that direction (Maisonneuve et al., 2024b). However, work addiction does not disturb the ability to identify patient recognition as a resource signal among a diversified group of caregivers. This could be explained by a plurality of factors, such as more diversity in hours spent working, distinct patterns of contact with patients, the existence of a plurality of alternative sources of recognition (i.e., peers and supervisors), or different expectations regarding the organization of work. While future research will be necessary, we pave the way for a more nuanced interpretation of the consequences of work addiction among different actors in healthcare settings.

Second, we provide a contribution by expanding the nomological network of the focal constructs investigated. While work addiction was previously studied with physician samples (i.e., Mazzetti et al., 2016), it was presented as an antecedent to job demands perceptions and not as a moderator. We thus identify work addiction as an important boundary condition which has deleterious effects for physicians. Additionally, we conclude that work addiction did not alter the relationships between patient recognition

and the outcomes among caregivers. Despite being a risk factor among this population (Maisonneuve et al., 2024a), it does not emerge as a threatening boundary condition and informs us that work addiction manifests differently among different populations. In the same vein, these findings suggest that recognition from patients may be a universally beneficial resource among this sample population. Finally, we identified emotional exhaustion as the underlying mechanism linking patient recognition and intention to quit the profession among two distinct occupational groups of healthcare workers. While receiving recognition is a beneficial experience, in and of itself, it does not nurture physician and caregiver retention. It is its ability to shelter their emotional resources which prevents them from seeking another career.

1.7.2 Practical Contributions

From a practical standpoint, the first implication is that healthcare organizations need to promote greater quality and frequency of social contact between physicians/caregivers and their patients, as it offers an important occasion for recognition. In this regard, more feedback mechanisms need to be instilled, such as post-treatment surveys. Data collection among patients can be online standardized satisfaction scales or electronic systems which involve patients pressing a button corresponding to their perceived quality of care delivered at the end of each visit. In addition, better planning of patient discharge would enable caregivers to visit patients before they leave, thereby offering an opportunity for direct feedback and appreciation from the patient. This could provide valuable recognition post-treatment from patients treated for non-chronic health issues. Furthermore, physicians and caregivers alike are increasingly confronted with a plethora of administrative tasks. This form of organization of work considerably reduces the quantity and quality of time spent with patients, affecting the frequency and quality of the recognition received. Limiting those tasks could be beneficial by delegating some tasks to the administrative staff. Another factor which affects physicians disproportionately is the lack of time to establish a positive relationship with their patients and communicate effectively. Organizations could offer communication skills development activities for physicians to facilitate quality contact with patients (West et al., 2016; Wiederhold et al., 2018). In their systematic review, Panagioti et al. (2017)

concluded that healthcare organizations should combine individual physician and organization-level initiatives to maximize their impact in reducing burnout. Similarly, we propose that having a multilevel approach to increasing opportunities for recognition should be valued and adopted. Not only will physicians and caregivers benefit from receiving more resources through better patient recognition, but this in turn will also entice them to remain in their profession. Turnover in healthcare systems is very expensive and should be minimized to reduce costs (Rothenberger, 2017) and the stress it places on coworkers (Moreno-Jiménez et al., 2012). As such, creating an environment where patient recognition is easily accessible is positive for physicians, caregivers, and healthcare organizations alike. Finally, following on the previous point, healthcare installations should strive to develop a culture of recognition. Valuing the expression of recognition, and so, from diversified sources of stakeholders can be beneficial (Guerrero et al., 2018). Recognition culture, developed at the organisational level, could act as a way to "boost" the strength of the resource signal in the environment, making it more salient for all involved parties, thus supporting physicians and caregivers alike.

Second, our results indicate that human resources management practices should not be a "one size fits all" approach. For example, practitioners should consider the social-demographic characteristics of physicians (Schaufeli et al., 2009a). Women physicians are more prone to emotional exhaustion and, as such, should receive more attention from their organization (West et al., 2016). As obtaining patient recognition has a beneficial relationship with emotional exhaustion, strategies regarding recognition should be tailored for physicians who are most at risk. Another example is related to the conclusion that work addiction does not influence physicians and other caregivers in the same fashion. While both populations can benefit from reduced work addiction, programs should be targeting a specific segment. Of note, in most Canadian provinces, physicians are not employees of the healthcare organizations but are autonomous workers. This organization of work implies that beyond human resources management practices that are present in healthcare and social services facilities, medical associations should also be actively involved in identifying additional mechanisms to dampen the emergence of work addiction among their members.

Finally, and in the same vein, both healthcare installations and medical associations need to follow physicians exhibiting symptoms of work addiction more closely to prevent them from burning out and ultimately leaving the profession. Work-addicted individuals must be perceived not as overachievers but as professionals who need help in tempering their investment in task-focused behaviours (Taris et al., 2020). Developing training regarding mindfulness and awareness campaigns geared towards work addicts to reach healthier levels of work investment could be constructive solutions (Astakhova & Hogue, 2013). Wiederhold et al. (2018) identified that cognitive-behavioral approaches can diminish burnout among physicians, namely time management and self-awareness training. The process of training and selecting doctors also constitutes fertile ground for the manifestation of addictive behavior at work. A better awareness of the issue among students from the beginning of their medical training course would allow for a better work-life balance among future physicians. These could be applied to decrease work addiction, potentially providing a virtuous circle, whereby reducing work addiction also helps alleviate exhaustion and intentions to leave the profession.

1.7.3 Limits and Future Research

This research is not without its limitations. Both studies had a cross-sectional design, which prevents us from making causal claims. A longitudinal design, preferably with three or more waves of data would enable us to test causality and reverse causality. Also, despite having a very distinct population in mind, the sample size in Study 1 remains small. Replicating this design in an urban setting, in other countries, and with a larger sample size could provide further information and crystallize the presented findings. Study 2 could also benefit from further replication in other countries when the organization of work is distinct from the Canadian healthcare system.

As for future research, we suggest four avenues. First, understanding how work addiction impacts, both directly and indirectly, physicians' resources and resource signals could lead to implementing positive human resources management practices in healthcare systems. Second, future research could study how other boundary conditions such as personal resources and personality can act as buffers or risks for emotional exhaustion

among physicians and caregivers alike. Third, identifying new resource signals, and from multiple sources, could provide vital information in healthcare environments. Trust, support, and recognition from other members of the organization, like supervisors or colleagues (Chênevert et al., 2021a) or from physicians, could be especially beneficial signals in this regard. Fourth, studying if and how receiving face-to-face versus digital recognition from patients impacts physicians and caregivers could better substantiate recommendations regarding the management of patient contacts and enable insights into more frequent and efficient ways of providing recognition.

1.8 Conclusion

Being a physician or a caregiver is demanding, both professionally and emotionally. As such, providing moments to garner recognition from patients is crucial for these populations' emotional health and, in turn, their willingness to stay in the healthcare profession. The study of resource signals is an important aspect of the COR theory that is often overlooked and deserves more academic attention. Understanding how resource signals are perceived and their impact on work attitudes and behaviours is a rich and intriguing avenue of research that the present study addresses. In addition, introducing an adverse condition, such as work addiction, allows research teams to identify which situations can potentially disrupt the resource signals' ability to have an impact. Interestingly, work addiction had an especially harmful effect among physicians, but not caregivers, regarding the impact of patient recognition. More research is needed to deepen our understanding of resource signals, work addiction, and the different nomological networks they affect, particularly among physicians.

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Chapter 2
The Effects of Ethical Climate in Association with Tenure on Work Addiction, Quality of Care and Staff Retention

Francis Maisonneuve[1], Patrick Groulx[2], Denis Chênevert[1], Colleen Grady[3], Angela Coderre-Ball[3]

1: HEC Montréal, Quebec, Canada
2: ESG UQAM, Quebec, Canada
3: Queen's University, Ontario, Canada

Abstract

Introduction: Work addiction is not contingent on personality alone; it is also impacted by social contextual factors. Work addiction influences the perceived quality of care and intention to remain in the healthcare sector. The current study seeks to understand the role of ethical climate as a potential organizational lever to reduce such addiction, especially among newcomers.

Method: We contacted a sample of Canadian healthcare organizations to collect quantitative data using an online questionnaire from November 2021 to February 2022. All constructs (ethical climate, work addiction, perceived quality of care, intention to quit the profession) were measured using validated psychometric scales. 860 respondents provided complete questionnaires. Structural equation modelling and regression analyses were used.

Results: Work addiction mediated the indirect relationship between ethical climate and the intention to quit the profession and with quality of care. For each increase of one standard deviation of ethical climate, the total effects regarding the variations in the outcomes were more important at low rather than high levels of tenure for work addiction, perceived quality of care, and intention to quit the profession.

Conclusion: Ethical climate in healthcare organizations has a significant and beneficial relationship with HCWs' work addiction behaviors. In turn, this is related to greater

perceived quality of care and higher intention to remain, especially for HCWs with lower tenure.

Keywords: ethical climate, heavy work investment, work addiction, intention to quit the profession, quality of care, tenure, healthcare workers

2.1 Introduction

The escalating frequency of natural catastrophes and pandemics, coupled with pressure from an ageing population, is making healthcare workers (HCWs) more subject to work intensification (Mong & Noguchi, 2021). As work demands increase, HCWs, defined as individuals working within a public or private organization that provides care, are at risk of adopting excessive work behaviors as a coping mechanism. This mechanism emerges as individuals assume ever-increasing workloads, thus normalizing excessive worked hours, compulsive effort, and reduced leisure activities to overcome current challenges. Even if the level of work demands subsides, maintaining excessive involvement can ultimately lead to a pathological relationship with work (Harpaz & Snir, 2014), such as work addiction (Oates, 1971).

Defined as "being overly concerned about work, to be driven by an uncontrollable work motivation, and to put so much energy and effort into work that it impairs private relationships, spare-time activities and/or health" (Andreassen et al., 2014; 8), work addiction can have deleterious effects on employee performance (Spagnoli et al., 2020a) and retention (Andrews, 2019). However, these relationships have yet to be studied among HCWs. Exploring employee performance, operationalized as quality care in healthcare settings, and intention to quit the profession among this population is highly important as they are two of the most salient challenges regarding healthcare across many countries. To address these challenges, we test ethical climate (Olson, 1998) as an organizational lever to reduce work addiction among HCWs, and in turn, support quality care and retention. Furthermore, following the principles of the social learning theory (Bandure, 1977), we propose that individuals with lower tenure are especially sensitive to the climate of their organization. As such, tenure is introduced as a boundary condition.

Such relationships with work can be studied through the lens of the conservation of resources (COR) theory, which postulates that individuals strive to invest, protect, and acquire resources (Hobfoll, 1989). Resources are "anything perceived by the individual to help attain his or her goal" (Halbesleben et al., 2014; 1338). However, work addicts continually invest disproportionate amounts of resources in their tasks despite negative repercussions and loss of resource. Like gambling or substance abuse, work addiction pushes employees to experience deteriorating physical (e.g., heart disease) and psychological (e.g., burnout) health, while impacting interpersonal relations and social functioning (Quinones & Griffiths, 2015; Burke, 2000). This pathological urge to work stems from addiction, which causes them to experience withdrawal symptoms and dysphoria during their non-work activities (Andreassen, 2014), leading them to invest even more into their work, thus creating a vicious cycle. This excessive investment in time and energy at work goes against the basic tenet of the COR theory (Hobfoll et al., 2018) in that these investments lead to resource loss rather than gain. As such, we conceptualize work addiction as a pathologically excessive resource investment strategy.

This study has two main objectives. First, we test ethical climate as a potentially relevant external antecedent to work addiction. Exploring the role of ethical climate on work addiction and adding this climate to the nomological network of work addiction could offer practical implications for healthcare organizations trying to discourage work addiction among their employees. Second, we use theory blending between the COR and social learning theories to provide novel theoretical implications for future research.

2.2 Theory and hypotheses

2.2.1 Ethical Climate as a Beneficial Resource Passageway

Work addiction literature has focused on internal factors as the antecedents of this phenomenon, such as perfectionism (Falco et al., 2020; Robinson, 1999), self-esteem (Ng et al., 2007), and neuroticism (Morkeviciute et al., 2021), rather than external forces (e.g., work pressure, Johnston, 2015). A recent meta-analysis concluded that less than 20% of empirical studies on work addiction had external factors as an antecedent in their

theoretical model (Morkeviciute et al., 2021). Yet the COR theory specifies that resource investments are influenced by their specific context, called resource passageways, defined as "ecological conditions that either foster and nurture or limit and block resource creation and sustenance" (Hobfoll et al., 2018; 106). Thus, work addiction scholars should pay closer attention to external factors such as organizational climate (Griffiths et al., 2018).

Ethical climate, defined as the explicit presentation of "(a) how decisions having ethical content are solved, or (b) the presence of organizational conditions that allow employees to engage in ethical reflection, or both" (Olson, 1998; 346), could reduce the risk of work addiction. Acting as a guardrail for HCWs, ethical climate provides valuable information regarding how the organization can support its members. By valuing workers' experience, dealing openly with conflicts, and providing support when facing hardships, an ethical climate can deescalate the need to invest pathologically in work (Olson, 1998). Therefore, the presence of this type of intrinsically desirable climate may make HCWs less inclined to adopt an initial strategy of excessive resource investment that would likely lead to work addiction. We thus theorize ethical climate as a resource passageway whereby HCWs can invest their resources in a healthy manner, reducing their inclination towards work addiction.

Hypothesis 1: Ethical climate is negatively associated with work addiction.

2.2.2 Work Addiction as a Maladaptive Underlying Mechanism

Two of the possible negative consequences of work addiction for HCWs are noteworthy. First, the resource disruption brought about by work addiction can interfere with the quality of the care provided to patients (Devoe et al., 2002). Establishing a beneficial relationship with patients, a major component of the quality of care and performance of a given healthcare system, requires a significant amount of resources (Campbell et al., 2000). However, work addicts tend to overly invest in their tasks and disregard investing in social ties (Ng et al., 2007), which impacts the quality of their relationships with patients. Establishing a high ethical climate would allow HCWs to invest resources effectively by incentivizing good communication (Hobfoll et al., 2018, Numminen et al., 2015), reducing the need to employ excessive investment strategies.

This in turn frees resources that can be invested in the patients, enabling good quality of care (Jiang et al., 2021).

Second, HCWs retention is paramount for healthcare organizations and patients alike. As proposed by the COR theory, individuals seek to avoid situations that threaten their resource pool (Hobfoll et al., 2018). Work addiction, leading HCWs to invest excessively in their work, exhausts their resources over time (Andrews, 2019). Work addiction was previously presented as a risk factor regarding intention to quit the profession (Sánchez-Medina et al., 2020) but has yet to be tested within a healthcare sample. In the present context, we theorize that the presence of an ethical climate, acting as a resource passageway, can reduce work addiction, in turn mitigating intention to quit the profession (Simha & Pandey, 2021; Munir et al., 2018; Hart, 2005). More precisely, when individuals do not perceive their resources to be threatened, they will aim to remain within their current environment and role (Hobfoll et al., 2018). Whereas for HCWs who struggle with work addiction, to exit the profession might emerge as a mechanism to preserve their resource while maintaining their addiction, aiming to work excessively in another role. Hoping, most certainly to no avail, that a change in profession may nurture their excessive resource investment without negative consequence.

Hypothesis 2a: Work addiction mediates the positive relationship between ethical climate and quality of care.

Hypothesis 2b: Work addiction mediates the negative relationship between ethical climate and intention to quit the profession.

2.2.3 The Role of Organizational Tenure and Social Learning

To prevent the initial inclination to adopt pathological resource investment strategies, we argue that the effect of ethical climate may be especially important for new employees, e.g., those with low tenure (time spent within the current employing organization). Following the principles of social learning theory (Bandura, 1977), individuals learn by observing how others behave to understand how to fit in and be rewarded. Employees arriving in a new organization are attentive to social cues and try to adapt their attitudes and behavior to their new environment (Zeng et al., 2021). Employees

adapt to their environment by adopting beliefs, values, and behaviors that are needed to thrive within their specific organizational context (Johnston, 2005). Following this logic, having a clearly communicated ethical climate could reduce work addiction among new HCWs. Conversely, workplaces lacking an ethical climate could foster work addiction, exacerbating issues for new recruits trying to integrate into the organization. Low tenured HCWs tend to adapt to their new work environment, which we propose enables them to perceive that they are providing quality of care more effectively. In addition, when newcomers experience a positive working climate, they should quickly develop a sense of belonging in healthcare, enticing them to remain within this vital sector. Figure 1 presents the full theoretical model.

Hypothesis 3: Tenure moderates the relationship between ethical climate and work addiction such that the negative relationship is stronger when tenure is low.

Hypothesis 4a: Tenure moderates the indirect relationship between ethical climate and quality of care such that the positive indirect relationship is stronger when tenure is low.

Hypothesis 4b: Tenure moderates the indirect relationship between ethical climate and intention to quit the profession such that the negative indirect relationship is stronger when tenure is low.

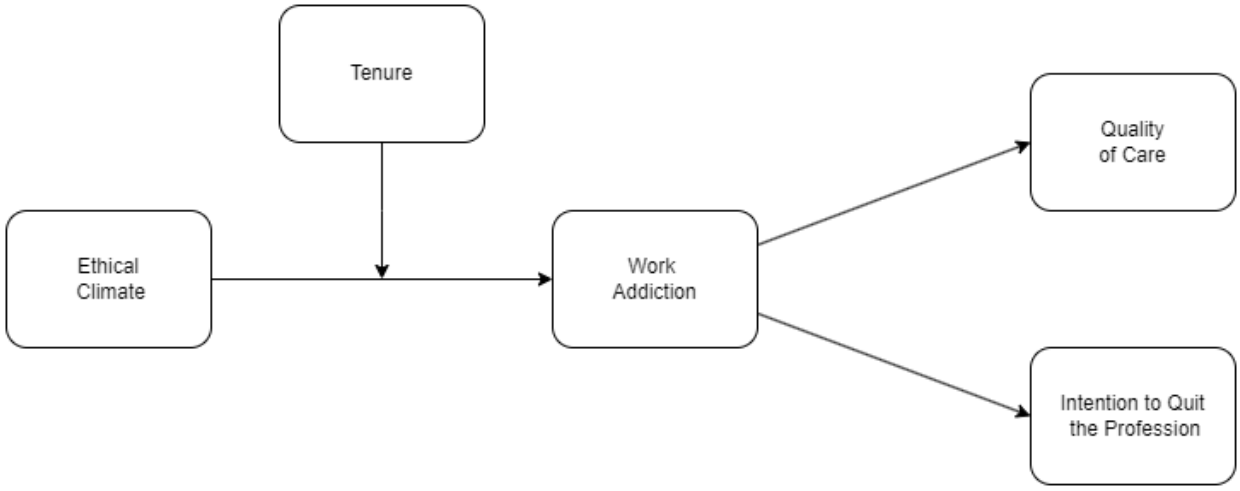

Figure 2.1: Theoretical model

2.3 Method

2.3.1 Research Design

The sample for this cross-sectional study was collected by contacting a sample of healthcare organizations throughout Canada between November 2021 to February 2022 after obtaining the approbation of two Research Ethics Boards. The voluntary and open survey was designed using Qualtrics, a web-based survey tool to collect and store data. The objective of our sampling frame was to compile a diversified sample of HCWs to provide a portrait that resembles the healthcare workforce in Canada. Consent to participate in this study was free and informed: all respondents had to read and sign a consent form before starting the questionnaire, could review their answers, and opt out at any time. No incentives were offered.

2.3.2 Measures

First, to measure ethical climate, we used the Hospital Ethical Climate Scale (Olson, 1998) composed of six items. A sample item is: "I am able to practice my profession as I believe it should be practiced." Second, to measure work addiction, we used the Bergen Work Addiction Scale (BWAS, Andreassen et al., 2012), composed of seven items, each representing a sub-component of addiction: salience, mood modification, conflict, withdrawal, tolerance, relapse, and problems (Andreassen, 2014; Andreassen et al., 2012). A sample item is: "I prioritise work over hobbies, leisure activities, and exercise." Third, to measure perceived quality of care, we used the six-item scale proposed by Devoe et al. (2002). However, because the scale was developed in an American setting, the item regarding income was removed because it was not applicable to the specific setting of the Canadian healthcare system. A sample item is: "I have the freedom to make clinical decisions that meet my patients/clients' needs." Fourth, to measure intention to quit the profession, we used a contextualised version of the three-item scale by Kelloway et al. (1999). A sample item is: "I often think of quitting my profession in healthcare." All scales are self-rated on a seven-point scale ranging from 1 (strongly disagree) to 7 (strongly agree) except for the BWAS which uses temporal anchors (1=Never, 5=Always). Fifth, organisational tenure was measured with a single item: 'How many years have you worked at your primary workplace?'

We introduced two control variables: gender (coded 0 = woman, 1= man) and age (coded 1= less than 25, 2 = 25 to 34, 3 = 35 to 44, 4 = 45 to 54, 5 = 55 to 64, 6 = 65 and up). Both variables have previously been used in research regarding work addiction (Falco et al., 2020), intention to quit the profession (Jourdain & Chênevert, 2010), and quality of care (Jiang et al., 2021).

2.3.3 Analytical Procedures

The data set was extracted and cleaned using SPSS 28. We performed a confirmatory factor analysis (CFA) in R studio 4.4.0 (R Core Team, 2022) using the *lavaan* package (Rosseel, 2012). Then, we used structural equation modelling (SEM) using latent variable with robust maximum likelihood estimation without missing data to test our hypotheses. This allows us to factor in error terms among all variables and to use double-mean centering to create the interaction terms (Lin et al., 2010). Indirect effects were computed using parametric tests.

In addition, we measured the mean variation ratio of our dependant variables (work addiction, intention to quit the profession and quality of care) at both -1 and +1 standard deviation (SD) of tenure (Cohen et al., 2003). To do so, we multiplied the unstandardized coefficient of the total effect of ethical climate by the ratio between its SD and the SD of each dependant variable. Second, we multiplied the obtained standardized coefficient by the SD of each dependant variable, then divided the result by their mean to contextualize the results. The results represent the percentage of variation in each dependant variable for each increase of one SD in ethical climate at both low and high levels of tenure. All reported results are standardized to better compare the magnitude of the observed effects.

2.4 Results

Participants were recruited during the first Omicron wave of the COVID-19 pandemic in Canada (November 12, 2021, to February 2, 2022). This period was demanding for HCWs because cases were rising and the ‘enormous volume of cases [was]

placing a heavy strain on the healthcare system' (Public Health Agency of Canada, 2022). More specifically, HCWs were facing increasingly high patient loads, as well as high rates of absenteeism due to COVID-19 infections. Despite the difficult conditions that our respondents were experiencing during data collection, we received 947 responses to our survey. Of this total, 87 surveys were rejected due to missing data regarding one or more variables, for a final sample of 860. Demographic data indicate that 84.8% of participants identified as women (national mean of HCWs: 80.2%) (Statistics Canada, 2021). 72.7% of our sample was between 25 and 54 years (national mean of HCWs: 70.5%) (Statistics Canada, 2021), and nurses were the most represented profession (33.8%) compared with a mean representation of 30.5% among Canadian HCWs (Canadian Institute for Health Information, 2022). As for the representativeness of the population of Canada, our sample was composed of 39.7% respondents from Ontario (compared with 39% of the Canadian population) (Statistics Canada, 2022), 17.8% from Quebec (vs 22%), 15.8% from British-Columbia (vs 13.7%), and 12.5% from Alberta (11.6%), thus representing the most populous provinces. Table 1 summarizes the demographic statistics of our sample.

Variables (N=860)	Frequency	Percentage
Gender		
Woman	729	84,8
Man	131	15,2
Age		
Less than 25	9	1,0
25 to 34	145	16,8
35 to 44	237	27,5
45 to 54	245	28,4
55 to 64	202	23,5
65 and up	23	2,8
Tenure		
Less than 10	414	48,1
10 to 19	259	30,2
20 to 29	120	13,9
30 to 39	56	6,5
40 and up	11	1,3
Profession (where n > 40)		
Nurses	291	33,8
Social Worker	99	11,5
Rehabilitation	68	7,9

Paramedic	53	6,2
Personal Support Worker	49	5,7
Administration	47	5,5
Physician	41	4,8
Other	212	24,6
Primary Workplace		
Hospital	304	35,4
Home and Community Care	114	13,2
Long-term Care	113	13,1
Emergency Services	60	7,0
Primary Care	55	6,4
Dental Care	53	6,2
Other	161	18,7

Table 2.1: Demographics

Given that our sample is cross-sectional and self-rated, we tested for common method bias (Podsakoff et al., 2003). Using Harman's single factor test, no general factor was observed in the unrotated factor structure. The factor explained only 28% of the variance, which is under the accepted threshold of 50%. Consequently, the result suggested that common method bias is not an issue. Means, standard deviations (SD), Spearman's correlations, and Cronbach's α are presented in Table 2.

Variables	M	SD	1	2	3	4	5	6	7
1. Ethical Climate	4.10	1.333	(0.87)						
2. Work Addiction	2.84	0.819	-0.210**	(0.84)					
3. Quality of Care	4.55	1.216	0.570**	-0.284**	(0.79)				
4. IQP	4.02	1.937	-0.438**	0.258**	-0.407**	(0.91)			
5. Tenure	12.07	9.436	-0.044	0.009	-0.007	-0.095*	*NA*		

6. Gender	0.000	-0.008	0.075*	-0.099**	0.180**	*NA*	
7. Age	0.097**	-0.012	0.049	-0.169**	0.495**	0.104**	*NA*

Table 2.2: Means, SD, correlations, and alphas

N.B. Scale internal consistency (alphas) reported on the diagonal.
IQP = Intention to Quit the Profession
Gender coded 0 = woman, 1= man; Age coded 1= less than 25, 2 = 25 to 34, 3 = 35 to 44, 4 = 45 to 54, 5 = 55 to 64, 6 = 65 and up
* $p<0.05$, ** $p<0.01$. N=860

The results of the CFA analyses indicated that the proposed theoretical model had good model fit ($X^2 = 718.12$, df = 183, Comparative Fit Index, CFI = 0.923, Standardized Root Mean Square Residual, SRMR = 0.054, Root Mean Square Error of Approximation, RMSEA = 0.063 [0.058, 0.068], Adjusted Goodness of Fit, AGFI = 0.89) (thresholds for good fit are CFI > 0.90, SRMR < 0.08, RMSEA < 0.08, AGFI > 0.90) (Hu & Bentler, 1999). We then compared the fit of our 4-factor model with a 3-factor model where both outcomes were regrouped into a single latent variable, a 2-factor model where work addiction was regrouped with the two outcomes, and a 1-factor model where all items were grouped in a single latent variable. As presented in Table 3, the proposed theoretical model performed better than the more parsimonious models.

Model	X^2	df	ΔX^2	Δdf	CFI	SRMR	RMSEA
4 factor model	718.12***	180	-	-	0.923	0.054	0.063
3 factor model	1523.57***	186	805.45***	6	0.809	0.103	0.098
2 factor model	2785.63***	188	2067.51***	8	0.653	0.131	0.136
1 factor model	3435.67***	189	2717.55***	9	0.566	0.132	0.153

Table 2.3: Comparison of model fit indices

Notes: ***p < 0.001

We then proceeded with the SEM. The proposed model presented an acceptable fit with the data ($x^2(380) = 1007.06$, $p < 0.001$, CFI = 0.931, SRMR = 0.044, RMSEA = 0.048 [0.045, 0.052], AGFI = 0.895). For the control variables, gender had a significant impact, whereby women experienced higher intention to quit the profession ($\beta = -0.079$, $p = 0.017$) and lower perceived quality of care ($\beta = 0.100$, $p = 0.003$) than men did. This could be due to the heavily skewed distribution of gender within the sample. Age had a significant negative relationship with intention to quit the profession ($\beta = -0.084$, $p = 0.021$).

Hypothesis 1, which posited that ethical climate has a significant negative relationship with work addiction, was supported ($\beta = -0.255$, $p < 0.001$). Hypotheses 2a and 2b were fully supported in that work addiction mediated the positive indirect relationship between ethical climate and quality of care ($\beta = 0.052$, $p < 0.001$) and the negative indirect relationship with intention to quit the profession ($\beta = -0.054$, $p < 0.001$). Of note, the direct effect of ethical climate on the two outcomes remained significant ($\beta = 0.612$, $p < 0.001$ and $\beta = -0.419$, $p < 0.001$, respectively). We thus observed a complementary mediation (Zhao et al., 2010).

We then tested hypothesis 3, which predicted that tenure moderates the relationship between ethical climate and work addiction such that the negative relationship is stronger when tenure is low rather than high. First, the direct effect of the interaction was positive and significant ($\beta = 0.114$, $p = 0.005$). Second, we tested the difference between the slopes at -1 and +1 standard deviation (Podsakoff et al., 2003), which was significant ($t(856) = 3.429$, $p < 0.001$), supporting hypothesis 3. Figure 2 illustrates the interaction between ethical climate and tenure. Furthermore, we tested if the interaction was still significant if age replaced tenure as the moderator, with tenure as a control variable. The interaction was not significant ($\beta = 0.045$, $p = 0.245$).

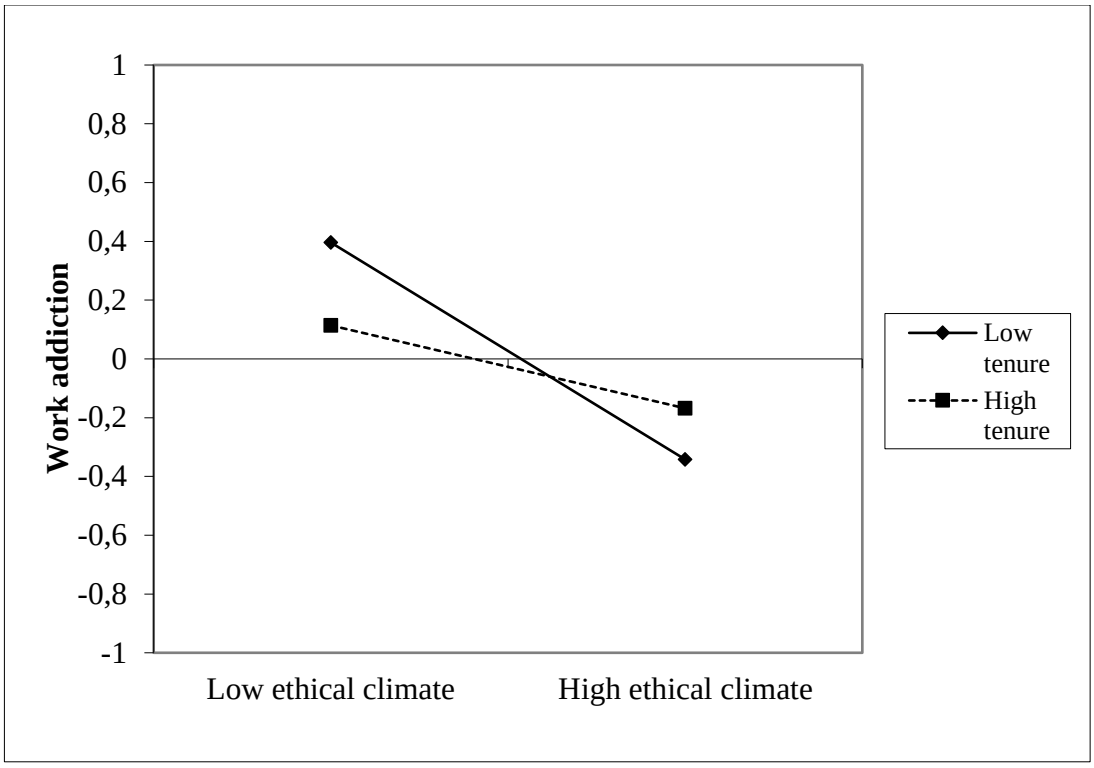

Figure 2.2: Two-way interaction

Finally, we tested the moderated indirect effects of ethical climate. Results indicated that the moderated indirect effect of ethical climate on quality of care was significant (β = -0.023, p = 0.012), supporting hypothesis 4a. As for results regarding intention to quit the profession, the moderated indirect effect was also significant (β = 0.024, p = 0.010), supporting hypothesis 4b. Again, when age replaced tenure as the moderator, the indirect effect of ethical climate on quality of care and intention to quit the profession were non-significant (β = -0.009, p = 0.259 and β = 0.010, p = 0.257, respectively). Table 4 summarizes the full model and Table 5 presents the total effects and percentages of variation in the outcomes.

	Work addiction		Quality of care		IQP	
Variables	β	SE	β	SE	β	SE
Control						
Gender	-0.019	0.061	0.100**	0.079	-0.079*	0. 173
Age	0.050	0.022	-0.042	0.028	-0.084*	0.061
Direct effects						
EC	-0.255**	0.022	0.612**	0.039	-0.419**	0.063
WA			-0.205**	0.057	0.211**	0.128
Tenure	-0.027	0.002	0.052	0.003	-0.047	0.007
EC x Tenure	0.114**	0.007				
Indirect effects						
EC			0.052**	0.009	-0.054**	0.020
EC x Tenure			-0.023*	0.001	0.024*	0.002
R^2	0.08		0.49		0.29	

Table 2.4: Standardized effects of the full model

Note. n= 860. * p < 0.05; ** p < 0.01 (two-tailed)
E.C. = ethical climate, WA = work addiction, IQP = intention to quit the profession

	Work addiction	**Quality of care**	**Intention to quit the profession**
	β (%)	β (%)	β (%)
EC, -1SD	-0.39** (-11%)	0.86** (+23%)	-0.62** (-30%)
EC, +1SD	-0.08 (-2%)	0.40** (+11%)	-0.47* (-23%)

Table 2.5: Standardized total effects of ethical climate at -1 and +1 SD of tenure

Note: *p < 0.05, **p < 0.01; β is the standardized regression weight and % is the proportion of change in Y for each increase of one SD of ethical climate

2.5 Discussion

As theorised, ethical climate has a significant and beneficial relationship with work addiction among HCWs. We also found that tenure moderated the relationship

between ethical climate and quality of care and with intention to quit the profession. These results are consistent with the principles of the COR theory, whereby ethical climate acts as a resource passageway that determines which investments are worth pursuing and facilitates resource development (Hobfoll, 2011), thus limiting the work addiction habit of adopting excessive investment strategies. These results suggest that ethical climate is a key factor for healthcare organisations and for the quality of the care provided to patients. The observed relationships are particularly acute among new employees, with tenure acting as an important moderator. This moderating factor provides insight into the relationship between ethical climate and the resulting outcomes. Indeed, tenure has a distinct effect on how ethical climate impacts its outcomes. As predicted by social learning theory (Bandura, 1977), low tenure individuals who perceive to work in organisations with an ethical climate have the lowest work addiction scores, indicating that organisations need to signal to new employees that they value them by offering them resources to reflect upon their professional work and deal with challenges (Wang et al., 2015). By contrast, low tenure individuals in organisations lacking an ethical climate have the highest work addiction scores, likely to 'prove themselves' to their peers by taking on more work than normal (Snir & Harpaz, 2012).

2.5.1 Theoretical Contributions

This research provides important theoretical contributions. First, we contribute to both the ethical climate and work addiction literatures by establishing the first empirical instance of a relationship between both variables. Work addiction, as a pathological work tendency, is a potent threat to HCWs and patients alike, making it an important construct to understand. Adding ethical climate as an antecedent to its nomologic network furthers our understanding of both phenomena (Koskenvuori et al., 2019). Further, we contribute to the notion of resource passageway as conceptualised within the COR theory by integrating an organisational climate as a contextual factor that alters how employees adopt (or not) certain resource investment strategies (Hobfoll, 2011; Hobfoll et al., 2018). Second, we approached work addiction as a risky resource investment strategy that can be adopted by new employees in organisations lacking an ethical climate as they aim to integrate into their new workplace. Borrowing from social learning theory, we theorised

that new employees learn by observing their peers' behaviour, thus understanding which resources are available and how to invest to obtain them in their novel organisational setting. The innovative integration presented here bridges the gap between the social learning and COR theories. By blending the two streams, the research team could better theorise how HCWs react to an ethical climate (or absence thereof), and how this reaction varies depending on tenure. Of note, tenure altered the relationship between ethical climate and work addiction, but not age. This indicates that it is a novel work environment that leads an individual to become attentive to resource signals and passageways, rather than past life/work experience. This is important because it implies that tenure and age are not interchangeable when theorising about the adoption of resource investment strategies.

2.5.2 Practical Contributions

The results of this study also provided valuable practical implications for human resources management in healthcare organisations. First, fostering an ethical climate that decreases work addiction nurtures the perception of granting quality care. This observed relationship justifies creating and maintaining an ethical climate within organisations (Friend et al., 2020; Goldman & Tabak, 2010). Indeed, as the main mission of every healthcare organisation, providing quality care to patients is central and has a positive relationship with ethical climate. Further, working in an ethical environment is related to a lower intention to quit the healthcare sector. As an unprecedented labour shortage continues, having high-performing HCWs willing to stay in their discipline is of utmost importance, because the shortage of caregivers also reduces the quality and safety of the care provided (Devoe et al., 2002). Second, we identified ethical climate as a tool to reduce work addiction among HCWs. Ethical climate is a key factor that organisations have control over and thus a mechanism for staff retention. By explicitly developing an organisational climate that values integrity and respect for the patients, and for the HCWs themselves, organisations can decrease excessive work investment and support fulfilling career development (Spagnoli et al., 2020). Managers should strive to establish adequate resource passageways to allow more efficient resource investments that benefit HCWs. Third, healthcare organisations' human resources teams must consider employees' tenure

when developing protocols and practices. Low tenure employees benefit the most from the presence of an ethical climate that creates resource passageways, which fosters resource-gain spirals from early on. Conversely, lacking an ethical climate exposes HCWs to risky investment strategies such as working excessively, which in turn adversely effects quality and safety of care through the increase in caregiver turnover. As new employees socially learn which behaviours are valued by an organisation, they strive to incorporate these behaviours into their work. Consequently, human resources practitioners should implement rigorous and planned onboarding initiatives to convey the ethical climate and support recruits of all backgrounds. Further, healthcare organisations should refrain from presenting work addicted individuals as 'champions.' Valuing excessive work investment accentuates work addiction among HCWs, especially those with low tenure. Carefully selecting which employee behaviours are presented as models is paramount to promoting healthy work investment.

2.5.3 Limits and Future Research

Despite interesting findings and relevant contributions, this study has limitations that are worth noting. The cross-sectional nature of the data prevents us from exploring causality and reverse-causality within the model. Time-lagged or longitudinal data collection would benefit future research designs. Further, despite the single-source nature of the questionnaire, common method bias was not a problem, but data interpretation is perhaps limited. Future research could benefit from having other-rated scales, including input from supervisors and coworkers, which could help add nuance to the understanding of work addiction. In addition, having access to objective data from the human resources department (overtime, sick leaves, short- and long-term absences, etc.) provides additional relevant outcomes that could be related to work addiction. Finally, due to the nature of the data collection, a response rate was impossible to determine, which limited our ability to generalise the results presented.

2.6 Conclusion

Understanding the underlying mechanisms which affect the intention to quit the profession and the perceived quality of care, such as work addiction, is of paramount importance for healthcare organizations worldwide. As such, ethical climate should be valued, especially for HCWs with lower tenure, as it has a beneficial relationship with these outcomes. Future research could study whether specific differences exist between various professions in healthcare regarding work addiction, ethical climate, quality of care and/or intention to quit the profession. Identifying differences in perceptions could help researchers better understand how to support specific healthcare professionals. These differences could also provide valuable information for practitioners when developing resources management programs tailored for a specific profession.

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Chapter 3
Do High Worked Hours Equate High Work Addiction? It's More Complicated Than That: A Three-Way Interaction Study Among Canadian First-Level Managers in Healthcare and Social Services

Francis Maisonneuve[1], Denis Chênevert[1]

1: HEC Montréal, Quebec, Canada

Abstract

Introduction: The exact influence of long working hours on work addiction is still a subject of debate among scholars. Boundary conditions regarding this relationship are rarely studied, limiting our understanding of the origin of work addiction. Building on conservation of resources theory, this study explores how psychological safety and self-confidence can act as protective factors for first-level managers in healthcare and social services. Overall, we propose a three-way interaction to better understand the emergence of work addiction.

Method: Cross-sectional data was collected among members of two associations of first-level managers working in public healthcare and social services installations in Quebec, Canada. 548 managers responded to an online survey in the spring of 2024. Data was analysed using the PROCESS macro for R.

Results: Worked hours were associated with higher levels of work addiction. The three-way interaction (worked hours, psychological safety, self-confidence) was associated with a lower increase in work addiction when worked hours were high. However, at low levels of the moderators, work addiction was high, even so at low levels of worked hours.

Conclusion: Despite the harmful effect of worked hours, nurturing psychological safety and managers' self-confidence limits the risks of managers investing themselves pathologically into their work. Results offer proactive solutions to healthcare

organizations' human resources management teams to provide support to their first-level managers.

Keywords: work addiction, psychological safety, self-confidence, healthcare, managers

3.1 Introduction

Individuals in managerial positions tend to work more hours than their subordinates (Afota et al., 2021; 2019). Having to invest significant amounts of time at work could make them more at risk of developing work addiction as work takes a disproportionate place in their lives (Lichtenstein et al., 2019). Work addiction is defined today as "being overly concerned about work, to be driven by an uncontrollable work motivation, and to put so much energy and effort into work that it impairs private relationships, spare-time activities and/or health" (Andreassen et al., 2014; 8). It is a serious threat to the well-being of those afflicted (Morkevičiūtė et al., 2021). Being prone to work addiction thus becomes a problem for managers (Atroszko & Atroszko, 2020), but also their team members and the entire organization. More specifically, first-level managers, defined as managers who do not supervise other managers, might be even more susceptible to work addiction as they juggle a plurality of tasks, both operational and strategic (Delaye & Boudrandi, 2010). Furthermore, the context in which they work is a key factor (Johns, 2006). Notably, healthcare and social services is a relevant sector to study work addiction as demands are very high (Mong & Noguchi, 2021). In addition, individuals working in this sector are often drawn to it because they feel a strong connection to the mission to provide care, increasing the risk of falling prey to work addiction (Griffiths, 2024). Even more so among first-level managers who feel compelled to support their team and contribute to providing safe and quality care to patients at the same time (Maisonneuve et al., 2024b).

Despite these apparent risks, the relationship between worked hours and work addiction deserves more exploration as previous empirical results present inconsistencies (Clark et al., 2016; Griffiths et al., 2018). Even today, relevant boundary conditions which

could explain these discrepancies are not well known. To address this gap, we explore potentially beneficial conditions using the conservation of resources theory (COR) (Hobfoll, 1989). More precisely, we propose psychological safety and self-confidence as a resource passageway and a personal resource (Hobfoll, 2011), respectively. By theorizing the three-way interaction between worked hours and these boundary conditions using the COR theory, we aim to predict and explain variations in the impact of worked hours on work addiction.

First, psychological safety (Edmonson, 1999; Kahn, 1990) is introduced as an individually perceived contextual factor where managers can feel comfortable reaching out to others during their work. Asking for help is an interpersonal risk but can yield more resources by accessing the support of others. As such, we theorize it as a resource passageway which can act as a catalyst for new resources. Second, self-confidence, in our context, is the manager's belief in their ability to manage and lead their team to meet organizational objectives (Bobbio & Manganelli, 2009). Its addition as a personal resource provides further nuance to understand the extent to which psychological safety can impact the relationship between worked hours and work addiction.

This study allows us to contribute to both theory and practice in multiple ways. First, to our knowledge, we are among the first empirical studies to introduce psychological safety in the nomological network of work addiction (Frazier et al., 2017; Morkevičiūtė et al., 2021). Second, we answer a call for research by Newman et al. (2017) to explore psychological safety using the COR theory. We theorize it as a moderator which can alter the impact of worked hours on work addiction by acting as a resource passageway which grants access to new resources. Third, we provide knowledge regarding when worked hours do lead to more or less work addiction using a contextual and a personal resource. Fourth, we aim to articulate recommendations regarding human resources management (HRM) practices to reduce work addiction among an invaluable population in a tumultuous sector.

3.2 Theory and Hypotheses

3.2.1 Overinvestment of Time Working as a Risk Factor

According to the COR theory, individuals must invest resources, most notably their time and effort, to both obtain new resources and protect those already acquired (Halbesleben et al., 2014). Resources are defined as any material or immaterial element which is valued because it allows the individual to achieve their current goals (Hobfoll et al., 2018). As such, time spent at work is a form of resource investment to gain other resources, such as money or social status. From this framework, investing resources in one's job is unescapable, but the degree of investment varies across individuals. Important yet healthy levels of investment can be categorized as work engagement (Bakker et al., 2008), while pathological levels can be related to work addiction (Clark et al., 2020). For this study, to explore work addiction within the COR theory, we theorize it as a maladaptive resource investment strategy used to face overwhelming demands or lack of support (Maisonneuve et al., 2024b). Suffering from work addiction is deleterious to work addicts as there are diminishing returns in excessive investment in the form of work addiction, leading to resource exhaustion and, for example, burnout (Kasemy et al., 2020). Consequences arise as addicts spend much more resources at work than they can recuperate in other activities (Sonnentag, 2018), because such salutary activities have been traded for more work. Despite the harm felt by work addicts, they are incapable of modifying their behavior and continue to work at an unreasonable pace (Andreassen, 2014). They may be able to reduce time investment, but usually, it is but for a while before experiencing relapse (Andreassen et al., 2012). These observations highlight how excessive time working and work addiction can create significant problems for those afflicted and their surroundings.

Time spent working has played an important role in the operationalization of work addiction since its inception (Oates, 1971), and this component of excessive time invested towards work was maintained in more recent conceptualization (Andreassen et al., 2012; Schaufeli et al., 2009). Furthermore, it is worth noting that no one aims to become addicted to work, but early symptoms like making more time to work, cutting leisure time,

and working much more than anticipated are where work addiction begins (Bereznowski et al., 2024). Over time, these behaviors crystallize and are accompanied by other symptoms, like feeling shame when not working (Andreassen et al., 2012) or experiencing health problems (see Girardi et al., 2019). In the end, working more hours is a risk factor relating to work addiction.

H1: Worked hours are positively related to work addiction.

3.2.2 Psychological Safety as a Passageway

Inspired by the seminal work of Schein & Bennis (1965), the literature on psychological safety evolved significantly in the past half-century. More recently, the works of Kahn (1990) and Edmonson (1999) shaped our current understanding of psychological safety. Kahn (1990) defined psychological safety as the level to which an individual is willing to invest themselves into work and take interpersonal risks, for example, confessing to having made a mistake. It is the individual perception that one can work and ask for help "without fear of negative consequences to self-image, status, or career" (Newman et al., 2017; 523). Edmonson (1999; 350) proposed to conceptualize psychological safety at the team level, as a "shared belief held by members of a team that the team is safe for interpersonal risk taking". As noted by Frazier et al. (2017; 116), the two proposed definitions, at the individual and team levels, complement rather than oppose each other. They intersect in the perception that sharing new ideas and asking for help within a given work team will be met with support rather than ire or ridicule. Psychological safety has been associated with beneficial outcomes, like promotive voice at the individual level (Liang et al., 2012) and team readiness to change at the team level (Groulx et al., 2024). Of note, while managers are often presented as a source of psychological safety for their team members (Frazier et al., 2017), few empirical studies focus on their perspective and how it can benefit them. In the current study, we theorize and measure psychological safety as an individual perception from the perspective of first-level managers in healthcare and social services.

Building on the previous segment, psychological safety can be integrated in the COR framework by conceptualizing it as a resource passageway (Hobfoll, 2011). Defined

as “environmental conditions that might accelerate change in resources either for better or worse” (Halbesleben et al., 2014; 1353), resource passageways alter how resources are invested and their mobility with a given ecosystem. Psychological safety could thus act as a such a passageway, being a catalyst regarding the acquisition and protection of resources. More precisely, when managers feel psychologically secure to ask for help at work, they will gain more resources through peer or subordinate support. Under these circumstances, receiving support through interpersonal risky behavior should alleviate the risk that worked hours will lead to work addiction as first-level managers will have access to a more proactive coping mechanism at work. While investing significant hours at work is a threat to managers’ healthy relationship with work, doing so with the perceive insurance that peers and subordinates will welcome interpersonal demands should reduce said threat through a healthier relationship with their work and working environment. Concretely, when perceived psychological safety is more salient, the deleterious relationship between long working hours and work addiction should be weaker as first-level managers will ask for help rather than overinvesting themselves, for example, by cutting leisure time.

On the contrary, fear of retribution or trying to avoid being in trouble may act as an accelerator for work addiction within healthcare teams (O'Donovan & McAuliffe, 2020). This could be due to managers working even more disproportionately and experiencing shame and guilt even outside of their work hours (Andreassen et al., 2012; 2018) to circumvent a working environment with low psychological safety. Working long hours can be associated with work addiction, and the emergence of said addiction could be expedited under low psychological safety due to dysfunctional resource investment strategies. Overall, in this study, we test psychological safety not as an antecedent, but as a contextual factor which creates a buffer for first-level managers in healthcare and social services regarding work addiction.

H2: Psychological safety moderates the relationship between worked hours and work addiction such as the relationship is weaker when psychological safety is high.

3.2.3 Self-confidence: A Moderating Resource

Emerging from the works on social cognition of Bandura (1977; 1997), self-efficacy is defined as an individual belief about one's capacity to accomplish tasks successfully. It is a popular construct, especially in the leadership literature (Dwyer, 2019). More specifically, self-confidence, a subdimension of self-efficacy, is defined as the self-awareness of a manager's ability to effectively manage and communicate with their team (Bobbio & Manganelli, 2009). Within the COR framework, self-confidence can be theorized as an individual resource which fosters goal attainment (Hobfoll et al., 2018). For example, meta-analytical data indicated that self-confidence is an antecedent of effective leadership (Hoffman et al., 2011). Furthermore, self-confidence is known to have beneficial effects for individuals working in the healthcare and social services sector, like reduced burnout and turnover intentions among nurses (Chami-Malaeb, 2022). However, self-confidence among managers in this sector could be in short supply, especially among younger managers (Sacre et al., 2024). This is due in part to the fact that first-level managers in this sector, being former caregivers and being promoted from their team, often lack formal training in management, thus limiting their self-confidence. Despite this potential shortcoming, it could still play an important role as a protective factor for this population.

Indeed, as a personal resource, self-confidence could alter the influence of psychological safety as the same context is not experienced in the same manner among stakeholders. Self-confidence among managers can boost said influence by interacting with other group functions, including increased willingness to express oneself (Sekerdej & Szwed, 2021) and overall team efficacy (Dwyer, 2019). The higher the self-confidence, the more pronounced the effect of psychological safety as confident managers will not hesitate to communicate their needs. Of note, previous studies have documented the potentially deleterious effects of excessive self-confidence, which lead to problematic behavior such as complacency (Machida & Schaubroeck, 2011). In this study, while we acknowledge the possible "too much of a good thing" effect, unbridled self-confidence should not affect the proposed relationships, as complacency and lack of investment towards work is the opposite of work addiction (Atroszko, 2024). Overall, when managers

are confident in their ability to effectively manage their team, this should enhance the positive aspects of psychological safety, thus boosting access to new resources. This process disrupts the emergence of work addiction regarding long working hours.

To summarize in COR terms, as managers invest more time at work, the risk of developing work addiction symptoms as a maladaptive resource investment strategy to face the challenges of their role increases. However, when perceiving their work unit as being psychologically safe, they may decide to ask for support from other managers or team members. This influx of resources due to a positive resource passageway dampens the relationship between worked hours and work addiction as managers now have an adapted resource investment strategy. Furthermore, this phenomenon will be even more acute for managers who possess self-confidence in their ability to manage their team. This personal resource will manifest through the investment into leader behavior, such as communicating their needs in addition to managing their team in a constructive manner, making psychological safety even more potent. Thus, ultimately lessening the relationship between worked hours and work addiction. Figure 1 presents the complete theoretical model.

H3: Self-confidence moderates the moderated relationship between worked hours and work addiction such that the moderating effect of psychological safety is stronger when self-confidence is high.

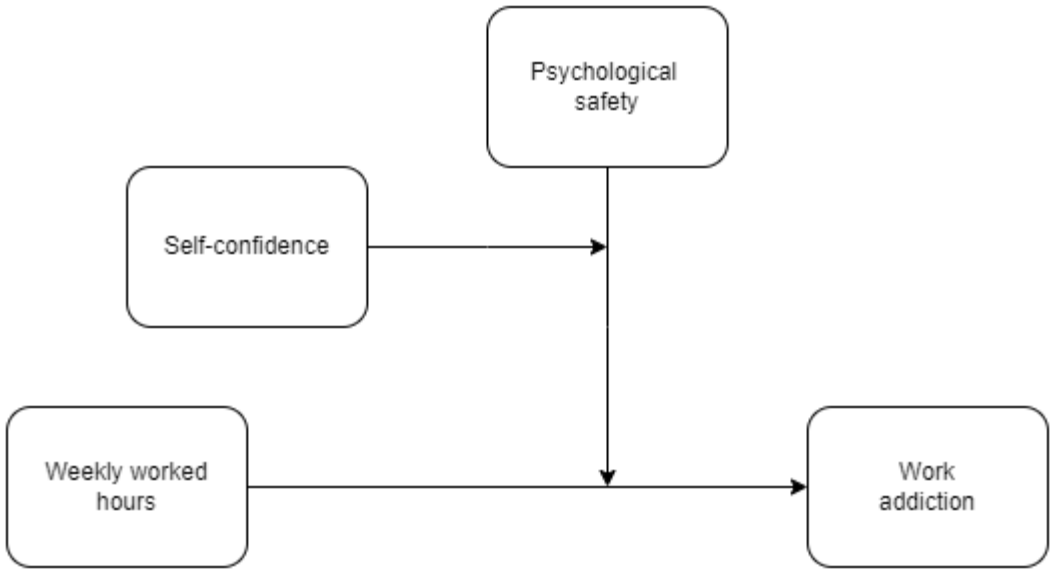

Figure 3.1: Theoretical model

3.3 Method

3.3.1 Research Design

Data was collected among the members of two associations defending the interest of first-level managers in public healthcare and social services installations in Quebec, Canada. The approbation of the university's research ethics board was obtained before the distribution of the survey. Qualtrics was used to send the confidential online survey, which was distributed by the associations between April and May of 2024 with punctual reminders to maximize response rates. Participants had to provide written consent and no compensation was offered.

3.3.2 Measures

For the main constructs in our study, worked hours was captured using a single measure of self-reported average of worked weekly hours during the last month. Work addiction was measured using the Bergen Work Addiction Scale (BWAS) developed by Andreassen et al. (2012). It is composed of 7 items rated on temporal anchors (1= Never, 5= All the time). An example item is: "I spend much more time working than initially intended." Psychological safety was measured using the scale provided by Liang et al.

(2012). It is composed of 5 items rated on a 7-point Likert scale. An example item is: “In my work unit, I can express my true feelings regarding my job.” For self-confidence, we used the corresponding subscale from the leadership self-efficacy scale developed by Bobbio & Manganelli (2009). It is composed of 5 items on a 7-point Likert scale. An example item is: “With my experience and competence I can help group members to reach the group’s targets.” As for control variables, we collected data regarding age, gender (1=woman, 1.5=other, 2=man), and organizational tenure measured in years.

3.3.3 Analytical Procedures

The collected data was prepared for analysis using SPSS 28. Confirmation factor analysis (CFA) was conducted in R studio 4.4.0 (R Core Team, 2022) using the *lavaan* package (Rosseel, 2012). To test the theoretical model, structural equation modelling (SEM) with latent variable was used. Robust maximum likelihood estimation was employed to test the hypotheses. The three-way interaction was computed using item parceling based on factor loadings (Little et al., 2002), followed by a double-mean centering procedure (Lin et al., 2010). The other latent variables were defined by their complete set of related items. This approach has the advantage of reducing multicollinearity while also limiting the introduction of excessive parameters within the model. Critical values of the Johnson-Neyman technique were obtained using the PROCESS package for R (Hayes, 2017). All presented results are standardized to provide comparable effect sizes.

Further analyses were conducted using polynomial regressions with response surface analysis (Edwards, 2007; Shannock et al., 2010) in SPSS 28. This approach aims to better understand the effects of the congruity and incongruity of two predictors on a specific outcome. Beyond the tested main effects, polynomial regressions also introduce the interaction of the two predictors and their respective values squared. The interaction and squared terms compose the polynomial block, and their addition in the tested model must yield a significant change in R^2 (Shannock et al., 2010) to justify the interpretation of the results. The polynomial block allows the detection of non-linear effects through the analysis of the slope and curvature of the congruence and incongruence lines of the response surface. This surface is a three-dimensional representation of the results which

allows a more nuanced interpretation of interaction results. To provide comparable effects, usually, independent variables are scale-centered, (Edwards & Cable, 2009) but considering that worked hours were measured as an absolute value and psychological safety with a Likert scale, both variables were standardized to manage the variance differences (Rodriguez, 2021). The 3D surface was created in MS Excel.

3.4 Results

Of the approximately 8000 contacted members, we received 864 surveys, representing a 11% response rate. However, after data curation, only 548 were valid for survey analysis. Among those, in case of missing data (representing 0.27% of the sample), we used the linear trend at point strategy to replace it. Table 1 presents the demographic statistics of our final sample. Of note, we also used the polythetic approach described by Andreassen et al. (2012) to create a dummy variable regarding work addiction risk (0=low risk of work addiction, 1= high risk of work addiction). Results indicated that 173 respondents (31.6%) qualified as being at high risk of work addiction.

Variables (N=548)	Frequency	Percentage
Gender		
Woman	455	83.0
Man	90	16.5
Other	3	0.5
Age		
Less than 35	44	8.0
35 to 44	199	36.3
45 to 54	212	38.7
55 to 64	90	16.5
65 and over	3	0.5
Tenure		
Less than 10	216	39.4

10 to 19	174	31.8
20 to 29	117	21.3
30 and over	41	7.5

Table 3.1: Demographics

Before testing our hypotheses, we tested for common method bias (Podsakoff et al., 2003) as the collected data was cross-sectional and single sourced. First, using the Harman's single factor test, no general factor in the unrotated factor structure was identified. The explained variance was 22%, below the 50% threshold recommended by Malhotra et al. (2006). Second, we used a linear regression model to obtain the variance inflation factors. They were all 1.409 or lower, which is below the 2.5 threshold recommended by Johnston et al. (2018). These results point towards that common method bias is not an issue in our sample. Hence, we proceed with the analyses. Table 2 presents the means, standard deviation, correlations, and Cronbach's α on the diagonal.

Variables	Mean	SD	1	2	3	4	5	6	7
1. Hours	45.53	8.95	-						
2. PS	4.35	1.32	-0.003	(0.89)					
3. SC	5.75	0.67	0.052	0.252**	(0.83)				
4. WA	2.93	0.79	0.256**	-0.190**	-0.105*	(0.84)			
5. Age	45.99	8.14	-0.027	0.016	0.125**	-0.087*	-		
6. Gender			-0.083	-0.006	-0.083	-0.020	0.029	-	
7. Tenure	13.53	10.05	0.015	0.044	0.077	-0.065	0.428**	0.017	-

Table 3.2: Means, SD, correlations, and alphas

PS = psychological safety, SC = self-confidence, WA = work addiction

N = 548, *p < 0.05, *p < 0.01

For the CFA, we used a maximum likelihood estimation with robust standard errors and a scaled test statistic. The robust results are presented, and the theoretical model demonstrated good model fit (x^2 = 289.81**, df = 130, Comparative Fit Index, CFI = 0.956, Standardized Root Mean Square Residual, SRMR = 0.053, Root Mean Square Error of Approximation, RMSEA = 0.052 [0.044, 0.059]) (thresholds for good fit are CFI > 0.90, SRMR < 0.08, RMSEA < 0.08) (Hu & Bentler, 1999). Considering these results, we proceeded to test our model. First, the structural model demonstrated excellent model fit (x^2 = 518.82**, df = 436, Comparative Fit Index, CFI = 0.976, Standardized Root Mean Square Residual, SRMR = 0.040, Root Mean Square Error of Approximation, RMSEA = 0.026 [0.016, 0.034]). Second, regarding control variables, no significant result was obtained. Third, we tested our hypotheses. H1 proposed that worked hours were positively related to work addiction. The hypothesis was supported as the result was significant and in the predicted direction ($\beta = 0.382$, $p < 0.001$). Next, H2 proposed that psychological safety moderated the previously stated relationship such that it was weaker when psychological safety was high rather than low. The interaction term was significant, but not in the predicted direction ($\beta = 0.182$, $p = 0.009$). We thus probed the data further and tested the difference between the slopes low and high levels of psychological safety (-1 at +1 standard deviation, respectively). The difference was significant ($t(1.092) = 3.323$, $p < 0.001$) (Soper, 2024). Using the Johnson-Neyman technique, results indicated that 12.23% of our sample had a level of psychological safety low enough that the number of hours was not related to work addiction. Overall, these results indicate that H2 was not supported. Figure 2 presents the interaction between worked hours and psychological safety (Dawson, 2014). Of note, the relationship between psychological safety and work addiction was negative and significant (-0.161, $p = 0.002$).

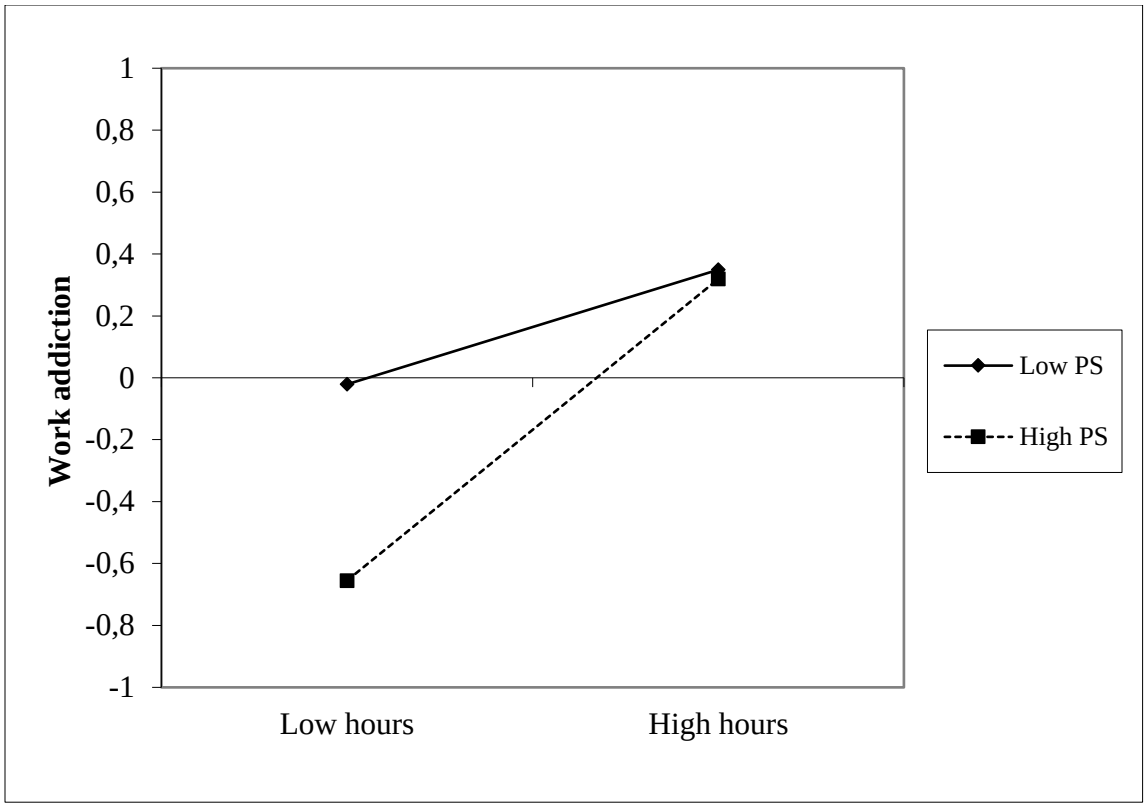

Figure 3.2: Two-way interaction

PS = psychological safety

Finally, H3 proposed a moderated moderation between worked hours, psychological safety, and self-confidence, whereas the moderating effect of psychological safety is stronger when self-confidence is high. Regarding the interactions, we note that the interaction of worked hours with self-confidence (β = -0.012, p = 0.849) and psychological safety with self-confidence (β = -0.025, p = 0.556) were both nonsignificant. However, self-confidence was related to work addiction (β = -0.113, p = 0.026). As for the full three-way interaction, the interaction term was significant and in the predicted direction (β = -0.133, p = 0.017). We probed the moderated moderation using the Johnson-Neyman technique which indicated that 18.98% of our sample obtained a self-confidence score high enough to render the initial moderation nonsignificant. Overall, these results provided support for H3. Figure 3 presents the three-way interaction and table 3 summarizes the results.

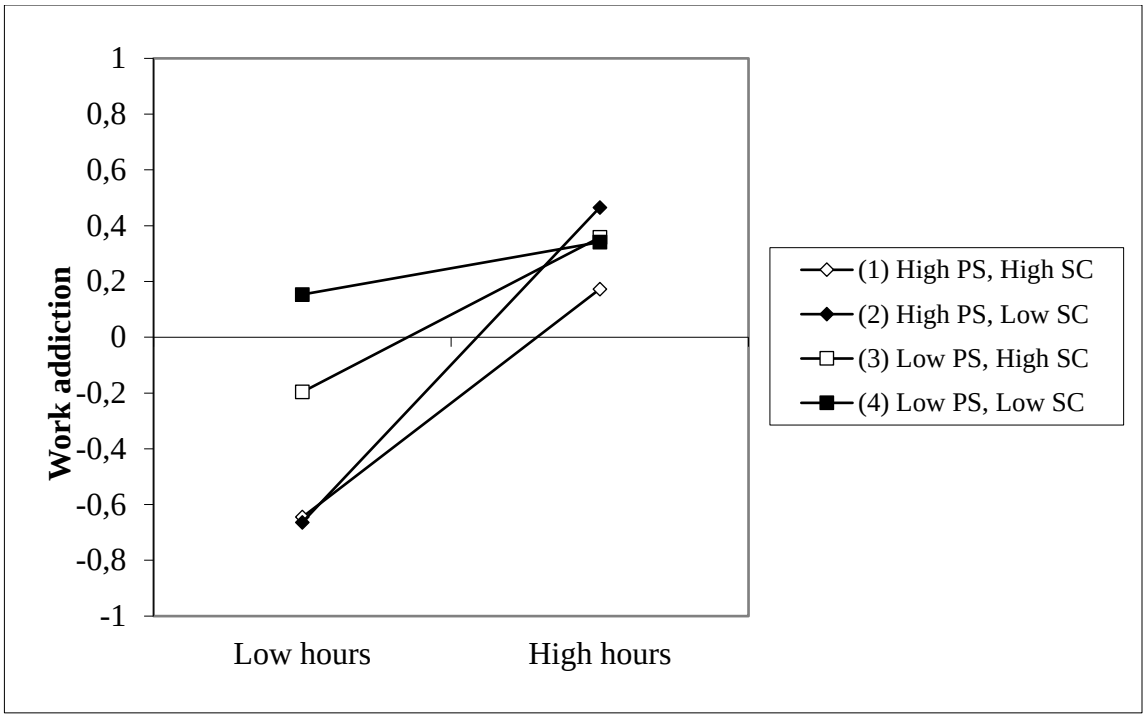

Figure 3.3: Three-way interaction

PS = psychological safety, SC = self-confidence

	Work addiction	
Variables	β	SE
Control		
Age	-0.047	0.002
Gender	0.008	0.048
Tenure	-0.026	0.002
Main effects		
Worked hours	0.382**	0.004
Psychological safety	-0.161**	0.016
Self-confidence	-0.113*	0.041
Interactions		
Worked hours * PS	0.182**	0.002
Worked hours * SC	-0.012	0.004

PS * SC	-0.025	0.017
Worked hours * PS * SC	-0.133**	0.002
R^2	0.17	

Table 3.3: Standardized regression weights

SE = Standard error, PS = psychological safety, SC = self-confidence

N = 548, *p < 0.05, *p < 0.01

To explore the results further, we conducted a series of ad hoc tests regarding the gradient of the four slopes and the differences between them (Dawson, 2014). Results from the simple slope tests indicated that higher levels of worked hours are related to higher levels of work addiction, except for those with low psychological safety and low self-confidence (0.094, p = 0.087). Additionally, the highest gradient was observed among managers perceiving high psychological safety but low self-confidence (0.565, p < 0.001). Table 4 summarizes the results.

	Slope 1	**Slope 2**	**Slope 3**	**Slope 4**
	PS: High	PS: High	PS: Low	PS: Low
	SC: High	SC: Low	SC: High	SC: Low
Gradient	0.409	0.565	0.277	0.094
t-value	7.465	4.609	3.312	1.714
p-value	0.000	0.000	0.001	0.087

Table 3.4: Results of simple slope tests

N = 548, PS = psychological safety, SC = self-confidence

Regarding the slope difference tests, slopes with high psychological safety were not different from one another (-0.156, p = 0.156), and the same was true for slopes with low psychological safety (0.183, p = 0.095). In addition, high psychological safety and low self-confidence was not significantly different than low psychological safety and high self-confidence (0.287, p = 0.64). All other differences were significant. Table 5 presents the results.

Pair of slopes	Slope difference	t-value	p-value	95% CI
1-2	-0.156	-1.420	0.156	-0.370, 0.059
1-3	0.132	2.084	0.038	0.008, 0.256
1-4	0.315	3.552	0.000	0.140, 0.490
2-3	0.287	1.855	0.064	-0.016, 0.591
2-4	0.471	3.328	0.001	0.193, 0.748
3-4	0.183	1.672	0.095	-0.032, 0.398

Table 3.5: Results of slope difference tests

N = 548, CI = confidence interval

To better contextualize the specific interaction between worked hours and psychological safety, we used polynomial regressions. First, the control variables were introduced into the regression model and provided an R^2 value of 0.009 (Model 1), which represent the proportion of explained variance regarding the dependent variable. A result of 0.009 represents a 0.9% explained variance, and this result was not significant ($p = 0.182$). Then, the independent variables were added which yielded an R^2 value of 0.108 (Model 2), and the difference was significant ($F(0.100)=30.269$, $p < 0.001$). Finally, the addition of the polynomial block (the squared values of each predictor in addition of their interaction) yielded an R^2 value of 0.128 (Model 3), and the difference was significant ($F(0.019)=3.993$, $p = 0.008$). We thus proceeded to interpret the results of the regressions and of the response surface. Figure 4 presents the 3D surface.

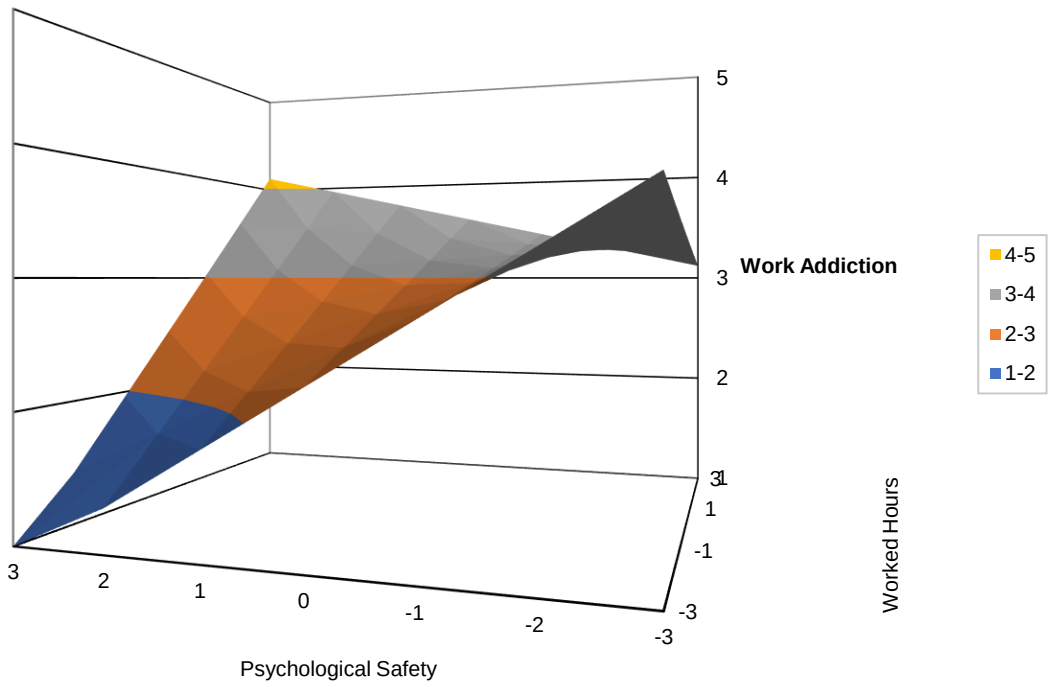

Figure 3.4: Response surface

Results indicate that the slope of the congruence line was non-significant (β = 0.08, p = 0.095), indicating that matches at high or low values of the predictors do not lead to different outcomes. However, the curvature of the congruence line was significant and positive (β = 0.11, p = 0.011), indicating that work addiction is higher at both low and high levels of congruence between worked hours and psychological safety, rather than at moderate levels. As for the incongruence line, the slope was significant with a positive coefficient (β = 0.37, p < 0.001), meaning that work addiction is higher when worked hours exceed psychological safety rather than the opposite. Additionally, the curvature of the incongruence line was significant and negative (β = -0.10, p = 0.014), indicating that work addiction is lower when worked hours and psychological safety are more contrasting rather than more aligned. Table 6 presents the unstandardized regression weights of the polynomial regressions.

Variables	Model 1	Model 2	Model 3
Constant	2.935	2.935	2.934
Controls			
Gender	-0.014	0.002	-0.001
Age	-0.057	-0.050	-0.058
Tenure	-0.027	-0.027	-0.022
Predictors			
Worked hours		0.201**	0.227**
PS		-0.148**	-0.147**
$Hours^2$			0.001
Hours * PS			0.105**
PS^2			-0.000
Explained variance			
R^2	0.009	0.108	0.128
ΔR^2		0.100**	0.019**
Congruence line			
Slope			0.080
Curvature			0.106*
Incongruence line			
Slope			0.374**
Curvature			-0.104*

Table 3.6: Results of the polynomial regressions

3.5 Discussion

The results we obtained are complex and paint a nuanced portrait of the interaction between worked hours, psychological safety, and self-confidence. We observed an overall increase in work addiction as worked hours increased, except when both psychological safety and self-confidence were low. Reminiscent of Herzberg's two-factors theory (Herzberg et al., 1959; Hur, 2018), results highlighted that when both moderators were

high, while beneficial, they did not fully shelter managers from work addiction when worked hours were high. However, it was truly harmful for managers when both moderators were low, as work addiction was high, even so at low worked hours. While initially counterintuitive, this conclusion informs us that, indeed, psychological safety and self-confidence are important for the studied population, just not exactly how we initially theorized the phenomenon. Results can be summarized as follows: reasonable working hours are a necessary but insufficient condition to limit the occurrence of work addiction. Following this observation, we identify our contributions to both theory and practice.

3.5.1 Theoretical Contributions

Firstly, our study contributes to the COR theory in two distinct ways. First, we further our understanding of work addiction as a maladaptive resource investment strategy by demonstrating that it is not just the absolute number of hours that is invested that impacts it, but also the environment and mindset in which that time is invested. To do so, we tested the influence of a personal resource (self-confidence) affecting the influence of a specific resource passageway (psychological safety). Perceiving both factors at low levels puts managers at risk of developing work addiction to compensate for these gaps at work. This theorization highlights the complexity of resource investment and its consequences as behavior, environment, and attitudes interact to shape addiction. Also of note, our results demonstrated that perceiving at least one of those factors as high is salutary for managers, especially at low levels of worked hours. This is coherent with the first corollary of the COR theory (Halbesleben et al., 2014; Hobfoll et al., 2018) where individuals with more resources are better equipped to face hardships and invest their resources accordingly. Second, we answer a call by Newman et al. (2017) to study psychological safety using a COR lens. Theorizing psychological safety as a resource passageway allows to better explain and predict which managers will be more or less affected by worked hours regarding work addiction. Psychological safety, as a contextual factor which alters resource mobility, can grant the ability to managers to invest with more certainty at work, especially within their own team. However, our second hypothesis was not supported because the increase of work addiction as worked hours increased was sharper when psychological safety was high rather than low. This could be due to a

perceived abundance of resources to work more, which creates a positive feedback loop of asking for help to invest increasingly problematic amounts of resources at work until work addiction manifests. This exposes a potential "dark side" of psychological safety whereas individuals perceiving less risk among their work unit allow themselves to have less recommendable behavior (Pearsall & Ellis, 2011). Contrary to our initial theorization, it appears that perceiving interpersonal risk limited access to more resources, which in turn prevented the aforementioned positive feedback loop from occurring. The results of our response surface analysis further informed us that while psychological safety is not a panacea for the effect of worked hours on work addiction, its presence still provided support to managers. It is better to have high psychological safety and low working hours than the reverse. Overall, a higher level of worked hours than psychological safety did lead to more work addiction, informing us of its limits. In conclusion, psychological safety in itself is not sufficient to shelter managers from the harmful influence of long worked hours.

The previous statement leads us to our second theoretical contribution, which is the demonstration of the intricate balance between multiple boundary conditions affecting the relationship between worked hours and work addiction. Self-confidence among managers did alter the relationship between worked hours and psychological safety with work addiction. This informs us that our beliefs about ourselves impact the influence of our context. While our theoretical model received empirical support, it is important to note that the proposed theorization did not perfectly match the observed results. More precisely, we expected that high psychological safety and self-confidence would lead to a decrease in the impact of worked hours on work addiction, perhaps even dissolving the relationship, while perceiving these factors as low would make the relationship more acute. What we observed was functionally the opposite: perceiving both factors as high merely stifled the progression of work addiction from low to high worked hours. However, perceiving both low psychological safety and self-confidence led managers to suffer from high levels of work addiction even when worked hours were low. So, individuals shouldn't leave this chapter thinking that the moderators explored have no impact - on the contrary. It is important to recontextualize their combined effect, which turns out to be beneficial for managers, as long as the hours worked remain reasonable.

The difference in work addiction at low levels of hours worked for individuals with high psychological security and self-confidence in their ability to manage, compared to those without these protective factors, is very telling.

Lastly, we provide a minor theoretical contribution by being the first empirical study to integrate psychological safety into the nomological network of work addiction. Despite the popularity of both constructs in the last decade, no tested theoretical model combining them was published. Furthermore, results indicated that psychological safety acted as both a moderator and antecedent to work addiction, indicating that much remains to be explored regarding this relationship. We thus call for more research linking psychological safety and work addiction, and so, at various levels of theorization.

3.5.2 Practical Contributions

From these theoretical insights, we can derive practical contributions. First, healthcare and social services organizations must organize work such that their first-level managers do not resort to overtime to address their current goals. Worked hours are a salient risk factor regarding the development of work addiction in this population and must be considered as such. When developing HRM practices, investing into well-being programs and making managers aware of the risks associated with excessive working (Maisonneuve et al., 2024b), should be a priority. For example, applying best practices regarding quantitative and qualitative staffing planning allows anticipating labor mobility and limits the risks of understaffing. This should diminish the necessity of excessive time being invested towards work for any given manager.

Our second contribution is to highlight the importance of supporting managers. Indeed, providing the necessary resources to first-level managers to allow them to accomplish their established goals within reasonable timeframes is paramount. Furthermore, updating their abilities to lead effectively through ongoing competence development practices and on-the-job training should nurture their self-confidence as managers (Dwyer, 2019), a key individual resource. This recommendation is acutely important as our results pointed towards the fact that more than 80% of the sample did not have the necessary self-confidence to impact the interaction between worked hours

and psychological safety. This could be explained by a general lack of professional transition period between caregiver and first-level manager. In healthcare, many individual occupying managing roles did not receive formal education in this field. Systematic career development and talent management should be applied to workers acquiring management responsibilities for the first time in their career to increase self-confidence.

Building upon the previous point, our third contribution is to call attention to psychological safety among this population. Like other previous empirical studies (Newman et al., 2017), we focused on the individual perception of team-level psychological safety, specifically from team leaders. While some responsibility regarding psychological safety can be attributed to managers (Frazier et al., 2017), we want to emphasize how organizational culture can also contribute to such a perception in a top-down fashion (O'Donovan & McAuliffe, 2020). As such, we encourage healthcare and social services installations to nurture psychological safety by normalizing asking for help, having constructive discussions even when the topic is difficult, and discouraging criticism of others when there is a difference of opinion. The same applies to first-level managers who wish to instill or develop psychological safety among their own team. Such a team or organizational culture should limit the impact of worked hours on the emergence of work addiction as a maladaptive coping mechanism.

Ultimately, when individuals working in healthcare and social services do not suffer from work addiction, they will not pursue to quit this sector (Maisonneuve et al., 2024a), thus enhancing staff retention. Stabilizing work teams and reducing staff shortages should also lead to less overtime. Overall, our recommendations to practitioners intersect by valuing continued learning and growth among first-level managers in healthcare and social services, and so, within a psychologically safe environment.

3.5.3 Limits and Future Research

Despite these contributions, no study is without limit. First, we used cross-sectional data, prohibiting us from making causal claims. Future research should try to replicate the proposed theoretical model with longitudinal data. More precisely, testing

the impact of a perceived increase in worked hours has an effect beyond the absolute number of hours worked. Second, our sample represents first-level managers from a single Canadian province. Testing the same model with a national sample could help support generalization. Furthermore, comparing results with international samples, especially with countries which do not have a single-payer form of public healthcare could provide valuable information as to how to support first-level managers. Third, despite the significant three-way interaction, the overall explained variance remains modest (R^2 = 0.17). Future research should thus continue to explore relevant antecedents of work addiction to better understand its etiology. Notably, research using a network analysis approach (Bereznowski et al., 2024) could yield interesting results in the future.

3.6. Conclusion

As managers in the healthcare and social services sector face numerous challenges, making sure they adopt healthy coping mechanisms and do not develop work addiction is of paramount importance for them, their team members, and the patients. This study aimed to provide empirical support to this phenomenon and help shape recommendations regarding HRM practices. The priority is to reduce the occurrence of high working hours in this population. When high hours become inevitable, focusing on developing (ideally) both psychological safety and self-confidence in one's ability to manage. If resources are scarce, developing at least one of these factors becomes crucial.

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Conclusion

This dissertation aimed to contribute to the literature on work addiction, defined and measured as a behavioral addiction. More specifically, the three presented chapters explored work addiction within the healthcare and social services (HSS) sector, which despite being a common sector in empirical research, is underrepresented in work addiction literature. Results indicated that work addiction is a complex phenomenon with intrinsically harmful consequences for the individuals living with this addiction, the HSS organizations, and the patients. Each chapter provided theoretical contributions by exploring lesser-known aspects of the conservation of resources (COR) theory and by expanding the nomological network of work addiction. Furthermore, by studying work addiction among individuals working in HSS, this dissertation provided concrete practical contributions to HRM practitioners and top management teams.

Chapter 1 provided evidence regarding the benefits of patient recognition among physicians and other caregivers alike. This resource signal helps support individuals working in proximity to patients and alleviates the emotional cost of helping others. This in turn is associated with lower levels of intention to quit, not their current job, but the entire HSS sector. Unfortunately for physicians, work addiction disturbed their ability to perceive patient recognition as a resource signal, which exposed them to higher levels of emotional exhaustion and intention to quit the profession. This chapter contributed to knowledge development by testing the role of a resource signal among two distinct populations in the same sector and identified practical contributions in regard to supporting those who take care of our health.

Chapter 2 explored how ethical climate can be beneficial for healthcare workers, especially those with lower tenure. By blending the COR theory with social learning, this chapter identified a relevant boundary condition of this organizational lever to reduce work addiction. Overall, ethical climate had both direct and indirect relationships with perceived quality of care and intention to quit the profession through work addiction. The diversified and pan-Canadian sample informs us that the results we obtained can be generalized to many HSS settings and should be considered when developing HRM

practices. Theorizing work addiction as a mediator allowed us to simultaneously study an antecedent and two consequences of this deleterious addiction while also providing contextualized recommendations.

Chapter 3 focused on the origins of work addiction using a moderated moderation. This chapter contributed to the literature by providing nuance to the debate surrounding the impact of worked hours on work addiction. Worked hours affect first-level managers in HSS differently depending on how they perceive their context, operationalized as psychological safety. Furthermore, said context did not affect everyone in the same way, depending on their level of self-confidence in their ability to manage their team. The results obtained from this three-way interaction are complex and while it ultimately was related to lower levels of work addiction, it did not do so as theorized. Such results inform us that both moderators were indeed valuable, especially because perceiving them as low is harmful to the studied population. This chapter demonstrates how complex results, while counterintuitive at first glance, can help researchers and practitioners alike develop a better understanding of a phenomenon, work addiction in this case.

Limits and Future Research

Despite the overall contributions provided by this dissertation, it is not without limitations. The most salient one is the lack of longitudinal data. Most of the data was collected in a pandemic or post-pandemic context, complexifying the process. In addition, the HSS sector in Quebec was in upheaval for almost all the duration of the data collection and writing process. Staff shortages, changes in laws regarding the protection of personal information, HSS workers strikes, and a substantial reform to create the *Santé Québec* agency all contributed to the difficulty of obtaining quality longitudinal data. As such, future research endeavors should focus on obtaining data across 2 or 3 times of measure to establish causality and have a better grasp of non-linear effects. The second limit is related to the level of measure of the dissertation. There is an increasing need for research conducted at the team-level to gain a better understanding of the influence of working with, and under the supervision of, work addicts. Future research should aim to provide multilevel analyses of work addiction to study if and how work addiction can become contagious. As for the third limit, data was collected almost exclusively in Quebec, except

for Chapter 2, which is still limited to Canada. Future research should aim to gather international samples to test the generalizability of the data and to provide international comparisons.