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THE EFFECTS OF DISRUPTION ON MANAGER-LEADER PSYCHOLOGICAL CAPITAL  
DURING THE COVID-19 PANDEMIC

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### **Abstract**

The world is volatile, uncertain, complex, and ambiguous, increasing by the week. On top of this, extraordinarily disruptive events capable of altering humanity's status quo are occurring with increasing frequency.

The recent COVID-19 pandemic is one such event, and its disruptive effects on the psychological capital of manager-leaders and their followers in organizational settings during the first 18 months of the pandemic is the focus of this research. Psychological capital comprises four first-order constructs: hope, self-efficacy, resilience, and optimism.

A pragmatic mixed-methods study of phenomenological interviews of 21 participants, from frontline support staff to Chief Executive Officers of various organizations, was conducted between May and October 2021. Two quantitative assessments supported these qualitative interviews.

Several important findings regarding the effects of disruption on the psychological capital of the workers emerged from the data:

- 1) The disruptive effects of the COVID-19 pandemic affected all 21 interviewees, but the effects varied widely in meaningful ways.
- 2) All interviewees reported experiencing multiple significant adverse effects attributed to the pandemic, but almost all could relate at least one substantial positive outcome they ascribed to the pandemic.

3) Individuals in the study who exhibited the highest levels of psychological capital not only described experiencing significantly less negative stress than individuals with the lowest levels of psychological capital, they also tended to view the pandemic disruption as a rare opportunity for individual growth and advancement, as well as a strategic opportunity for their organizations.

4) The specific circumstances and context of each individual significantly affected their level of psychological capital while their psychological capital was simultaneously affecting their circumstances and context in a bi-directional and mutually influential dynamic.

Finally, this study contributes to psychological capital theory's body of knowledge by providing an in-depth qualitative examination of the construct. Drawing on the actual lived experience of workers during a complex and demanding event and presenting practical evidence of the disruptive effect on their psychological capital provides a new perspective for the construct while offering pragmatic recommendations for building individual and organizational psychological capital.

*Keywords:* psychological capital, disruption, resilience, sense of purpose, coaching,  
leadership

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## **List of Nomenclature**

### **Bracketing, Epoché, and Phenomenological Reduction**

Bracketing, a term first described by Edmund Husserl (1970), involves the phenomenological interviewer's acknowledgement and suspension of their prior knowledge and beliefs about the topic under investigation. Key to this process is that the interviewer is aware of their natural attitude (Merleau-Ponty, 1962) so that they can remain as open as possible to the lived experience of the interviewee with a minimum of bias.

Convenience sampling is a non-random sample involving members of a target population who meet certain practical criteria, such as easy accessibility and availability, and who are willing to participate in the study (Dörnyei, Z., & Griffee, D. T., 2010).

### **Epoché**

A critical position-taking attitude requires interviewers to shift out of their natural attitudes while adopting and committing to taking nothing for granted to facilitate phenomenological reduction (Bevan, 2014). Epoché builds on bracketing and imposes on the phenomenological interviewer the additional requirement of taking a critical attitude toward their own natural attitude through self-reflection and questioning. This attitudinal shift occurs before the interviews but is maintained throughout the interviewing process to ensure the interviewer captures the interviewee's lived experience as faithfully as possible (Bevan, 2014).

### Phenomenological Reduction

Phenomenological reduction is the means by which interviewers free themselves from the reifications of their natural attitudes or perspectives of everyday life. This enables interviewers to assume a standpoint from which to conduct the interview and subsequent analysis while recognizing and attempting to minimize their prior knowledge and biases to present the interviewee's lived experience precisely as the interviewee intended it (Beyer, 2020).

### Disruption

Disruption, "a disturbance, or problem which interrupts an event, activity, or process" (Oxford Dictionary, 2020), can manifest in multiple ways, including technological, political, economic, social/cultural, regulatory and environmental (Resnick, 2020).

A distinction should be made between the above definition of disruption applied in this study and the term as widely understood based on the 1997 bestselling book "The Innovator's Dilemma" by Harvard professor Clayton Christensen (Christensen, 1997). In it, Christensen defined disruption within the specific context of the process of introducing new technologies and business models designed to displace established businesses, which resulted in the demise of venerable corporations such as Eastman Kodak, Blockbuster Video and Sears Roebuck and heralded the ascension of their corporate replacements in the form of Amazon, Facebook, Google and Apple.

The context in which disruption is utilized in this study applied to phenomena with much broader application and effect, such as environmental, economic and social disruption.

### Imaginative/Eidetic Variation

Imaginative variation is a stage in the study process aimed at explicating the structures of experience more distinctly and is best described as a mental experiment. Features of the experience are imaginatively altered in order to view the phenomenon under investigation from varying perspectives (Turley et al., 2016). Imaginative variation is employed during both the interview process stage and the subsequent data analysis stage of the study.

Eidetic variation adds the dimension of reality to imaginative variation. In practice, this means using empirical data gleaned from the interview as the basis for introducing real-life variations in order to reveal invariant structures and the phenomenon's essence (Zahavi, 2005; Hoffding & Martiny, 2015).

### Interpretivist

Interpretivism is “associated with the philosophical position of idealism, and is used to group together diverse approaches, including social constructivism, phenomenology and hermeneutics; approaches that reject the objectivist view that meaning resides within the world independently of consciousness” (Collins, 2010, p.49). Interpretive research approaches rely on questioning and observation in order to discover or generate a rich and deep understanding of the phenomenon being investigated (University of Nottingham, 2023).

### Lifeworld

The description of a person's subjectively experienced world; a consciousness of the world and the objects or experiences in it, set against a horizon which provides context (Bevan, 2014).

### Modes of Appearance

The multiple ways and perspectives a thing, such as a physical object, idea, emotion, can be experienced and which give it its identity. For example, depending on one's perspective, a car may be experienced as a mode of transport, a status symbol, or a source of pollution.

### Natural Attitude

The way in which each of us is involved in the lifeworld (Husserl, 1970). Bevan (2014) described the natural attitude as an effortless and unreflective mode of being engaged in an already known world which must be suspended so the interviewer does not bias the phenomenological interview process.

### Phenomenology

Phenomenology is a method of learning about others by listening to their descriptions of what their subjective world is like for them. It then seeks to understand their experience in their own terms as entirely as possible, free from the interference of the interviewer's preconceptions.

Phenomenology is also defined as the thematization of the phenomenon of consciousness and refers to the totality of an individual's lived experience (Giorgi, 1997). Phenomenon within the context of phenomenology means that whatever is given or presented is understood precisely as it is offered to the consciousness of the person experiencing the phenomenon (Giorgi, 1997).

### Phenomenological Interviewing

Phenomenological interviewing is a structured approach employing questions based on themes of experience contextualization, apprehending the phenomenon and its clarification. The method of questioning employs descriptive and structural questioning as well as novel use of imaginative variation to explore experience (Bevan, 2014).

Pragmatic Paradigm is a research paradigm, or worldview, based on the hypothesis that a researcher should employ the philosophical and/or methodological approach that best suits the research problem under investigation. It is frequently connected with a mixed-methods approach, where the focus is on the outcomes of the research questions (Kaushik & Walsh, 2019). Its “practical and pluralistic” (Kivunja & Kuyini, 2017, p. 35) approach allows for combining methods that rejects a forced choice between Positivist or Interpretivist paradigms (Kivunja & Kuyini, 2017).

### Psychological Capital

Luthans (2004) developed the construct of psychological capital by combining well-known but previously unconnected psychological constructs, essentially rolling up four first-order constructs, hope, confidence, resilience and optimism, into a higher-level (second-order) construct named positive psychological capital. Per Hobfoll’s (2002) psychological resource theory, the second-order construct of psychological capital was postulated to produce a synergistic effect supplemental to the individual effects of the four first-order constructs (Luthans, 2004).

Positive psychological capital constitutes four constructs, namely hope, confidence, optimism and resilience (Luthans, 2004), defined as follows:

Hope is “a positive motivational state based on an interactively derived sense of successful agency (goal-directed energy) and pathways (planning to meet goals)” (Snyder et al., 1991; p. 287).

Efficacy, more specifically self-efficacy, is “one’s conviction or confidence about his or her abilities to mobilize the motivation, cognitive resources and courses of action needed to successfully execute a specific task within a given context” (Stajkovic & Luthans, 1998b; p. 66). (Self)-efficacy, as described in psychological capital theory, is primarily based on the work of Bandura (1997).

Resilience is defined as “the capacity to rebound or bounce back from adversity, conflict, failure or even positive events, progress and increased responsibility” (Luthans, 2002; p. 702).

Optimism is a positive future expectation open to development (Carver & Scheier, 2002) and an explanatory and attributional style that interprets negative events as external to the self, temporary and situationally specific (Avey et al., 2011). Seligman described optimism as comprising the 3 Ps, where one perceived positive events as personal, permanent and pervasive (Avey et al., 2011).

### **Abbreviations**

HERO denotes the psychological capital constructs of hope, self-efficacy, resilience, and optimism

PsyCap denotes Psychological Capital.



Purposive Sampling, is a technique in qualitative research that identifies and selects individuals with particular knowledge or experience of the phenomenon to be studied in order to provide information-rich examples that facilitate its deep understanding (Palinkas et al., 2015)

## Introduction

Four years ago, who would have believed that the purchase of a bat in a Chinese seafood market would, within weeks, instigate a worldwide public health crisis that would last years, kill millions of people and cost the world economy trillions of dollars? (Shereen, M. A., Khan, S., Kazmi, A., Bashir, N., & Siddique, R., 2020).

Our interconnected and interdependent world is becoming increasingly volatile, uncertain, complex, and ambiguous, escalating our susceptibility to highly disruptive events such as the COVID-19 pandemic.

Increasingly common extreme weather events disrupt global supply chains and spread smoke generated from forest fires the size of small countries across continents. The rise of authoritarian, populist politicians from across the globe sows civil unrest, threatening legitimately elected democratic governments. Technological advances in artificial intelligence, machine learning, and robotics promise breathtaking increases in worker productivity but also portend the possibility of staggeringly large job losses.

Additionally, disruptive events in one domain, be it health-related, environmental, economic, political, technological, regulatory, or social/cultural, often foment concomitant disruption in other domains, potentially amplifying the effect of the initiating incident. Flooding caused by typhoons and hurricanes displaces people from their homes, destroys property and infrastructure, and increases the spread of infectious diseases.

While the COVID-19 pandemic initially presented as a public health crisis, it provoked economic, political, regulatory, and social/cultural crises around the globe, the effects of which continue to this day. The combined effects of highly disruptive events in a world where day-to-

day life is more volatile, uncertain, complex, and ambiguous than ever before, has placed enormous stress on much of humanity.

This study examines one such effect of the disruption associated with the COVID-19 pandemic, specifically the impact on the psychological capital of manager-leaders and their followers during the first 18 months of the COVID-19 pandemic.

Psychological capital comprises the first-order constructs of hope, self-efficacy, resilience, and optimism. It has been strongly correlated to numerous beneficial outcomes, such as improved performance (Avey et al, 2011; Gooty et al., 2009; Luthans et al, 2007; Luthans et al., 2010; Peterson et al., 2011), organizational citizenship behaviours (Avey et al., 2008; Avey et al., 2010; Gooty et al., 2009; Norman et al., 2010), and job commitment (Larson & Luthans, 2006; Luthans et al., 2008).

The ability of individuals to draw on and leverage their psychological capital resources plays a significant role in their ability to respond effectively to adversity.

The purpose of this research is to explicate how the psychological capital of individuals in this study was affected by the COVID-19 pandemic, whether study participants effectively employed their psychological capital to retain normal functioning in adverse conditions, and whether differences in the application of psychological capital resources influenced participants' perceived experience of the pandemic. The study also compares and contrasts the relative levels of psychological capital between the interviewees and offers possible explanations for identified differences.

Developing a better understanding of how individuals in organizational settings responded to the COVID-19 adversity, how effective they were at leveraging their psychological capital

resources to cope and maintain competency, or not, during the most significant disruption since the Second World War may provide valuable insights that could inform the development of interventions designed to help individuals and organizations better prepare for future disruption.

This mixed methods study involved 21 in-depth interviews with individuals beginning 15 months after the pandemic's officially declared start date (March 11, 2020). While participating in this research, the interviewees were living the pandemic in real-time. As such, the descriptions of their lived experience were suffused with a sense of immediacy and tangibility, and mainly without prior conscious reflection of the pandemic's effect on their psychological capital and sense of personal well-being.

What follows is an interpretation of the findings from these interviews, beginning with a review of the literature pertaining to the disruption associated with the COVID-19 pandemic. After that, a brief examination of the literature tracing the evolution of psychological capital theory from its roots in positive psychology and positive organizational behaviour is reviewed, providing a contextual foundation for a more extensive review of the psychological capital literature. This section concludes with a critical psychological capital analysis detailing the construct's multiple challenges and opportunities.

The Research Methodology section details how the mixed methods study was performed, starting with explaining the qualitative phenomenological interviewing approach employed. Particulars regarding the quantitative methodology used to assist in the analysis of qualitative data and support triangulation of the quantitative data are provided here.

The Research Findings section provides contextualized representative quotations from the interviewees reflecting their lived experience during the first 18 months of the pandemic. This is followed by the Discussion and Interpretation section and, finally, the Conclusion.

### **Literature Review of the Disruption Phenomenon**

This review begins by setting the context with a brief review of the literature describing the impact and significance of the disruptive event we know as the COVID-19 pandemic, including its effect on individuals, organizations and society.

A brief history of the development of positive psychological capital is provided, based on its foundation in the positive psychology and positive organizational behaviour movements of the early 21st century, supported theoretically by the resource-based view of competitive advantage.

The main focus of the literature review is a critical analysis of positive psychological capital. Much literature has been created during the 20 years since psychological capital's emergence as a field of study. This review focuses on a small number of peer-reviewed academic papers which address key concepts, research findings to date and possible future directions. It also draws on academic papers that challenge psychological capital's ontological and epistemological underpinnings, research methodologies, and practical utility for organizations. Where appropriate, sources such as professional journals and periodicals, books, internet-based resources and white papers are also accessed to support the review.

Insofar as the construct of psychological capital did not emerge until 2003, no delimiting time frame was employed. Key words/terms used for the search are disruption, resource-based

view of competitive advantage, positive psychology, positive organizational scholarship, positive organizational behaviour, and psychological capital.

### **The COVID-19 Pandemic Disruption**

The term “disruption” became widespread in commerce and organizational settings after being popularized by the late Harvard professor Clayton Christensen in his bestselling book, “The Innovator’s Dilemma” (Christensen, 1997). However, there is a distinction between Christensen’s definition of disruption and its use in this study.

Christensen defined disruption in the specific context of the process of introducing new technologies and business models that were designed by innovative would-be competitors to displace established businesses. Notable successful disruptions included the replacement of once-venerable corporations such as Eastman Kodak, Blockbuster Video and Sears Roebuck by upstarts the likes of Amazon, Facebook, Google and Apple.

The context in which disruption is utilized in this study pertains to phenomena with much broader application and effect, such as environmental, economic, political, technological, regulatory and social/cultural disruption, which frequently provoke significant changes in the status quo. Disruptive events may present unique characteristics that vary between disruptions, for example, the COVID-19 pandemic was global, necessitating that much of the workforce function from their homes due to workplace closures, which, in turn, required that new processes be created.

What does not change between disruptions is the human need to employ psychological resources such as hope, self-efficacy, resilience, and optimism to enable individuals and organizations to cope effectively and maintain competence in the midst of adversity.

### *The Big One*

Undoubtedly the most disruptive event in modern history is the COVID-19 pandemic (Weiss, 2020). McKinsey & Co. stated in a paper published in August 2020 that there are “no comparable global precedents since World War II” for COVID-19 (Charumilind et al, 2020, p. 3). Given the pandemic’s ubiquity and severity, particularly with its consequences for public health, the medical definition of disruption seems particularly apt, “a phenomenon... that is sudden, unexpected and that calls for rapid action to address its effects” (Merriam Webster, 2020).

The vast majority of the human race has endured three-plus years of disruption, the likes of which they have no prior experience.

The consequences of this disruption have been life-altering for many, not least for the almost 7 million individuals worldwide who have lost their lives to the SARS-CoV-2 virus and for their families (WHO, 2023).

The public health, political, economic, and societal impacts are staggering. The ultimate effect of the pandemic is unlikely to be known for years; however, we must strive to understand the context in which the pandemic arose and identify its effects so that we can learn from our collective experience.

This paper focuses on the COVID-19 pandemic’s disruption on individuals working within organizational settings, specifically manager-leaders and their direct followers from June – October 2021, beginning approximately 15 months after the World Health Organization declared a global pandemic.

## **A VUCA World**

VUCA is an acronym for volatile, uncertain, complex, and ambiguous. It describes an “environment which defies confident diagnosis and befuddles executives” (Bennett & Lemoine, 2014, p. 311). The effect of VUCA is to unmoor people from their previous models of how their environment worked, introducing much greater uncertainty into decision-making and strategy development.

While the term “VUCA” emerged in the late 1990s, the world has always been a VUCA place; it is more a matter of degree than fact. What does appear to be different from times past is VUCA’s rate of acceleration. Whether due to technological innovation, the extent of globalization, the increasing pace of climate change, or even having to manage remote workforces, individuals and organizations face much greater demand to adapt rapidly to highly fluid situations to meet stakeholder requirements and remain competitive.

Within this VUCA environment, the SARS-CoV-2 virus emerged, placing even greater demands on individuals and organizations.

### ***Shaken, Not Stirred***

The economic consequences of the COVID-19 pandemic are staggering; the World Economic Forum estimated in March 2020 that the coronavirus would cost the world’s economy in excess of \$1 - 2 trillion in 2020 alone (World Economic Forum, 2020); McKinsey & Co. estimated that cumulative GDP losses for OECD countries could approach \$10 trillion by 2024 (2020). Continuing costs are unknowable at this time, but based on the experience of previous global outbreaks, such as the Severe Acute Respiratory Syndrome (SARS) in 2003, the effects could persist for years (Lee & McKibbin, 2004).



In addition to the significant financial implications of COVID-19, there may be momentous social ramifications. Eroded trust and confidence, fear of meeting people face-to-face, social isolation and dramatic changes to the workforce are all possible outcomes (Barnakova et al., 2020); Charumilind et al., 2020). It is highly probable that many workers will not return to their pre-COVID-19 locations of employment; numerous surveys suggest that many organizations will allow or require employees capable of working remotely to do so on a long-term or permanent basis. For some, this heralding of the alleviation of a stressful daily commute may be a blessing; for others, feeling perpetually bound to social isolation in their home offices, a curse.

The mental health effects of COVID-19 are of major concern. Dealing with work disruption or loss, employment income reduction, social distancing requirements, and a general sense of life being turned on its head has affected a large proportion of the population, causing varying stress levels (CMHA, 2020).

The ramifications of COVID-19 disruption appear to be disproportionately borne by women and minorities. A study conducted by the University of British Columbia and the Canadian Mental Health Association in May 2020 found that both of these groups expressed increased levels of anxiety and reduced mental health in more significant proportions than men in response to COVID-19 (Centre for Addiction and Mental Health, 2020); CMHA, 2020). Vulnerable populations appear to be particularly hard-hit, with indigenous, LGBTQ+, disabled and minority communities, as well as people with previous mental health issues and low-income individuals experiencing greater difficulty coping with the effects of COVID-19 (Centers for Disease Control, 2020; CMHA, 2020).

***Wait, It Gets Worse...***

Numerous studies are beginning to emerge detailing the higher rates of lay-offs for females versus their male counterparts, in some jurisdictions at a rate of two-to-one (Dessanti, 2020). This is being further exacerbated by slower rates of reemployment, which has decreased female labour-market participation rates to their lowest levels in 30 years (Dessanti, 2020). Estimates suggest that as many as two million women could leave the U.S. workforce due to COVID-19's impact on their lives, while more than one in four are considering "downshifting" their careers (Russell, 2020, p. 1).

Ominously, an estimated six million more Americans were plunged into poverty during the three months from April to June 2020 (Han et al., 2020). The numbers in Canada appear to be just as dismal, with a reported 1.5 million Canadian women losing their jobs in the first two months of the pandemic, accounting for about 45 percent of the decline in hours worked over the downturn (Desjardins & Freestone, 2020).

***It's About the Economy...***

In addition to the concerns regarding economies returning to their pre-COVID-19 employment levels due to unprecedented drops in consumer purchasing, in part to "uncertainty shock" (Charumilind et al, 2020, p. 5), a significant number of organizations are accelerating their adoption of potentially disruptive technologies, including for example, artificial intelligence (A.I.), robotic process automation (RPA), blockchain and biometrics (Russek et al., 2021). An increasing number of workers may soon find the COVID-19 disruption compounded by a technologically driven one (Lamb, 2018; Kenney et al., 2015). The accelerated adoption of these new technologies will eliminate some roles, promote consolidation of others and likely involve

reskilling and upskilling on a scale heretofore unseen (Manyika et al., 2017; Vu & Nguyen, 2022). A substantial amount of the workforce may very likely have their previous work-life further disrupted. How well will organizations and individuals adapt to these multiple shocks?

Undoubtedly, some disruptions bring significant economic, political, competitive and societal benefits to humankind. But how does one calculate the human cost, not only financially but emotionally, psychologically and socially? In the case of the current COVID-19 pandemic, the stresses associated with job loss/insecurity, burnout from extended hours, demands for constant availability, new work roles and improvised procedures developed on the fly, concerns regarding personal safety and that of friends and family, emotional and social distancing from family and colleagues, these are unprecedented for most people. How do individuals, organizations and societies respond to catastrophic events of unknown duration?

### ***It's a VUCA World***

Overlain on periodically experienced disruptive events such as COVID-19 is the persistent and insidious effect of living in a world that is increasingly volatile, uncertain, complex and ambiguous (VUCA). The term was coined by the U.S. War College in 1998 and was originally applied in the context of preparing army officers for 21st-century military engagements, which were anticipated to be very different from those of the 20th century (Bennet & Lemoine, 2014).

VUCA's applicability in the wider world quickly became apparent, primarily due to the effects of increasing globalization, rapid technological advancements and significant demographic workforce shifts (Bennett & Lemoine, 2014). The need for agility, responsiveness, advanced problem-solving skills, innovation and flexibility has been highlighted by the demise of many of the 20th century's most venerable corporations.

***Sorry, Mr. Newton***

The World and the Universe have never been static; they have been VUCA since the Big Bang. The Newtonian, deterministic mechanical model of the universe has never existed; it has always been complex with uncertain evolutionary prospects, and so it is with our world.

Living in a VUCA world means being subject to complex systems whose behaviours, while determined by general laws, are also governed by the principle of chance (Fuchs, 2003). Natural and societal evolution continually enter phases of instability and crisis, which are unpredictable in their timing and outcomes, as self-organization theory suggests (Laszlo, 1987).

Disruptions proffer opportunities for adaptive human intervention in these systems, which Nayak et al. (2020) describe as an environmentally rich landscape of available affordances. These opportunities are only offered to firms that, through their organizational habitus and the micro foundational collective predisposition of their workers, have the empirical sensitivity to sense and seize situationally specific opportunities that enable them to initiate the skilled adaptive actions that can provide sustainable competitive advantage (Nayak et al., 2020). It should be noted that a firm's dynamic capabilities also entail both deliberate adaptive actions and detached, cognitively based actions that typically come into play when things go wrong or when breakdowns occur in situationally specific skilled adaptive actions. The effective combination of these qualities, especially a firm's capability to develop and deploy skilled adaptive action, leads to the superior dynamic capabilities necessary to survive and thrive in a disruptive VUCA world. (Nayak et al., 2020).

### ***VUCA and a Pandemic: A Sinister Synergy***

Combining an increasingly volatile, uncertain, complex and ambiguous (VUCA) world with what many consider the most disruptive event since World War 2 created significant, sometimes overwhelming, stress and anxiety for millions of individuals.

Living in a VUCA world is challenging for many individuals and organizations, especially those inherently change-resistant. The need for continuous adaptability and agility places significant emotional and cognitive demands on manager-leaders. Additionally, the need to understand and respond effectively to the highly fluid and novel situations presented by the COVID-19 pandemic proved incredibly stressful for many.

The World Health Organization, citing data published in the Global Burden of Disease study (2020), estimated an increase in cases of major depressive disorders and anxiety attributable to the effects of the COVID-19 pandemic at 27.6% and 25.6%, respectively. Being younger, female and having a pre-existing health condition presented additional risks for mental health issues and increased risk of suicidal behaviours in young people (WHO, 2022). In some cases, mental health problems were identified due to contracting the SARS-CoV-2 virus (WHO, 2022).

All-in-all, the disruption caused by the COVID-19 pandemic and the existing stresses of an increasingly VUCA world taxed many individuals and organizations to the breaking point.

### ***Veni, Vidi, Vici?***

The disruption represented by COVID-19 differs from most other types of disruption in terms of its severity, ubiquity, and duration. A significant but usually temporary crisis destabilizes the

status quo in most disruptions. It is followed by a period of recovery and new homeostasis, albeit different from what preceded. Even when recovery periods extend into months or occasionally years, the crisis is typically brief, where people and societies initiate actions that facilitate rehabilitation or adjust to a new norm.

It is rare for a crisis to affect virtually every human being simultaneously and persist for years as COVID-19 has done. Apart from World War II, no other event in our collective lifetimes has presented a disruption with such globally intractable effects on human health, employment and economic well-being.

The COVID-19 pandemic is not a singular event wreaking havoc in one fell swoop before disappearing into history. It is more accurately described as a series of events driven by many viral mutations to date, so-called “waves.” These “waves” produce a continuum of illness ranging from relatively mild “flu-like” symptoms to severe cardio-pulmonary distress requiring hospitalization and intensive medical intervention to death. The effects of the illness may persist from several weeks to months or for the remainder of an individual’s life.

### ***COVID-19’s Lifecycle***

Pandemics are effectively disruptive processes, starting with an event that induces an outbreak. An epidemic develops as the virus or bacteria are successfully transmitted to more and more new hosts in a given area. Greater transmission into much wider distribution can provoke a pandemic. Once transmissibility, i.e., the rate of infection, stabilizes, the disease becomes endemic.

Although the World Health Organization removed its public health emergency of international concern designation for COVID-19 on May 5, 2023, no consensus exists on whether the world is approaching a state of endemicity (Klobucista & Ferragamo, 2023). Endemicity is said to occur

when a disease's transmissibility rate becomes stable. However, it does not mean that the virus is no longer harmful; malaria was endemic in 85 countries worldwide in 2020 and killed 627,000 people (WHO, 2022). Endemicity is not a panacea, meaning we are collectively out of the COVID-19 woods. New variants and “returning waves of infection can be expected as current immunity wanes” (CMAJ, 2022), requiring new vaccines to combat new mutations. After trending down for many months, the rate of COVID-19 infections has been on the rise since September 2023 (Canada, 2023).

Ideally, a relatively stable situation will emerge when something akin to a “normal” flu season presents itself, where the majority of the populace who become infected typically experience comparatively mild symptoms lasting one to two weeks, with very few requiring hospital admission. However, the elderly and immunocompromised would still face significant risks (Spencer, 2022).

It should be noted that this more “normal” outcome is not a given; the Omicron variant of the SARS-CoV-2 virus produced a “tsunami of infection,” with an estimated 17 million Canadians becoming infected between December 2021 and May 2022 alone (COVID-19 Immunity Task Force, 2022, p. 3). This is a rate of infection ten times higher than previous mutations. More worrying is that notwithstanding mass vaccination efforts and public health initiatives, more than 54,100 Canadians have died from COVID-19 since April 2021 (WHO, 2023). This is more than double the 22,000 Canadians who died from COVID-19-related illness from March 2020 – October 2021 (Leung, 2022).

### ***Death & Despair***

The COVID-19 pandemic is estimated to have significantly increased the excess mortality rate globally. Excess mortality is the number of deaths from all causes during a crisis over and above what would be expected under normal conditions, i.e., had the COVID-19 pandemic not occurred.

The COVID-19 pandemic increased the rate of excess deaths in Canada by 38% and in the U.S. by 231% between the start of the pandemic and December 31, 2021. In absolute terms, this means that more than 30,000 Canadian and 1,000,300 American citizens died than would have perished had we not experienced the COVID-19 pandemic (Mathieu et al, 2020).

As of September 2022, worldwide excess mortalities were estimated to be a staggering 17.7 million, more than three times the official number (COVID-19 Excess Mortality Collaborators, 2022).

Notwithstanding the disruptive effects on the healthcare systems and economies of these premature and, in many cases, unnecessary deaths, the disruptive effects on the millions of families and communities across the globe who have lost loved ones are heartbreaking.

### ***New Times, New Approaches***

One of the consequences of this VUCA world has been the increasing adoption of new organizational structures, such as team-based, matrix vs. linear, Scrum and Agile processes, and distributed decision-making. These have evolved to function more effectively than hierarchical, command-and-control models in volatile, uncertain, complex and ambiguous environments (Rigby et al., 2019). However, even these more adaptable structures have yet to prove themselves able to deal effectively with a disruption of the magnitude and duration of the



COVID-19 pandemic. Regardless, the necessity for organizations, and by extension, the individuals within those organizations, to engage in continuous growth and development as an ongoing existential exercise has become apparent. How well individuals will adapt to these new realities and the effect that possible permanent demands for upgrading and reskilling will have on people's psychological capital remains to be seen.

Are individuals with access to economic, social and human capital, including psychological capital, better able to contend with the multi-faceted effects of disruption (Luthans et al., 2010; Avey et al., 2009)? How do we enable our current and future workforce and society to not only survive but thrive in a world where disruption seems likely to become the norm?

### **Psychological Capital Predecessors**

The following sections explore the literature pertaining to psychological capital's theoretical antecedents, specifically positive psychology, positive organizational scholarship and positive organizational behaviour.

The papers selected for inclusion in this section of the literature review reflect their significant direct and indirect influence on the development of psychological capital theory. They are arranged chronologically to allow for a thorough understanding of the arc of psychological capital's development over its history.

Three are comparatively brief but foundational in that the papers represent how their fields (positive psychology, positive organizational behaviour and positive psychological capital) came into wider consciousness. They are *Positive Psychology: An Introduction* by Martin Seligman (2000), *The Need for and Meaning of Positive Organizational Behavior* (Luthans, 2002), and *Positive Psychological Capital: Beyond Human and Social Capital* (Luthans et al., 2004).

Seligman (2000) briefly introduced the foundations of positive psychological capital through his science-based framework on positive psychology. Luthans et al. (2002) expanded the scope of study to the organizational context, offering positive organizational behaviour as a field of scientific study. Shortly thereafter, positive psychological capital's four core constructs of hope, efficacy, resilience, and optimism were identified (Luthans et al., 2004).

Luthans and Youssef (2004) published "Human, Social and now Positive Psychological Capital Management: Investing in People for Competitive Advantage," advancing psychological capital as a methodology for improved human capital management promising competitive advantage. "Meta-Analysis of the Impact of Positive Psychological Capital on Employee Attitudes, Behaviors and Performance" (Avey et al., 2011) was the first thorough review of the quantitative research on psychological capital some six years after its introduction. Drawing on the studies of Luthans, Avolio et al. (2007), Avey et al. (2010), Luthans et al. (2010), and Norman et al. (2010), the paper supported the positive relationship between psychological capital and multiple desirable employee attitudes, such as organizational citizenship behaviour, psychological well-being, job satisfaction and employee retention, as well as employee performance. The paper also highlighted the lack of alternative research methods, i.e., qualitative and mixed methods approaches and suggested that there was little theoretical literature for establishing the antecedents of psychological capital.

"The Left Side of Psychological Capital: New Evidence on the Antecedents of Psychological Capital" (Avey, 2014) offered the first empirical evidence into the origins of psychological capital, identifying the significant effects of individual differences (especially self-esteem), supervision/leadership of workers and job characteristics. The study also highlighted the need for contextual sensitivity when researching psychological capital in non-U.S. venues due to

the apparent bias of the predominant psychological capital measurement instrument in use at the time.

In “Psychological Capital: A Review and Synthesis,” Newman et al. (2014) examined the critical question of psychological capital’s role as a mediator, identifying, for example, employee empowerment, social networking, goal-setting, and positive affect which had not yet been addressed in extant studies, along with considering potential moderators such as age and service climate. This review, along with Dawkins et al. (2015), also identified the deficiency of research on multi-level applications of psychological capital, i.e., at the team and organizational levels of analysis.

The final paper selected, “Psychological Capital: An Evidence-based Positive Approach” (Luthans & Youssef-Morgan, 2017), departed from positive organizational behaviour’s focus solely on the micro level, calling for more research at the team and organizational level of analysis. The role of positive leadership in individual and organizational psychological capital development and management was scrutinized, as was the dearth of qualitative research that Luthans and Youssef believed needed to be addressed to gain a deeper understanding of psychological capital’s mechanisms. This shortcoming persists to this day.

The following section identifies significant gaps and omissions in each topic area for the examined literature.

## Literature Review of Psychological Capital Theory

### Introduction

Positive psychology emerged in the late 1990s as a reaction to what was perceived by psychologist Martin Seligman and others as a predominantly pathological and dysfunction-focused approach to psychology as practised in America (Seligman & Csikszentmihalyi, 2000). Seligman and Csikszentmihalyi envisioned an alternative, strengths-based approach to psychology wherein people could be helped not just to survive but to flourish (Seligman & Csikszentmihalyi, 2000).

Shortly after that, Jane Dutton, Kim Cameron and Robert Quinn from the University of Michigan established positive organizational scholarship to bring researchers in psychology and organizational behaviour together with an intentional focus on positive phenomena in organizations (Cameron & Spreitzer, 2011). They believed that the positive aspects of organizational existence were ignored and that rigorous academic research was required to identify and promote the potential for elevating the human condition in organizational life (Cameron & Spreitzer, 2011).

Fred Luthans subsequently introduced the derivative fields of study called Positive Organizational Behaviour (Luthans, 2002) and Positive Psychological Capital (Luthans et al., 2004). Both of these approaches focused on building the strengths of individuals working in organizational settings. They were to reside on a foundation of robust research and empirical evidence, which was largely lacking in much of the positively-oriented “feel good” literature of the day, such as Stephen Covey’s “Seven Habits of Highly Effective People” and Spencer Johnson’s “Who Moved My Cheese?” (Luthans, 2002, p. 697).

## Discussion

The roots of positive psychology stretch well back into the early 20th century. Carl Jung's (1933) interest in finding meaning in life, Lewis Terman's espousal of a strengths-based approach in his studies of human giftedness (1939), and Victor Frankl's (1967) foundational work on logotherapy are particularly notable for their future influence. Abraham Maslow, of Maslow's Hierarchy fame, posited in his 1954 book "Motivation and Personality" that then-current psychology's predominant focus on the negative aspects of the human condition successfully exposed deficiencies but largely neglected human potential. Maslow's hierarchy proposed a taxonomy of human needs that defined self-actualization and self-fulfilment as the pinnacle of individual achievement (Maslow, 1954).

Luthans' positive organizational behaviour originated because he felt that the organizational behaviour field was experiencing a negative spiral through its fixation on individual people's deficiencies rather than focusing on developing their strengths (Luthans, 2002). The use of the term "positive" was deliberate in order to reflect its focus and its derivation from the concept of positive psychology. Luthans proposed a set of psychological capabilities designed to be unique and which met the definitional criteria, which included the need to be measurable, capable of being developed, i.e., state-like, having plasticity rather than being fixed, and being related to workplace performance (Luthans, 2002).

Initially, this set of capabilities included confidence (or self-efficacy), hope, optimism, subjective well-being (happiness) and emotional intelligence (Luthans, 2002). Subsequent changes included the removal of the happiness and emotional intelligence constructs and adding resilience (Luthans, 2002).

### **Organizational Convergence and Divergence**

Positive organizational behaviour's emergence paralleled the contemporaneous development of positive organizational scholarship at the University of Michigan, which established the Center for Positive Organizational Scholarship in 2002, resident in the Ross School of Business Center for Positive Organizations. While owing their genesis to positive psychology and holding similar ontological perspectives, positive organizational behaviour and scholarship differed significantly. Luthans' positive organizational behaviour was primarily micro-focused at the individual level of analysis, whereas positive organizational scholarship included the micro, meso and macro levels of analysis. Positive organizational scholarship's scope of interest was much broader than positive organizational behaviour. It encompassed many more individual variables, such as motivation, engagement, creativity, curiosity, virtuousness, compassion, courage, integrity, positive ethics and more (Cameron & Spreitzer, 2011).

Positive organizational scholarship's emphasis was more holistic and emphasized human flourishing, character building, positive ethics, high-quality relations, leadership and even spirituality (Cameron & Spreitzer, 2011). Positive organizational behaviour's purview was restricted to three constructs: efficacy, hope, and resilience, although Luthans stated that he believed that other capabilities might be worthy of inclusion, subject to their meeting established criteria (Luthans, 2002).

While beneficial to individual and organizational success and sustainability, positive organizational scholarship's fundamental assumption was eudaemonic; humans are driven to achieve their highest aspirations, realizing excellence and cultivating goodness for its own sake (Cameron & Spreitzer, 2011). Positive organizational behaviour's focus was squarely on

developing individual strengths and capabilities in service of performance improvement in the workplace (Luthans, 2002).

The most striking difference between positive organizational scholarship and positive organizational behaviour was their implied orientation towards values, ethics and the requirement for individuals, especially leaders, to behave honourably and demonstrate positive civic virtues, as Cameron & Spreitzer (2011) describe it. Positive organizational scholarship places significant emphasis on this attribute, perhaps because its perspective is micro, meso, and macro, hence having a potentially more wide-ranging effect, especially concerning the behaviours of organizational leaders who, intentionally or not, are role models for their workers and often society at large. Positive organizational behaviour is silent on this issue. There is no mention of ethics or values in Luthans' (2002) writing, nor any consideration for how individuals, particularly leaders, should or should not wield their considerable power in any context. Positive organizational behaviour's emphasis appears singularly focused on individual development in support of improved organizational performance.

### **Summary, Conclusions and Implications**

The emergence of the positive psychology movement, coupled with contemporaneous academic theories such as Fredrickson's broaden-and-build model promoting optimal functioning (Fredrickson, 2001) and Diener's subjective well-being (Diener et al., 2002) among others, illuminated the potential of positive emotions to empower human flourishing. These theories provided the empirical evidence that enabled organizational behaviouralists to leverage other theoretical concepts, such as the resource-based theory of competitive advantage (Grant, 1991). The beneficial effects experienced when corporate strategy was enabled through

employee satisfaction and engagement (Harter et al., 2002) in support of organizational strategies that promoted the development of human and social capital, whether based on positive organizational scholarship, positive organizational behaviour, or other concepts.

The evolution of the industrially based 19th- and-20th-century economy to a 21st-century knowledge-based, service-oriented model accentuated the importance of people in organizations. Increasingly, organizational value resides in intellectual and organizational capital, not machinery and equipment (Dzinkowski, 2000). Adopting matrix-style organizational architectures, often using team-based structures and emphasizing agile methodologies (Rigby et al., 2016), has rendered many traditional top-down, command-and-control management techniques ineffective in rapidly evolving and disruptive environments (Fisher & Patten, 2013). The current COVID-19 pandemic is an instructive case in point.

Sustaining competitive advantage in an increasingly complex, ambiguous and volatile world where disruption from a variety of sources, be they market, economic, technological, social/cultural or environmental, can emerge overnight requires human capital that is agile, resilient, goal-oriented and confident in its ability to address these significant, potentially existential, challenges effectively. It was within this new reality that Luthans introduced the concept of positive psychological capital. Predicated on the commitment to a strengths-based approach to human potential in organizations and grounded in the development of specific valuable capabilities in individuals, psychological capital offered a new approach to building human capital to support sustainable organizational performance (Luthans, 2002).



## **Psychological Capital Literature**

Following closely on the heels of his work in establishing Positive organizational behaviour, early in 2004, Fred Luthans, along with his sons Kyle and Brett, released a six-page paper entitled “Positive Psychological Capital: Beyond Human and Social Capital” (Luthans et al., 2004). The paper served as a primer introducing positive psychological capital. Framed within well-established resource-based theory (Barney & Clark, 2007), psychological resource theory (Hobfoll, 2002) and emanating from the nascent field of positive psychology, the paper presented positive psychological capital as the unjustly ignored relation of human and social capital (Luthans et al., 2004).

The paper deconstructed the elements of human capital as experience, education, skills, knowledge and ideas, which were comparatively easy to ascertain, and social capital, comprised of relationships and networks of contacts and friends, which were more challenging to measure due to their inherent intangibility. Luthans postulated that psychological capital was the logical extension of human and social capital. While human capital represented “what I know” and social capital “who I know”, positive psychological capital focused on “who I am” and promised improved performance outcomes in pursuit of competitive advantage (Luthans et al., 2004).

As with many valuable innovations, Luthans manufactured the construct of psychological capital by combining well-known but previously unconnected constructs, essentially rolling up four first-order constructs, hope, confidence, resilience and optimism, into a higher-level (second-order) construct he called positive psychological capital. Following Hobfoll’s (2002) psychological resource theory, the second-order construct of psychological capital postulated a synergistic effect in addition to the individual effects of the four first-order constructs (Luthans, 2004).

Luthans' primer on psychological capital's potentiality in enabling competitive advantage opened the door for more research into its application. Newman et al.'s, (2014) meta-analysis identified 66 papers published on psychological capital between 2004 - 2014, while a meta-analysis by (Kong et al., 2018) identified 81 empirical studies from 2004 to 2018. Psychological capital was establishing itself as a dynamic field of study (Kong et al., 2018), however, Hackman (2009) expressed concern regarding psychological capital research exceeding its conceptual, methodological and ideological foundations.

## **Discussion**

Luthans and Youssef expanded on Luthans' psychological capital primer by providing a more in-depth comparison of psychological capital to human and social capital in their paper "Human, Social, and Now Positive Psychological Capital Management: Investing in People for Competitive Advantage" (Luthans & Youssef, 2004). Contextualized to managing human and social capital within the organization, Luthans and Youssef specifically tied it to achieving competitive advantage. In keeping with his espoused positive organizational behaviour values, Luthans took up the challenge of ensuring that psychological capital must be measurable; interventions designed to improve it would be tied to quantifiable outcomes such as individual performance, thereby yielding improved competitive advantage and, ultimately, organizational performance (Luthans & Youssef, 2004).

What flowed after that was a river of research almost exclusively quantitative in design. Avey et al.'s (2011) meta-analysis of 51 independent samples identified a lack of qualitative and mixed methods research as an area of omission in psychological capital research (Avey et al., 2011). Newman et al. (2014) meta-analysis classified 60 of 66 papers as empirical, and Kong et al.'s, (2018) meta-analysis found that 77 of 81 identified papers were quantitative. The literature

search conducted for this paper identified only four non-quantitative papers; Kutanis & Oruç, 2015); Yildiz (2017); Çimen & Ozgan (2018), and one mixed-methods study (Norman et al., 2010). The research that existed in support of psychological capital related only to the four first-order constructs of hope, efficacy (confidence), resilience and optimism; there was no empirical evidence substantiating psychological capital as a second-order construct at this time. What research existed in support of its four first-order constructs of hope, based on the work of C. Rick Snyder; confidence, based predominantly on the research of Albert Bandura; resilience, based on the work of Ann Masten and others; and optimism, based primarily on the work of Martin Seligman (Luthans & Youssef, 2004).

### ***The Four Pillars and the Trait-State Debate***

Positive psychological capital constitutes four constructs, namely hope, confidence, optimism, and resilience (Luthans, 2004), defined as follows:

**Hope** is “a positive motivational state that is based on an interactively derived sense of successful agency (goal-directed energy) and pathways (planning to meet goals)” (Snyder et al., 1991, p. 287).

**Efficacy**, specifically self-efficacy, is “one’s conviction or confidence about his or her abilities to mobilize the motivation, cognitive resources and courses of action needed to execute a specific task within a given context successfully” (Stajkovic & Luthans, 1998, p. 66).

**Resilience** is “the capacity to rebound or bounce back from adversity, conflict, failure or even positive events, progress and increased responsibility” (Luthans, 2002, p. 702).

**Optimism** is a positive future expectation open to development (Carver & Scheier, 2002) and an explanatory and attributional style that interprets adverse events as external to the self,

temporary in nature, and situationally specific (Avey et al., 2011). Seligman described optimism as comprising the 3 Ps, where one perceived positive events as personal, permanent and pervasive (Avey et al., 2011).

Each of these possessed significant evidentiary support for their beneficial effects based on prior theory and research by others and hence met inclusion criteria for measurability and developability (Luthans, 2002). The concept of developability required that the four identified psychological capabilities be defined as states with inherent variability and subject to improvement through various interventions, as opposed to traits, which were essentially fixed and immune to interventional attempts at improvement (Luthans, 2004).

While subsequent quantitative research has established the variability of psychological capital, its sustainability remains unknown, mainly due to the predominance of cross-sectional research and a lack of longitudinal studies, a gap acknowledged throughout the construct's development (Luthans & Youssef-Morgan, 2017).

The paucity of longitudinal studies represents a challenge to its aspirations to demonstrate meaningful improvements in psychological capital that persist sufficiently long to be reasonably correlated with individual and organizational improvement.

While providing evidence of statistically significant change in psychological capital scores, as measured by the Psychological Capital Questionnaire (12-item or 24-item), data on effect sizes suggests that the magnitude of change produced through psychological capital interventions has been small-to-medium (Luthans, et al., 2007); Luthans et al., 2010); Avey et al., 2011). Carter & Youssef-Morgan's (2019) longitudinal study involving a formal mentoring program measured mentoring quality, psychological capital and performance improvement for

one year pre- and post-the mentoring intervention. The study analyzed data from three separate cohorts over three years. It demonstrated improvement effect sizes in the large range for mentoring quality and small-to-moderate range for both psychological capital and performance (Carter & Youssef-Morgan, 2019). While the data support the value of high-quality mentoring, the corporation investing in the program was probably more interested in performance improvement, where the results were less impressive.

In fairness, it is very challenging to conduct longitudinal studies in organizational settings, which may help explain why so few have been published, the notable exceptions being Peterson et al. (2011) and Carter & Youssef-Morgan's (2019) studies.

This shortcoming has been frequently cited, particularly in meta-analyses of psychological capital (Dawkins et al., 2013; Youssef-Morgan, 2014; Luthans & Youssef-Morgan, 2017). While evidence exists for interventions to effect change in psychological capital, this search found few studies that attempted to measure psychological capital scores longitudinally. Luthans & Youssef-Morgan's (2017) comprehensive review suggests that six months is the maximum duration for state-like constructs. Regardless of how the term is applied, there is very little in the way of extant longitudinal psychological capital research.

From the start of the positive organizational behaviour movement in 2002, Luthans stated that its role was not solely to enable organizations to make better employee selection decisions based on the identification of traits but to leverage states (sic) that were open to development and management in the workplace in order to support leadership development and employee performance (Luthans, 2002).

Luthans stressed the potential for positive organizational behaviour to be “developed through training programmes, managed/led on-the-job or self-developed” (Luthans, 2002, p. 699). Unfortunately, results have been difficult to assess due to insufficient research supporting this entreaty. Apart from studies measuring the effect of short-term psychological capital developmental interventions, typically evaluated with pre-and post-training applications of the PCQ-12 or PCQ-24 questionnaires wherein post-intervention tests were done shortly after the training’s completion, there is little evidence to suggest that organizations have availed themselves of the potential employee development potential of psychological capital after completion of the short-term interventions.

A dearth of data related to firm-level training effectiveness, never mind individual-level effectiveness, makes this research very challenging. A lack of representative longitudinal organizational data and imperfect productivity measures contribute to the difficulty (Dostie, 2013); however, the fact remains that there needs to be more research to inform the effectiveness of psychological capital development efforts.

### **An Overview of Psychological Capital**

A significant amount of research has been produced on psychological capital since its introduction by Luthans in 2004. The vast majority of this is quantitative in design, a requirement for evidence-based research stipulated in positive organizational behaviour’s inclusion criteria (Luthans, 2004).

Several issues present themselves prominently in a review of psychological capital literature. The following tables provide a summary of psychological capital’s antecedents, outcomes, mediators and moderators gleaned from a review of the extant literature (Table 1,

page 31) as well as providing the reader with an understanding of the evolution of important psychological capital literature since its inception (Table 2, page 32).

Table 1

*PsyCap Antecedents, Outcomes, Mediators and Moderators*

PsyCap Antecedents	PsyCap Outcomes	Mediators (1) of PsyCap & Outcomes	PsyCap as a Moderator
<p><b>Individual:</b></p> <p>Proactive personality</p> <p>Self-esteem/core self evaluation</p> <p><b>Leadership -</b> Authentic, Ethical, Transformational, Empowering,</p> <p>Supportive Organizational Environment (2)</p> <p>Demographics</p> <p>Task Complexity</p> <p>Job Design</p>	<p><b>Individual</b></p> <p><b>Employee Attitudes:</b> commitment, job satisfaction. Turnover, intention, cynicism (3)</p> <p><b>Employee Behaviours:</b> organizational citizenship, counterproductive work (3), absenteeism, turnover (3)</p> <p><b>Employee Performance:</b> innovation, problem-solving, job performance</p> <p>Employee safety</p> <p>Employee health &amp; well-being</p> <p>Employee deviant behaviour (3)</p> <p>Stress (3)</p> <p><b>Team Performance</b></p> <p><b>Firm performance:</b> financial performance</p>	<p><b>Individual:</b></p> <p>Psychological empowerment</p> <p>Trust</p> <p>Positive affect</p> <p>PsyCap fully mediates the relationship between supportive organizational climate and performance</p>	<p><b>Individual:</b></p> <p>Between organizational politics and job performance and job satisfaction (3)</p> <p>Between stress and incivility</p> <p>Between emotional labour and job satisfaction/burnout</p> <p>Between perceived threat of resource constraints and continuous improvement</p> <p><b>Team</b></p> <p>Organizational Identity</p> <p><b>Organizational</b></p> <p>Cultural differences in sample base (U.S. vs non-U.S.) moderates between PsyCap and performance outcomes</p> <p>Industry type (service vs manufacturing) moderates between PsyCap and performance outcomes</p>

(1) Full or Partial Mediation

(2) Abusive Supervision is noted in some studies as a possible antecedent, with negative correlations to desirable individual and organizational outcomes and positive correlation to undesirable outcomes.

3) Negatively correlated



Table 2

*Key Psychological Capital Studies*

<b>Key Studies</b>	<b>Authors</b>	<b>Sample</b>	<b>Main Findings</b>
Human, Social and Now Positive Psychological Capital Management: Investing in People for Competitive Advantage (2004)	Luthans, F. & Youssef-Morgan, C.	Article	Connected emerging Positive Psychological Capital. Based on Positive Organizational Behavior, Luthans & Youssef-Morgan posited PsyCap's ability to enhance competitive advantage in organizational settings by emphasizing a strengths-based approach to human resource management.
Positive Psychological Capital: Measurement and Relationship with Performance and Satisfaction (2007)	Luthans, F., Avolio, B., Avey, J & Norman, S.	Two Quantitative studies: Study 1: n= 571 university management students.  Study 2: n= 259 private sector employees	Established PsyCap as a "state-like", measurable, higher-order construct consisting of hope, self-efficacy, resilience and optimism. Introduced the PCQ-24 questionnaire as the psychometric measure for determining individual PsyCap. Advocated for leadership research on PsyCap.
Meta-Analysis of the Impact of Positive Psychological Capital on Employee Attitudes, Behaviors, and Performance (2011)	Avey, J., Reichard, R., Luthans, F. & Mhatre, K.	Meta-analysis of 51 samples of n=12,567 employees	Significant meta-analysis that provided evidence-based support for PsyCap's effect in predicting employee attitudes, behaviours and performance. It also identified the need for more theory-building, research using multiple methodologies and examples of effective application.
The Left Side of Psychological Capital: New Evidence on the Antecedents of PsyCap (2014)	Avey, J.	Quantitative Studies: Study 1: n= 1264 engineers, U.S.-based.  Study 2: n= 524 tech employees, in China	Extant research to date almost exclusively outcome-based, e.g., performance, OCB, etc. This study established 4 categories of PsyCap antecedents as: Individual; Supervision; Job Characteristics; Demographics, that predict levels of PsyCap at work. Identified potential cultural boundary issues
Psychological capital: A review and synthesis (2014)	Newman, A., Ucbasaran, D., Zhu, F. & Hirst, G.	Detailed literature review of PsyCap	Review of PsyCap concept, measurement, developmental factors & multi-level outcomes. Called for more research on

			underlying mechanisms and identification of moderators
Psychological Capital: An Evidence-Based Positive Approach (2017)	Luthans, F & Youssef-Morgan, C.	Meta-analysis of PsyCap quantitative studies to date	Review of PsyCap studies to date providing comprehensive overview of the construct, research findings and practical applications. Also addressed significant criticisms and identified potential future research areas.
Psychological Capital Research: A Meta-Analysis and Implications for Management Sustainability (2018)	Kong, F.; Tsai, C.-H.; Tsai, F.-S.; Huang, W.; De la Cruz, S.M.	Meta-analysis of 81 quantitative PsyCap papers	Identified factors influencing psychological capital including organizational climate and justice; authentic leadership; leader-member exchange and occupational stress. Confirmed positive impact of PsyCap on employee attitudes & behaviours

### Review of Psychological Capital Empirical Studies

There is a considerable amount of research in support of the value of psychological capital as a second-order, multi-dimensional construct comprised of the shared variance of the four first-order constructs of hope, efficacy, resilience and optimism (HERO), (Luthans et al., 2007; Avey et al., 2011). Gooty et al., (2009), expressed concerns regarding the newness of the PCQ-24 questionnaire (published in 2007, please see Appendix C) and tested their hypotheses using a variety of methods, including structural equation modelling to address their apprehension. Their analysis supported higher-order factor representation of psychological capital.

Fifteen years' worth of research has established psychological capital's effect on numerous positively-correlated outcome variables, including performance improvement (Luthans et al., 2007; Gooty et al., 2009; Avey et al., 2011; Luthans et al., 2010; Peterson et al., 2011), organizational citizenship behaviours (Avey et al., 2008; Gooty et al., 2009; Avey et al., 2010; Norman et al., 2010); well-being (Luthans et al., 2013; Avey et al., 2011), job satisfaction (Luthans et al., 2007; Luthans et al., 2008), organizational commitment (Luthans et al., 2008;

Larson & Luthans, 2006). Psychological capital research has also revealed negative correlations to undesirable outcome variables, such as deviant behaviour and cynicism (Avey et al., 2008; Avey et al., 2009), stress (Avey et al., 2009) and intention to quit (Avey et al., 2009; Avey et al., 2010).

The vast majority of literature is quantitative in nature, which seems to have been effective in establishing the theory's bona fides as a legitimate field of study. This predominant focus on quantitative methods may be attributable to psychological capital's origins in positive organizational behaviour, in which Luthans stressed the need for empirical evidence and established inclusion criteria that required the ability to measure the construct being studied (Luthans, 2002). The consequence has been very few qualitative and mixed methods studies that might enable a deeper understanding of the underlying mechanisms of psychological capital and how it manifests itself in organizational life (Youssef-Morgan, 2014; Luthans & Youssef-Morgan, 2017). Unfortunately, this does not appear to have resonated with psychological capital researchers who continue to focus on the production of quantitative studies.

### **A Critical Analysis of Psychological Capital**

The many studies produced on psychological capital since its inception in 2003, more than 100 to date (Wu & Nguyen, 2019), have detailed the concept's application in multiple organizational settings. The vast majority of these studies are cross-sectional, quantitative and have repeatedly demonstrated psychological capital's correlation to multiple positive individual and organizational outcomes (Avey et al., 2011). Notwithstanding the generally positive results, there are multiple issues of concern regarding psychological capital's conceptual foundation, its research methodologies, its claims of efficacy and its organizational practicality.

Subsequent to a thorough examination of the extant literature on psychological capital, including a review of extant critical literature, I have identified fourteen issues which are of particular concern:

### **1) What is Positive About Psychological Capital?**

Notwithstanding the need for the originator of psychological capital, (Fred Luthans, 2003,) to securely anchor the concept to both positive organizational behaviour and positive psychology from whence it came, the notion of “positivity” regarding what is a psychological construct is problematic and potentially confusing.

The term is meant to convey a strengths-based perspective on human development. Its four first-order constructs of hope, efficacy, resilience, and optimism are by definition, positively valanced. Psychological capital has predominantly been measured via the PCQ-24 PsyCap Questionnaire (Dawkins et al., 2013), the instrument having been created in 2007 by Fred Luthans, Bruce Avolio and James Avey, who have been frequent collaborators in psychological capital research (Luthans et al., 2007). The development of a valid and reliable psychological capital measuring instrument was necessary in order to meet the evidence requirement mandated in positive organizational behaviour’s inclusion criteria (Luthans et al., 2004). A 12-item version called the PCQ-12 was subsequently produced to reduce the amount of time required to complete the survey.

#### **The Scales**

The PCQ-24 questionnaire contains six questions for each of the four first-order constructs using a Likert-like six-point scale ranging from Strongly Disagree (1) to Strongly Agree (6).

Please refer to Appendix C for the complete questionnaire.

The following is a sample of one question for each of the four constructs - the full set of questions is provided in Appendix C:

### Hope

“If I should find myself in a jam at work, I could think of many ways to get myself out of it”

### Efficacy

“I feel confident analyzing a long-term problem to find a solution.”

### Resilience

“I usually manage difficulties one way or another at work.”

### Optimism

“When things are uncertain for me at work, I usually expect the best.”

The calculated mean score is equally weighted between the four constructs and produces a psychological capital score of between 1 and 6. While the terms “low PsyCap” and “high PsyCap” are occasionally used in various studies (Avey et al., 2008), this term is undefined and of questionable utility from a practical perspective.

It is possible that three separate individuals could produce an identical psychological capital composite score, e.g., 4 out of 6, while the underlying first-order scores vary markedly. For example, Person A could score 4,4,4,4, for the first-order constructs, while Person B scored 3,3,5,5, and Person C, 2,5,3,6, yet all produce the same psychological capital score of 4 out of 6. Since the PCQ-24/12 instruments only provide composite (second-order) scores, no understanding of the first-order measures is possible. The psychological capital literature

provides no insight as to how differences in first-order construct scores might manifest in the behaviour and performance of the three individuals.

The inability to parse out the individual components prevents users from understanding how different configurations of the four first-order constructs might manifest themselves from a performance perspective (Dawkins et al., 2013). There is also the lost opportunity of what Dawkins termed “PsyCap profiling,” by which managers might better develop targeted interventions that result in more productive and satisfied employees. (Dawkins et al., 2013, p.351).

Examples of questions that come to mind when considering the practical application of the psychological capital scores are:

- How can a manager-leader utilize data that, for example, one employee scores 4 out of a possible 6 points on the PsyCap PCQ-24 assessment while another employee scores 2 out of 6? What does this mean from an attitudinal or performance perspective?
- Apart from one score being higher than the other, is there a qualitative difference between the scores?
- At what level is a person’s psychological capital “acceptable” or too low, perhaps requiring a psychological capital intervention?
- What increase in psychological capital from pre to post-intervention is considered adequate, and how is this data connected to performance-related outcomes?

Despite the apparent obviousness of these types of questions from a practitioner perspective, they are not addressed in psychological capital literature, despite having more than a

decade's worth of data from which to draw responses to these questions. This may be attributable to the lack of mixed-method and qualitative studies that would be more likely to materialize answers to these types of questions in order to gain a deeper understanding of the construct in actual organizational use. Considering psychological capital's avowed purpose of improving individual and organizational performance, the lack of this type of practical information that organizations could act on suggests a significant knowledge gap.

### *From Positive to Pathological*

Another significant shortcoming in the psychological capital literature is its failure to address the question, "Can an individual have too much psychological capital?".

Notwithstanding the potential issues of "faking" and socially desirable responses that might lead to inflated scores, is there a point where individual agency, self-confidence, resilience, and optimism become problematic? Could hubris, refusing to stand down when it's the right course of action, and narcissism be possible outcomes?

Judge and Hurst (2005) posed the question, "Is it possible to be too positive" and opined that there was considerable debate among researchers as to whether one could have too much of a good thing. Hiller and Hambrick (2005) examined this question of the concept of Core Self-Evaluation (CSE). CSE also described as self-esteem, has been identified in several psychological capital studies as the antecedent factor that explains the most variance in psychological capital scores (Avey, 2014).

Hiller and Hambrick examined the question of strategic decision-making by senior executives possessing "hyper-CSE". They conceptualized that they would be more prone to demonstrate an arbitrary, high-risk decision-making process due to their supreme confidence in

themselves (Hiller & Hambrick, 2005). There is ample evidence of the effect of supremely confident, highly driven individuals in the corporate and public spheres who persist in pursuit of their goals long after most others would have quit. Sometimes the effects are positive, e.g., Winston Churchill in World War II; sometimes they are negative, e.g., Adolf Hitler in World War II. Clearly, there are other phenomena at work beyond being merely positive, possibly involving pathological behaviour, possibly belief in serving a greater cause.

While there are numerous benefits to adopting an affirmative bias and putting a positive spin on organizational issues in order to maintain a constructive perspective, the propensity to overweight to the positive as advocated by Luthans and Youssef-Morgan (2017), can present significant risk. Taken too far, this tendency can lead to avoiding the asking of hard questions, failing to address problematic situations, engaging in unrealistic wishful thinking (Lazarus, 2003) and neglecting the possibility of the singularity (Luthans & Youssef-Morgan, 2017). The role of the manager-leader requires a balanced perspective that recognizes the need to develop the positive in workers while simultaneously addressing dysfunctional and problematic behaviour. These are not mutually exclusive, but this yin/yang perspective of balanced leadership responsibility is largely absent from positive psychology literature.

## **2) Psychological Capital Silence on Values, Morals and Ethics.**

While both positive psychology and positive organizational scholarship stress the importance of societal benefit, moral behaviour and virtuousness (Cameron & Spreitzer, 2011; Seligman & Csikszentmihalyi, 2000), positive organizational behaviour and psychological capital focus solely on the “measurement, development and effective management for performance improvement in today’s workplace” (Luthans, 2002b, p. 59).



The exclusive focus on the individual and improving their performance in the service of greater organizational success while not explicitly addressing ethical and moral considerations is troubling. With near-daily revelations of individuals, often powerful politicians and captains of industry, egregiously violating ethical and moral standards, frequently with impunity, the apparent lack of recognition of this psychological attribute is a significant deficiency. In today's society, an individual's every movement, electronic communication, and utterance are subject to surveillance and scrutiny. Behaving unethically or immorally can provoke career and potentially life-threatening consequences, as witnessed by the recent ignominious demise of financier and convicted sex offender, Jeffrey Epstein, for example (Flitter & Stewart, 2021)

### ***Morals Matter***

Perhaps in recognition of this omission, Luthans (2002) and Luthans and Avolio (2003) developed their theory of authentic leadership that, in addition to including the four constructs of hope, self-efficacy, resilience, and optimism, also incorporated transparency, a moral-ethical future orientation and the development of followers as necessary elements. Authentic leadership involves modelling "values, beliefs and behaviors" in order to set a positive example for the development of staff (Luthans & Avolio, 2003, p. 243).

Gardner et al. (2011) observed that authentic leadership, as initially devised by Luthans in 2002, included the four HERO constructs; however, they were subsequently identified as separate but related constructs and removed from the authentic leadership construct (Avolio & Gardner, 2005). This may have been attributable to the HERO constructs being considered as states (or state-like) versus the trait (or trait-like) nature of the constructs of transparency and valuing truthfulness and openness in one's relationships and, therefore, less open to interventional development. Regardless, eliminating psychological capital of attributes highly

desirable in all employees, not just those in leadership positions, diminishes the construct's value.

### **3) A Near-exclusive Focus on Quantitative Research**

Positive organizational behaviour's, and by extension, psychological capital's insistence on measurability has tilted the research field heavily in favour of quantitative research versus qualitative and mixed-methods studies. Much empirical evidence has repeatedly demonstrated the correlation between psychological capital and multiple beneficial outcomes. This quantitative strategy was essential to solidify the construct's validity and reliability (Luthans, 2002). It primarily employed analytical techniques relying on factor analysis, which is inherently reductionist, seeking to identify the fewest number of factors that account for most of the construct variance. This approach simplifies the construct by eliminating factors not considered relevant (Lazarus, 2003), which presupposes that the researchers have a sufficient depth of knowledge of the construct's nature to know which factors play a role.

In 2009, Richard Hackman expressed concerns over what he referred to as positive organizational behaviour's "over-reliance on a particular research strategy" (Hackman, 2009, p. 309), by which he meant the singular use of factor analysis and correlational methods to establish construct validity and reliability. Dawkins et al., (2013) recommended the use of more sophisticated analytical methods, such as structural equation modelling, to apply greater validation rigor to the Psychological Capital Questionnaire instrument.

Common method variance and social desirability issues regarding the exclusive use of self-reported surveys collected at a single point in time continue to draw the attention of psychological capital critics (Hackman, 2009; Newman et al., 2014). Hackman (2009) opined

that at some point, positive organizational behaviour would need to move beyond self-reported tests and surveys in order to “nail the phenomena under study” (Hackman, 2009, p. 314). Four years later, Dawkins et al.'s (2013) review and critical analysis identified 29 quantitative psychological capital studies, 13 of which supplemented self-reported data with either or both other-rater or objective data, while the remaining 16 studies relied solely on self-reported data, suggesting that Hackman's desire to see non-self-report methods being employed had not yet been achieved. Fourteen years later, the PCQ-24 and PCQ-12 self-report questionnaires are still the primary and frequently exclusive psychological capital measurement instruments.

This has not happened despite the repeated calls in numerous papers for years for qualitative and mixed methods studies that might lead to a better understanding of psychological capital's nature. Luthans' inclusion criteria established from psychological capital's genesis effectively restricts its research to a natural science, quantitative approach through its insistence on the measurability of all psychological capital facets. Additionally, embracing a reductionist epistemological perspective that is not open to qualitative research prevents the potential opportunity to explore and elucidate what Fuchs (2003) describes as emergent, mutual relationships and circular causality, all qualities suggested in many of the quantitative studies of psychological capital, but which have not been elaborated upon.

#### **4) Conceptual Challenges**

A potentially more significant problem is the apparent lack of progress in addressing psychological capital's underlying conceptual issues, as well as concern about its test-retest psychometric properties (Dawkins et al., 2013; Hackman, 2009; Lazarus, 2003; Little et al., 2007). In their comprehensive 2013 psychometric review and critical analysis of psychological capital, Dawkins et al. (2013) provided multiple recommendations for addressing many of the

expressed concerns, including further theorization and investigation of each component of psychological capital, along with adopting a more rigorous validation process (refer to page 53 for the excerpted “Table 3: Future Directions for Advancing PsyCap Research”), (Youssef-Morgan, 2014, p. 135).

In 2014, Carolyn Youssef-Morgan published what was essentially a rebuttal/apologia response to the Dawkins et al. (2013) paper. She acknowledged many of the criticisms and provided a thoughtful and detailed response to each of Dawkins’ six areas of concern (refer to page 53 for the excerpted “Table 3 - Future Directions for Advancing PsyCap Research” (Youssef-Morgan, 2014, p. 135).

In 2017, Luthans and Youssef-Morgan published what was effectively a psychological capital “State of the Union” paper, incorporating many of the developmental advances. Unfortunately, advances in addressing the underlying issues identified in Dawkins et al’s (2013) paper seem yet to appear. Luthans and Youssef-Morgan (2017) copied the same table in this paper that Youssef-Morgan used in her 2014 response to Dawkins’ critique. One might have hoped that greater attention and more resources would have been applied to addressing these fundamental conceptual and design issues.

Table 3

*Future Direction for Advancing PsyCap Research*

Dawkins et al.'s (2013) directives	Additional recommendations
Further theorization and investigation are needed to affirm the nature of each of the components of PsyCap and to further explore their relationships with more trait-like conceptualizations and with coping processes	<ul style="list-style-type: none"> <li>• Conduct additional experimental and longitudinal research to investigate the malleability of PsyCap and its impact on performance and other desirable outcomes over time</li> <li>• Further investigate the plasticity of traits and trait-like characteristics which may expand developmental potential</li> <li>• Further investigate "differential susceptibility," "vantage sensitivity," and "diatheses-stress," which may expand or reduce sensitivity to positive and/or negative influences</li> <li>• Explore mechanisms through which PsyCap can alter existing traits and long-held beliefs</li> </ul>
Continued conceptual development of PsyCap is warranted; however, any potential expansion should follow refinement of the construct as it currently stands and needs to be undertaken cautiously and methodically, with strong reference to relevant theoretical frameworks	<ul style="list-style-type: none"> <li>• Remain true to the POB inclusion criteria to ensure rigor</li> <li>• Periodically reevaluate the current "mix" of psychological resources in light of new evidence</li> <li>• Revalidate PsyCap measures with the addition, deletion, or substitution of any constructs</li> <li>• Reevaluate nomological network and nature of PsyCap (e.g., higher-order construct vs. pseudo-multidimensional umbrella concept)</li> </ul>
Future research aimed at further establishing the psychometric properties of PsyCap, with a particular focus on test-retest reliability and within-subject variability implementing true longitudinal designs	<ul style="list-style-type: none"> <li>• An added emphasis on longitudinal research</li> <li>• Recognize the state-like nature of PsyCap in test-retest reliability (6 months or less)</li> <li>• Where possible, avoid negatively worded items or conduct additional analyses to evaluate their impact</li> </ul>
Further research be dedicated toward enhancing the construct validity profile of PsyCap, with a particular emphasis on discriminant and convergent validity of overall PsyCap, and alternate factor structures of PsyCap to reflect the conceptualization of each PsyCap Component	<ul style="list-style-type: none"> <li>• Focus on the conceptual side of this issue first, then the empirical side</li> <li>• Consider convergence in light of PsyCap's position on the trait-state continuum, and thus the potential for full or partial mediation by more proximal states</li> </ul>
More sophisticated analyses of the PCQ are warranted to gain a better understanding of the interplay between the subcomponents of PsyCap and to further validate the use of a composite PCQ score	<ul style="list-style-type: none"> <li>• Utilize CFA and SEM when multidimensional constructs are being investigated for more rigor and accuracy</li> </ul>
Ancillary analysis using the individual component scores of PsyCap should be incorporated in future research so as to enhance predictive validity and increase understanding regarding mechanisms of effect of PsyCap and potential neutralizers of PsyCap	<ul style="list-style-type: none"> <li>• Quantitatively and/or qualitatively explore extreme examples of individuals who may be particularly low on one or more subcomponents and high on others</li> <li>• Investigate the interplay between PsyCap's subcomponents and any differential outcomes that these discrepancies in PsyCap profiles may yield</li> <li>• Consider interaction, substitutive, and/or compensatory mechanisms among PsyCap's subcomponents</li> </ul>

CFA = confirmatory factor analysis; PCQ = Psychological Capital Questionnaire; POB = positive organizational behavior; SEM = structural equation modeling.

Reference: Youssef (2014). Advancing OB research: An illustration using psychological capital.

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### *The First Law of Holes...*

It seems reasonable to suggest that the original zeal to establish psychological capital as an evidence-based construct adhering to positive organizational behaviour's research criteria has effectively discouraged non-quantitative research. In the few instances where qualitative or mixed methods are employed, patterns were identified that helped detect emergent categories (Norman et al., 2010). Rather than relying solely on evidence from the pre-existing individual HERO constructs (hope, efficacy, resilience, and optimism), one wonders if a more holistic qualitative approach grounded in individual lived experience might have been more effective at providing greater insight into psychological capital's antecedents and effects, as Luthans himself expressed (Luthans & Youssef-Morgan, 2017). At a minimum, a qualitative approach might have suggested topics of interest that might have informed the direction of subsequent quantitative research and perhaps accelerated psychological capital's evolution and adoption.

When multiple critiques of psychological capital consistently question the fundamental concepts on which it is predicated and the mechanisms by which it is postulated to work, one might reasonably conclude that an alternative approach to gaining a deeper understanding was in order. Continuing to produce more self-reported, cross-sectional, short-term quantitative studies in multiple industries and countries may be beneficial and necessary from a business perspective. However, it does not appear to address concerns about psychological capital's fundamental and persistent deficits.

## **5) Lack of Longitudinal Research Studies and Stalled Development of the PsyCap**

### **Construct**

In 2008, Fred Luthans, James Avey and Ketan Mhatre “issued a call for longitudinal research” (Avey et al., 2008, p.705). They felt this was required to stimulate studies addressing two significant gaps in psychological capital, whether the construct was a state or a trait, or something in between, and a lack of data describing psychological capital’s efficacy regarding employee development and performance over time. Luthans et al.’s (2008) appeal for more longitudinal research has been echoed many times in subsequent research papers (Luthans et al., 2007; Peterson et al., 2011). Unfortunately, with a few notable exceptions, Peterson et al.’s (2011) seven-month study and Carter & Youssef-Morgan’s (2019) one-year study, their appeal has gone largely unheeded. In fairness, and as they pointed out in their plea, the obstacles to conducting longitudinal studies are significant, including a lack of extended access to organizational subjects and study participant fatigue and turnover, in addition to the demands of more challenging statistical analysis (Avey et al., 2008).

### **6) Trait-State Skate?**

The issue of whether psychological capital is more accurately described as a trait and relatively fixed, or a state and relatively malleable has been a contentious issue for some time. A consensus of sorts seems to have formed around the position that it is best described as “state-like,” meaning it is less variable than mood or emotions but less stable than personality or core self-evaluation (Luthans, 2004; Luthans & Youssef-Morgan, 2017). The essence of psychological capital requires that it be malleable. Otherwise, any attempts at improving it, and by extension, the multiple beneficial outcomes associated with it, are essentially futile. The

challenge from a developmental perspective is determining how much change is possible, what mechanisms enable this, and how stable is the improvement (Zigarmi & Hoekstra, 2008).

From a practical perspective, manager-leaders and human resource personnel need to understand the boundary conditions for influencing psychological capital and what the return on their development investment is likely to be. If significant improvement in psychological capital can be effected relatively quickly and economically, which in turn leads to some measurably desirable outcomes that persist over an extended period, then the decision to proceed with the intervention is likely easy to make. If, on the other hand, psychological capital cannot be improved enough to move the dial on the desired outcomes to some predetermined minimum level, or the desired improvement is so transient that it is not worth the effort, then any initiative to develop psychological capital is likely a non-starter. Thus, the consternation of psychological capital's proponents and critics alike. Until definitive empirical evidence from a sufficient number of longitudinal studies employing credible methods and analysis presents itself, psychological capital appears stuck in a conceptual state of suspended animation.

### ***Where's the Beef?***

The vast majority of studies have been cross-sectional, relying primarily on subjective or self-reported data; only infrequently has objective data been included in the results (Dawkins et al., 2013). While statistically significant change has been noted, most studies have produced small-to-medium effect sizes (Luthans et al., 2007; Luthans et al., 2010; Avey et al., 2011). Several studies have proclaimed improved psychological capital scores of 2 – 3% after short-term developmental interventions. However, precisely defining and measuring the practical effect of increasing mean scores from 4.61 to 4.81 (Luthans et al., 2010) is extraordinarily challenging. Only one of the quantitative studies reviewed for this paper (Luthans et al., 2010)



compared pre- and post-intervention results using a control group comparator. The effect sizes noted were low to medium.

As noted by Dawkins et al. (2013), for psychological capital to have greater utility, it must provide a better understanding of the interplay between its HERO components, and this cannot be achieved by simply relying on a composite psychological capital score.

### ***Tacit or Explicit?***

Luthans & Youssef (2004) emphasized the critical importance of tacit knowledge in developing and sustaining the human capital necessary for improved individual and organizational performance. They also acknowledged the difficulty of measuring it, which effectively put any tacitly measured construct in conflict with the positive organizational behaviour requirement for construct measurability. This may account for the apparent downplaying of the significance of tacit knowledge in most psychological capital studies and a near-exclusive focus on explicitly measured constructs.

### **7) Developing Psychological Capital**

Luthans et al. (2006) produced a speculative utility analysis of a two-hour interventional program claiming that a 3% increase in psychological capital scores would yield financial returns in excess of 200% while noting that this potentially dramatic return assumed that the training's impact was sustainable (Luthans et al., 2006).

Psychological capital's developmental training programs referred to in the literature reviewed seem largely to consist of 1 – 3-hour, internet-based micro-interventions oriented toward explicit knowledge transfer which produced small incremental improvements of unknown duration (Luthans et al., 2006; Luthans et al., 2008). These interventions are essentially

re-purposed training programs borrowed from other sources used to develop the underlying first-order constructs of hope, self-efficacy, resilience, and optimism, with a heavy focus on self-awareness, goal-setting techniques and alternative plan development. There is no second-order psychological capital intervention per se.

Without the data necessary to establish its bona fides as an effective mechanism by which individuals can markedly increase and sustain improved levels of hope, self-efficacy, resilience, and optimism, psychological capital risks being relegated to an intermittently used, one-shot intervention, akin to a ‘booster shot’ for performance improvement. There is nothing inherently wrong with this; it may well be appropriate depending on the individual and organizational context. For example, a sales representative who is not achieving their sales quota due to a slump in sales attributable to diminished confidence might benefit from a psychological capital micro-intervention. The magnitude and duration of the boost, along with its effect on sales, is the type of information required to demonstrate psychological capital’s utility in the practical manner that matters most to organizations. The lack of empirical evidence establishing psychological capital’s ability to provide a sustainable improvement that persists over time dramatically reduces its practical utility. Unfortunately, little progress has been made to date in publishing this data.

### ***Developmental Challenge***

Since its inception in the early 2000s, multiple researchers, including the construct’s originator, Fred Luthans, have called for an on-going review of other constructs that would contribute to developing a more valid and robust concept of psychological capital (Luthans & Youssef-Morgan, 2017). As mentioned previously, numerous other researchers and reviewers

have expressed similar sentiments (Dawkins et al., 2013; Hackman, 2009; Youssef-Morgan, 2014).

Despite these entreaties to consider other possible positive constructs, such as courage or wisdom as potential enhancements, no additions or deletions have been made to the four first-order constructs of hope, efficacy, resilience, and optimism (the HERO model) (Luthans et al., 2010; Luthans & Youssef-Morgan, 2017; Youssef-Morgan, 2014). Some potential additions, such as emotional intelligence, courage and authentic leadership, were considered but were rejected due to inadequate theoretical support or measurability challenges (Luthans & Youssef-Morgan, 2017).

Youssef-Morgan (2014) indicated that work was underway for a revision of potential resources; however, it was noted that any additions, deletions or substitutions to the existing constructs would require a revalidation of psychological capital's nomological network and associated scales. Changes would also require a complete review of the PCQ-24 and PCQ-12 questionnaires (Youssef-Morgan, 2014), likely involving considerable time, effort, and expense.

Another vexing question regarding psychological capital revolves around the direction of causality. Here again, the lack of longitudinal studies on which to draw impedes developing clarity around this issue. Based on the results of a study utilizing a multiple-indicator latent growth model methodology, Peterson et al. (2011) suggested that their results supported that “the direction of influence seems to go from psychological capital to performance, rather than vice versa or reciprocal in terms of causality” (Peterson et al., 2011, p. 443). They acknowledged that only a proper experimental design could definitively establish causality and reiterated the need

for experimental designs and longitudinal research with more significant time frames (Peterson et al., 2011). No other studies have yet suggested a direction of causality.

### **8) The Individual, the Collective, and Cultural Insensitivity**

Psychological capital is founded on the primacy of the individual in developmental terms, in keeping with the perspective of both positive psychology and positive organizational behaviour. Hackman (2009, p. 310) referred to this as positive psychology and positive organizational behaviour's "relentless focus on the individual human being". One wonders whether Luthans chose the acronym "HERO" for the four first-order constructs to emphasize the individual as the focal point or principal character.

### **9) American Exceptionalism?**

Positive psychology, positive organizational behaviour and psychological capital are fundamentally American inventions. Becker and Marecek (2008) attributed the positive psychology movement to the American-inspired concept of individualism that espouses "self-fulfillment as the ultimate life goal, its promotion of self-improvement via personal effort and its narrow sense of the social" (Becker & Marecek, 2008, p. 1767). They describe "American individualism as pervading positive psychology's ideas about persons, experience and human action" (Becker & Marecek, 2008, p. 1768). The concepts of individualism and meritocracy, fundamental to American identity, even if largely mythological (Chetty et al., 2016), are powerful motivators that positive psychology leverages to inspire individual performance and success. Ultimately, all human development happens at the individual level; however, it does not happen in a vacuum and without social, cultural and economic context.

The development, testing, validating and revalidating of the predominant psychometric instruments used to measure psychological capital scores, the PCQ-24 and subsequently the PCQ-12, were done using solely U.S. research participants by Luthans, Avey & Avolio (Avey, 2014). This exclusivity has on occasion presented issues in administering the questionnaires in certain countries and cultures, e.g., South Africa and Mexico, where translation issues and the use of American idiom seems to have created misunderstanding of the questions (Görgens-Ekermans & Herbert, 2013; Santana-Cárdenas et al., 2018).

More worrying is the potential impact on the analysis of data derived from the PCQ-24/12. Avey's (2014) replication study, wherein psychological capital scores were compared between a U.S.-based corporation and a Chinese-based company, demonstrated a substantial difference in core self-evaluation/self-esteem between the two groups. Avey speculated that this may have been caused by translation issues associated with different meanings of phrases in different cultures. He also speculated that the more robust results from the American company may have been due to psychological capital's "subtle self-promotion" tendency (Avey, 2014, p. 147), suggesting that the psychological capital construct itself might artificially inflate scores. This he attributed to social desirability influences associated with an individualistic culture (Avey, 2014).

In addition to most of the studies of psychological capital having been done in the U.S., a significant proportion of these have been produced by Fred Luthans and a cadre of academic collaborators, notably Avey, Avolio, Mhatre, Peterson, Norman, Youssef-Morgan and Walumbwa, amongst whom there is a notable amount of self-citation. This is problematic on several fronts.

## **10) Insider Trading Concerns**

Firstly, Hackman (2009) cited two potential issues that have bedevilled other new concepts in the past. In a prescient piece of criticism, he forewarned against “an over-reliance on paradigm-sanctioned models and methods” (Hackman, 2009, p. 317), which he suggested would stifle innovation and development of the construct in favour of standard ways of research. Subsequent events suggest he was correct, with almost all published papers on psychological capital being short-term, cross-sectional, self-reported and quantitative in design, on top of the lack of any change in psychological capital’s first-order constructs since shortly after its inception. The lack of qualitative and mixed-method studies and apparent stagnation in construct development have been frequent criticisms of psychological capital to date.

Hackman also cautioned about a slackening of standards for assessing the quality of conceptual and empirical work in the zeal to promote a new construct (Hackman, 2009), with particular emphasis directed toward researchers using paradigm-sanctioned methods. To cite but one example of this phenomenon associated with psychological capital, Avey’s (2014) replication study comparing American employees to Chinese employees captured different data from the Chinese than it did from the Americans. Although both involved the PCQ-24 questionnaire (translated), the Chinese participants used two additional instruments that the Americans did not, which resulted in different factors being evaluated in the studies' bivariate correlations (Avey, 2014).

## **11) The “I” in Individual**

The predominant, if not relentless, focus of psychological capital on the individual comes into stark relief in the context of the generalized migration of organizations toward team-based

work structures. How do organizations effectively communicate with, facilitate the growth of, and evaluate individuals working in “agile” and team-based environments where collaboration between individuals rather than competition is the key to the innovation, creativity, psychological safety and collective problem-solving that promotes sustainable competitive advantage?

Since the early 2000s, there has been an increasing focus on leadership as a collective phenomenon that is distributed among individuals within organizations (Denis et al., 2012; Lord et al., 2017). This shift has seen a reorientation from the predominance of individual leadership development to a broader-based perspective predicated on relationships between individuals, teams, groups and organizations (McCauley & Palus, 2021).

The speed with which circumstances now change, especially during disruptive events such as the COVID-19 pandemic, has exposed the inherent weakness of highly developed, centralized, command-and-control-type leadership models. The almost overnight shift of a significant proportion of entire nations’ workforces to remote employment has necessarily devolved power and authority closer to the coalface of organizational activity (Statistics Canada, 2021).

Disruption has also revealed a greater awareness of leadership’s emergent properties, arising from the micro foundational social interactions and collective responses to rapidly changing, volatile, complex and ambiguous situations (Denis et al., 2012).

The increased focus on the emerging and meaningful connection between psychological capital and leadership in its various forms, both individual and collective, has forced researchers to examine cross-level effects and antecedents. As team-based structures continue to proliferate

in organizational life, psychological capital must reconsider its preoccupation with the individual level. Although individual differences are the best predictors of the observed variation in psychological capital scores at 45%, leadership is a strong second, accounting for 32% (Avey, 2014). Several studies have noted the positive effect of leader psychological capital on follower psychological capital and performance (Avey et al., 2011).

## **12) Organizational Culture, Leadership and Coaching**

“A pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way you perceive, think, and feel in relation to those problems”. This is E. H. Schein’s (1985, p. 313) definition of culture; in the vernacular, it might read “the way we do things around here.”

Regardless of the definition, psychological capital literature has had little to say about the effects of organizational culture in pursuit of sustainable competitive advantage development. Luthans and Youssef (2004) looked to have a promising start to exploring organizational culture, coaching benefits and the importance of tacit knowledge acquisition in their paper “Human, Social and Now Positive Psychological Capital Management: Investing in People for Competitive Advantage”, however, these topics largely seem to have been delegated to discussion from within the context of authentic leadership as distinct from psychological capital itself (Avolio & Gardner, 2005). This is unfortunate since organizational culture, including certain types of frequently observed organizational practices such as utilizing a command-and-control managerial approach and restricting autonomy, are known to negatively impact aspects of psychological capital such as individual agency and self-efficacy (Rego et al., 2012).



The closest researchers seem to have come to studying the connection between organizational culture and psychological capital involves investigating perceived organizational support, which is defined as the degree to which employees perceive that the organization values their contribution and is concerned with their well-being (Rhoades & Eisenberger, 2002). While not a perfect proxy for organizational culture, positive organizational behaviour speaks to the perceived relationship between the individual workers and the organization. Several studies have positively correlated positive organizational behaviour and psychological capital (Sihag & Sarikwal, 2015; Wu & Nguyen, 2019).

More in-depth study into possible correlations between organizational culture and psychological capital might provide insight into how things get done and how organizational habitus develops in pursuit of sustainable competitive advantage.

### **Follow the Leader**

Shortly after the emergence of positive organizational behaviour, Luthans (2002); Luthans and Avolio (2003) coupled the four first-order (HERO) psychological capital constructs to Kernis' (2003) model of personal authenticity to develop their version of authentic leadership (Gardner et al., 2011).

Kernis' model of authentic leadership conceptualized four key components: (1) awareness, (2) unbiased processing, (3) behaviour and (4) relational orientation, which Luthans & Avolio (2003) adopted, along with the recognition of the leader's responsibility for the development of associates into future leaders themselves (Gardner et al., 2011). Particular emphasis was placed on leader transparency and the need for the leader to demonstrate a moral/ethical future orientation that would positively influence followers (Gardner et al., 2011). The recognition that

positive moral attributes are highly desirable in leaders was crucial. The connection of authentic leadership to psychological capital, which is silent on the moral-ethical issue, goes some way to addressing a significant deficiency in the construct.

### **13) Good Habits are Caught, Not Taught**

Leadership is identified as one of the most important antecedents to psychological capital development in followers, but exactly how this occurs is unclear (Avey, 2014). Role modelling, mimicry and providing opportunities for mastery development are possible sources. However, it seems to be tacit, micro foundational social interactions which are instrumental in developing organizational habitus supportive of psychological capital development (Nayak et al., 2020).

Much of leadership development appears to occur in the “white space” (Day et al., 2011, p. 80) of the day-to-day, seemingly mundane social discourse naturally occurring in organizational activity, as opposed to during formal training events or workshops. Sparrowe (2005) suggested that authenticity was not achieved by raising awareness of one’s inner values or purpose (as most psychological capital interventions are designed to do) but through a process of emergent narrative that occurred within one’s social interactions with others. Thus, becoming a leader may not be intentional or mindful but occurs in on-the-job activities that afford opportunities for individual growth and development (Day et al., 2011), ideally within a supportive environment that includes the role modelling of an exemplary leader.

### ***HEROs Needed***

Multiple studies on psychological capital and authentic leadership, along with ethical and transformational leadership, confirm the positive correlation between numerous positive factors such as leader influence on follower psychological capital (Avey et al., 2011); trust (Clapp-Smith

et al., 2009; Norman et al., 2010); job performance (Gooty et al., 2009); and firm performance (Peterson et al., 2009).

The leader's influence as a role model has been cited in multiple studies as one of the most important mechanisms by which follower psychological capital is developed (Gooty et al., 2009; Kong et al., 2018). Avey's (2014) study on psychological capital antecedents identified authentic leadership as the second largest predictor of psychological capital variance, after individual differences.

The importance of effective, ethical, empathetic and supportive leadership in the midst of disruptive events such as the COVID-19 pandemic, even if necessarily virtual in delivery, cannot be over-emphasized.

### ***An Evolution: Manager to Coach***

Whether referred to as a manager, supervisor, team leader, department head, or executive, all should prioritize the role of "coach."

Leadership in the context of on-the-job, day-to-day, supportive managerial interactions appears to be an effective mechanism for individual development, including psychological capital in today's disrupted VUCA environment (Avey, 2014; Avolio, 1999; Paterson et al., 2014). The micro-foundational social interactions that occur unconsciously between the manager-leader and workers provide opportunities for role-modelling by the manager-leader and unconscious absorption by the workers (Nayak et al., 2020). The manager-leader's tacit demonstration of how they select potential opportunities and engage the firm's modus operandi to build organizational habitus are critical in developing the dynamic capabilities necessary to effectively respond to opportunities and challenges in a VUCA world (Nayak et al., 2020).

While very brief micro-interventions may be appealing to human resource professionals as a potentially inexpensive quick fix, the sustainability and efficacy of these interventions have not been proven. The state-like nature of psychological capital as currently understood, contributes to its inherent variability, making an interventional approach attractive. However, it also suggests that sustaining it requires frequent, if not constant, awareness by the manager-leader. The development of psychological capital might be more effectively understood and practised as a process rather than as an event. Institutionalized or enculturated micro-foundational, day-to-day social interactions that afford opportunities for manager-leaders to model the desirable behaviours and values that constitute an organization's modus operandi while challenging from an operational perspective (Nayak et al., 2020), are likely to be far more effective than brief one-off training sessions (Isen, 2005; Kong et al., 2018).

It seems probable that a methodical, longer-term "coaching approach" aimed at developing and sustaining psychological capital and habitus and organizational dynamic capabilities leading to sustainable competitive advantage is key to building an effective 21st-century organization.

#### **14) "The People Make the Place" Benjamin Schneider**

A firm's dynamic capabilities and, ultimately, its competitive advantage rest largely on tacitly shared knowledge that is transmitted unconsciously between its members, typically through social practices rather than formal interactions and instruction (Nayak et al., 2020). Psychological Capital research might be advanced through exploration of the micro--foundational opportunities for psychological capital development, consequently yielding an improved organizational response capability to external environmental challenges, such as the COVID-19 pandemic. Research might also increase understanding of how frequent social interactions can be leveraged to improve the organization's adaptive response. Exploration of the

effects of formal and informal coaching and other tacitly oriented activities, such as role modeling and demonstrating task mastery, both of which are identified factors in increasing psychological capital (Avey, 2014), could be instructive.

In response to a suggested future direction recommendation by Dawkins et al. (2013) that more research be directed to exploring psychological capital's relationship with trait-like (as opposed to state-like) conceptualizations, Youssef-Morgan acknowledged that "PsyCap research needs to focus not only on positioning PsyCap within the trait-state continuum but on the mechanisms through which psychological capital can alter existing traits and long-held beliefs" (Youssef-Morgan, 2014, p. 136). This appears to suggest the possibility that improving psychological capital might lead to changes in traits, generally considered to be largely stable and much more resistant to change than trait-like attributes, or states. The potential discovery of psychological capital's ability to influence traits would be paradigm-shifting and is a worthy research topic. Unfortunately, there is no published research on this potentially significant initiative since Youssef-Morgan put it forward in 2014. This may yet be another regrettable consequence of the lack of qualitative and longitudinal quantitative studies that continues to plague psychological capital's development.

## **Conclusion**

This review of psychological capital literature since its inception has revealed multiple opportunities and challenges for research.

Psychological capital's four first-order constructs of hope, self-efficacy, resilience and optimism (HERO) are, along with other critical attributes, fundamental building blocks for a successful life. Wider dissemination and application of psychological capital's concepts could

allow individuals and organizations to embrace an ontological approach to work-life and life in general, that will prove invaluable as humans face increasingly challenging, possibly existential, future crises.

As individuals, teams, organizations and societies attempt to navigate the uncharted waters of unknown disruptions within the context of an increasingly VUCA world, having a high level of individual and collective psychological capital will be indispensable; essentially, we will need many more HEROs.

The challenges for psychological capital in manifesting this potential are significant due to lingering concerns about its nature as a construct, its malleability and sustainability, and construct validity and reliability. Until these are resolved, psychological capital's legitimacy as a conceptually and psychometrically sound construct will remain in doubt.

Psychological capital must determine how to substantiate its claims for multiple improved outcomes. The need for longitudinal research substantiating directional causality from improved psychological capital to improved performance with strong positive correlations remains the elephant in the room (Dawkins et al., 2013; Youseff, 2014; Luthans & Youssef-Morgan, 2017). Despite two decades of research, proof of psychological capital's success has yet to be established.

Genuinely embracing a qualitative and mixed-methods approach might help address psychological capital's shortcomings by providing a deeper understanding of its antecedents and mechanisms of influence. Finding out how people manifest psychological capital in the day-to-day world of organizational settings could reveal the emergent, mutual relationships and circular causality phenomena that may be at work but undiscovered (Fuchs, 2003). Psychological

capital's overwhelming focus on quantitative research has resulted in many studies from various industries and geographies, often producing similar enticing but ultimately unsubstantiated results.

Psychological capital might reach a greater audience were qualitative studies employed to demonstrate its potential in actual practice. Despite Fred Luthans' decrying the "feel good" nature of positive literature such as Spencer Johnson's "Who Moved My Cheese" (1998) and Stephen Covey's "The Seven Habits of Highly Effective People" (1989), primarily due to a lack of empirical evidence supporting their claims, there is a reason these books became bestsellers: narrative works.

People gravitate to human interest stories because they can relate to the individuals involved and imagine themselves in those roles. Most people, including manager-leaders, prefer to learn through stories of individuals with whom they can empathize rather than through bone-dry, statistics-laden, densely written, often incomprehensible tomes that do not speak to them as people. If psychological capital desires to make the construct mainstream, then a good start might be writing more about its findings and highlighting successes in case studies or Harvard Business Review-type publications. This presupposes that success stories exist, and that qualitative information could be obtained to add flesh and blood to the bare bones of quantitative studies.

Very few of the extant quantitative studies provide a reader with much in the way of the organizational habitus or context, making it challenging to form a sense of the individual and organizational experience of psychological capital and how it might be developed. The purported beneficial effects of psychological capital must be demonstrated in real-world organizational

settings over an extended period, preferably six months to a year or more, to establish its bona fides convincingly. Psychological capital's opportunities are great, but so are its challenges.

### **Research Focus**

This significant review of psychological capital points the way forward in identifying the issues that must be addressed to increase the understanding of what psychological capital is, how individuals manifest it, and how it works in organizational settings.

The review suggests that psychological capital is a valuable and desirable construct, but its concepts and mechanisms of influence still need to be well understood despite 20 years of research. Its almost exclusive focus on quantitative methods has yet to give researchers and practitioners a deep understanding of the construct and its manifestation.

I, therefore, undertook a mixed-methods study of manager-leaders and their followers who were experiencing the COVID-19 pandemic as a highly disruptive event to discover how COVID-19 was affecting their hope, self-efficacy, resilience and optimism and how this may have impacted individual and collective performance.

The insights gained from manager-leaders and followers who have lived through the experience of the COVID-19 pandemic will help us better understand how, individually and collectively we can not only survive but thrive in future disruption.

“Instead of training people for the certainties of the past, we need to help them prepare for the ambiguities of the future” (RBC, 2018, p. 35).



## Research Methodology

### Introduction

This research study aimed to improve our understanding of how disruptive events impacted the psychological capital of manager-leaders and their followers.

Specifically, this study focused on manager-leaders and followers in organizational settings during a highly disruptive event, i.e., the COVID-19 pandemic, in order to improve our understanding of how disruptive events affected individuals' hope, efficacy, resilience and optimism, i.e., their psychological capital.

This study intends to contribute to the psychological capital body of knowledge by providing much-needed qualitative data on how psychological capital manifested in the day-to-day lived experience of the study's participants during the first 18 months of the COVID-19 pandemic, thereby helping address one of the major criticisms of psychological capital theory to date.

The vast majority of psychological capital studies since its inception in the early 2000s have been intentionally quantitative rather than qualitative or multi-faceted studies. The determination to have psychological capital theory based on evidence and able to withstand statistical scrutiny has successfully progressed psychological capital from a hypothesis to a theory via multiple quantitative studies. However, psychological capital's bona fides have frequently been questioned due to the lack of literature providing a critical analysis of its theoretical conceptualizations (Dawkins et al., 2013; Luthans & Youssef-Morgan, 2017; Youssef-Morgan, 2014).

Psychological capital's concentration on measuring "how much" via quantitatively driven studies, rather than illuminating the more fundamental issue of "how" psychological capital is manifested and developed in individuals, has produced a robust skeleton largely lacking flesh and blood.

This study aims to contribute to psychological capital's book of knowledge by examining the lived experience of people working in organizational settings during the COVID-19 pandemic. By examining both the "what" and the "how" of psychological capital during adversity, we will better understand how to support employees in preparation for future disruptions.

The methodology section of this paper begins with the research philosophy underpinning the study, followed by the research approach used, the strategy employed, and the sampling method used to select the participants. The data collection process is explained, followed by the data analysis method and the conclusion.

### **Research Questions**

The research questions in the interviews were designed to determine:

1) How has the COVID-19 pandemic affected the psychological capital of manager-leaders and followers from March 2020 – October 2021? Specifically, how did it affect their:

- Hope, i.e., their sense of agency and pathways-finding ability?

- Self-efficacy, i.e., their sense of self-confidence and belief in their ability to achieve their goals?

- Resilience, i.e., their executive functioning abilities, such as self-regulation, problem-solving, and innovation abilities, and their ability to cope during extended periods of novel adversity?
- Optimism, i.e., their sense of positive future outlook and their belief in their ability to influence their own destiny?

In addition to interviewing the manager-leaders, I interviewed their direct reports (followers) to apprehend their perspective on the manager-leader's influence in the development and maintenance of psychological capital in their direct reports, i.e.:

2) How did followers describe manager-leaders' actions that affected the development and sustenance of follower psychological capital during the period in question? Specifically, did manager-leaders:

- demonstrate the attributes of psychological capital, and if so, how? For example, through behaviours apparent during micro-foundational social interactions, role modelling, and developmental opportunities.
- monitor and assess follower psychological capital and intervene as required to maintain positive and constructive attitudes and behaviours.

### **Research Paradigm**

The research paradigm underlying the examination of the lived experience of the study's participants was one of pragmatism with an interpretivist perspective.

A pragmatic paradigm was selected due to its flexibility in accommodating the mixed-methods approach that allowed for a combination of qualitative phenomenological interviews of participants, coupled with quantitative data analysis and triangulation.

Pragmatism is frequently connected with a mixed-methods approach, where the focus is on the outcomes of the research questions (Kaushik & Walsh, 2019). Its “practical and pluralistic” (Kivunja & Kuyini, 2017, p. 35) approach allows for combining methods that rejects a forced choice between Positivist or Interpretivist paradigms (Kivunja & Kuyini, 2017). Johnson & Onwuegbuzie (2004, p. 14) suggest that a key advantage of mixed methods research is its “methodological pluralism or eclecticism, which frequently results in superior research (compared to monomethod research).” The principle of pragmatism is finding “a middle ground between philosophical dogmatism and skepticism” to discover a workable solution (Johnson & Onwuegbuzie, 2004, p.18), allowing for both Positivist and Interpretivist philosophies to be employed in search of the best workable solution for the research.

An interpretivist point of view was employed to examine the way individuals felt, perceived, and experienced their reality (Kivunja & Kuyini, 2017), in this case, the study participants’ perception of the effect of the COVID-19 pandemic’s disruption on their psychological capital.

## **Research Method**

A mixed-methods approach with a predominantly qualitative focus was selected for this study.

The initial intention was to collect qualitative interview data via participant narrative of the effect of the disruption associated with the COVID-19 pandemic on their psychological capital by comparing their perceived pre-pandemic experience of each of the four HERO constructs of psychological capital to their perceived experience for these same constructs during first 15 – 20 months of the pandemic.

This qualitative data was to be supplemented by quantitative data in the form numerical values assigned by the participants based on their understanding of each of the four first-order HERO constructs, essentially attributing a numerical value on a Likert-like scale. These data would be triangulated via the validated PCQ-24 Questionnaire.

A pilot study of two individuals known to me who were employed in manager-leader roles in public sector organizations was conducted in order to evaluate the practicality and efficacy of the above approach and to determine if the one-hour interview time allotment was sufficient to allow for the necessary data collection. The data from these interviews was not included in the final data set used for analysis purposes due to reasons detailed below.

The one-hour pilot study interviews were conducted over MSTeams using the approach described above. Both interviews revealed significant deficiencies in the interviewing approach as originally planned in the Research Proposal document. The intention to conduct all interviews in accordance with the principles of a phenomenological interviewing approach, supported by the participant-assigned HERO construct values for quantitative data proved unworkable in practice.

The process of sufficiently familiarizing the interviewees with the four psychological capital constructs to enable them to assign numerical values to each construct in “before-COVID” and “during-COVID” timeframes proved cumbersome and consumed far too much time. Consequently, there was insufficient time for the interviewees to fully describe their lived experiences, which negatively affected collection of the necessary qualitative data.

The effect of this approach was to make the interviews feel more like an interrogation, which was confirmed by both of the interviewees in my post-interview debrief with them. This

contravened both the practices, principles, and spirit of phenomenological interviewing.

Therefore, a different approach was necessary to acquire the desired quantitative data.

### ***Revised Approach***

Due to the inability of the initial research approach to capture the required data about the effects of the pandemic disruption on participant psychological capital the effects of disruption on the interviewees' psychological capital, I shifted my focus to collecting "rich and thick" descriptions of the interviewees' lived experience of the pandemic's disruption to provide the required qualitative data (Alase, A., 2017, p. 13).

Quantitative data would continue to be provided via the PCQ-24 questionnaire.

### **Research Design - Qualitative**

A phenomenological design involving in-depth interviews was used as the primary method to collect the data needed to understand and interpret the meaning, context and subjective lived experiences of the COVID-19 pandemic on the participants.

The effects of the pandemic on the participants involved complex social phenomena that required open-ended questions posed in a supportive environment that enabled the participants to fully relate their lived experiences of a disruptive and novel event.

Phenomenological interviewing is a structured approach that applies questions based on experience contextualization, apprehending the phenomenon, and its clarification. The method of questioning employs descriptive and structural questioning and the novel use of imaginative variation to explore experience (Bevan, 2014).

The descriptive phenomenological interviewing techniques described in Bevan's "Method of Phenomenological Interviewing" (2014) were employed for the collection and analysis of data, supplemented with the approach depicted in Hoffding & Martiny's (2016) paper "Framing a phenomenological interview: what, why and how."

The basic principles of phenomenological interviewing are:

- to provide a thorough and faithful description of the interviewee's lived experience as presented to them and to accept their natural attitudes along with the meaning they ascribe to their lived experience. To focus "on the thing itself" (Hoffding & Martiny, 2015, p. 21)

- for the researcher to be as fully aware of and abstain, to the maximum extent possible, from inserting their prior personal experience, biases, and preconceived theories into the process via techniques such as "epoché" "bracketing," "phenomenological reduction," or "deliberate naivete" (Bevan, 2014, p. 138). (Please refer to "List of Nomenclature" for detailed explanations of these terms).

- to employ "imaginative variation" (Bevan, 2014, p. 138) or "eidetic variation" (Hoffding & Martiny, 2016, p. 7) to assist the interviewee and interviewer in getting to the essence of the phenomenon

- for the researcher to engage in active listening and active questioning, to be aware of the interviewee's embodied action, and to engage in reflexive critical self-dialogue throughout the process (Hoffding & Martiny, 2015).

Both Bevan's (2014) and Hoffding & Martiny's (2016) approaches reside on the solid theoretical foundations provided by Husserl (1970), Giorgi (1997) and Gallagher and Sorenson (2006), amongst others. They offered a particularly pragmatic approach to the interview, which was critical considering the abbreviated interview times, which were limited to one 60-minute interview for each participant. Bevan's (2014) and Hoffding & Martiny's (2016) analysis processes also provided excellent templates for the applied research of this study.

Bevan's phenomenological interviewing model involves a multi-stage approach consisting of a data collection phase (the interview) and an analysis phase in three stages:

- 1) Conducting participant interviews using descriptive questions that promote rich narrative responses from the interviewee to provide valuable information regarding their natural attitudes, lifeworld and context
- 2) Apprehending the phenomenon, i.e., asking questions demonstrating the complexity of the interviewee's experiences and the significance of their interrelatedness. The researcher continues to build an understanding of the interviewee's multiple perspectives of their experience and how it manifests in their world
- 3) Clarifying the phenomenon, removing unessential properties through the use of imaginative variation (Bevan, 2014, p. 138) and eidetic variation (Hoffding & Martiny, 2016, p. 7) in order to determine the structure of the phenomenon and discern its essence.



### **Research Design – Quantitative**

The quantitative design used the PCQ-24 Questionnaire to capture measures of psychological capital's four first-order constructs of hope, self-efficacy, resilience, and optimism. These were obtained via self-reported PCQ-24 data from the manager-leader participants in the study. The interviewees who reported directly to each of these manager-leaders, i.e., their followers, answered the same questions, but in the context of describing their perceptions of their manager-leader's psychological capital, as opposed to their own. This provided a triangulation of the manager-leader's self-rated psychological capital.

### ***Subconstruct Focus***

Psychological capital comprises the four first-order constructs of hope, self-efficacy, resilience, and optimism; therefore, the interviewing process needed to enable the identification of these phenomena. Interviewees do not necessarily use the terms hope, self-efficacy, resilience, and optimism in the narrative describing their lived experience. Instead, they may rely on other words or terms that are indicators of behaviours representative of the four first-order constructs.

While interviewees might have articulated predominantly positively focused behavioural indicators of the four first-order psychological capital constructs, many likely would express some negative aspects or demonstrate the absence of the desirable indicators of psychological capital. For example, interviewees low in hope might not have spoken of their lack of drive but instead referred to feelings of burnout or ennui, which may have indicated the lack of hope. The same applied to the other three constructs of self-efficacy, resilience and optimism.

Table 4 below lists positively and negatively valenced interviewee behaviours that demonstrated evidence of the presence, or lack, of the first-order constructs of psychological capital.

Table 4

*Behavioural Indicators of the First Order PsyCap Constructs*

**Hope**

<b>Positive Behavioural Indicators of Hope</b>	<b>Negative Behavioural Indicators of Hope</b>
Drive, conation, volition, agency	Lack of initiative, ennui, burnout
Thinking ahead, scenario planning	No planning or future orientation
Goal planning, contingency planning	Disorganization, lack of sense of direction
Proactivity, takes appropriate initiative	Reactivity, waits for direction, waffles
Commitment, perseverance	Diminished commitment, gives up easily
Positive affect, upbeat voice tone	Negative affect, defeatism, low energy, monotone voice
Sense of purpose, enthusiasm	Lack of commitment, indifference or rejection of personal & organizational mission and vision

**Self-efficacy**

<b>Positive Behavioural Indicators of Efficacy</b>	<b>Negative Behavioural Indicators of Efficacy</b>
Self-belief, self-esteem	Insecurity, pridefulness, arrogance
Realistic self-confidence, decisiveness	Self-doubt, hesitant, wishy-washy
Increasingly challenging goals, stretch goals	Avoids constructive risk, lack of ambition
Exhibits growth mindset and self-development	Fixed mindset, little effort to improve self
Sees potential in opportunities	Overly focused on obstacles
Realistic self-appraisal, knows limitations	Lack of self-knowledge

**Resilience**

<b>Positive Behavioural Indicators of Resilience</b>	<b>Negative Behavioural Indicators of Resilience</b>
Displays effective self-regulation of emotions, good analytical and problem-solving abilities under pressure, displays positive affect	Looses inability to function effectively in adversity, ineffective analytic and problem solving ability under pressure, displays negative affect
Approach mentality to problems, seeks opportunities, uses reappraisal and reframing skills	Avoidance mentality to problems, unable to reappraise or reframe problems to find opportunities
Perseveres in face of difficulties, displays effective coping skills, maintains competence despite adversity	Reduces effort in adversity, uses counter-productive difficulty coping skills,
Demonstrates “grit”, doesn’t quit. Toughs it out, sees personal responsibility to carry on	Gives in and gives up, resigned to failure
Ability to bounce back from failure, handles setbacks in stride, learns from failure	Perceives defeat as a permanent condition, is demoralized by setbacks, repeats mistakes

**Optimism**

<b>Positive Behavioural Indicators of Optimism</b>	<b>Negative Behavioural Indicators of Optimism</b>
Sees the glass as half-full, expects positive outcomes	Sees the glass as half-empty (or the chamber pot half-full), expects the worst to happen
Remains grateful for the positive things in life	“Woe is me” attitude, holds self-pity parties
Uses expressions such as “I/We can do this”; “I got this”; “We are going to get through this and come out stronger”, etc.	Expresses pessimism, affect depresses others, aka Gloomy Gus
Takes personal responsibility, believe that they can influence events in their favour. good things that happen to oneself are the result of personal effort – the bad things are because of others	Lacks belief in their ability to influence future events. Avoids personal responsibility for outcomes, inappropriately attributes failures to others and circumstances
Believes that good things are persistent, the rule and not the exception, bad things are the exception and will not last	Believes circumstances will not improve and probably will get worse, sees the future as bleak

Attempting to evoke simpler subconstructs reduced the potential definitional confusion for the interviewees associated with the more abstract concepts of psychological capital theory. For example, the Oxford Dictionary defines *hope* as “a feeling of expectation and desire for a certain thing to happen”. In contrast, psychological capital’s definition of hope describes phenomena such as conation, drive, purpose, willpower, agency, waypower and pathways. Rather than attempting to explain specific definitions as per psychological capital theory during the short time allowed for the interview, the approach focused on the more reliably identifiable subconstructs.

I attempted to evoke the desired data predominantly through the use of implicitly oriented questions rather than explicit ones. For example, rather than asking interviewees to describe how their hope has been affected during the COVID-19 pandemic, the focus was on eliciting the antecedents and subconstructs of hope (sense of personal agency, conation and drive) disclosed via interviewee narrative and supplemental implicitly oriented questions.

A checklist of these terms was referred to during the interview to ensure the data necessary to confirm that the behaviours, abilities, attitudes, and their relative strengths were captured.

### **Sampling Strategy**

This study focused on how the COVID-19 pandemic may have affected the psychological capital of manager-leaders and their followers in organizational settings. As such, I wanted to collect data on the perceived impact of the pandemic on each interviewee's sense of hope, self-efficacy, resilience, and optimism. I was also interested in identifying the similarities and differences in interviewee responses to the pandemic to determine whether individuals with higher levels of psychological capital fared better during the pandemic than those exhibiting lower levels of psychological capital.

As a corollary to the above, I also wanted to identify other factors that could help explain the relative difference in the ability of interviewees to cope with the disruption caused by the COVID-19 pandemic.

The sampling strategy for the individuals interviewed was a combination of purposive and convenience methods. Polkinghorne (1989) recommended interviewing between 5 – 25 individuals who have all experienced the same phenomenon. In consultation with my research committee, we determined that ten manager-leaders plus two each of their direct reports (20 followers), totalling 30 interviewees, would provide a suitable sample.

Table 5

*Demographic Data for Interviewees*

Interview	Sector	Organization	Position	Role	Gender
1	Public Sector	Post-Secondary Education	Dean	Manager-leader	Female
2	Public Sector	Post-Secondary Education	Assistant Professor	Follower	Female
3	Public Sector	Post-Secondary Education	Accounting Manager	Follower	Female
4	Private Sector	Oil & Gas	General Manager	Manager-leader	Male
5	Not-for-Profit	Training & Development	CEO	Manager-leader	Female
6	Public Sector	Education Support Services	CEO	Manager-leader	Male
7	Not-for-Profit	Training & Development	Admin. Support	Follower	Female
8	Public Sector	Education Support Services	Operations Director	Follower	Male
9	Not-for-Profit	Training & Development	Admin. Support	Follower	Male
10	Public Sector	Education Support Services	Client Relations Manager	Follower	Female
11	Public Sector	Post-Secondary Education	Dean	Manager-leader	Female
12	Public Sector	Post-Secondary Education	Director	Manager-leader	Female
13	Public Sector	Education Support Services	Admin. Support	Follower	Male
14	Not-for-Profit	Business Development	Vice-President	Manager-leader	Male
15	Not-for-Profit	Disability Services	CEO	Manager-leader	Male
16	Public Sector	Public Health Agency	Vice-President	Manager-leader	Male
17	Public Sector	Government	Director	Manager-leader	Male
18	Not-for-Profit	Disability Services	Vice-President	Manager-leader	Male
19	Not-for-Profit	Religion	CEO/Lead Pastor	Manager-leader	Male
20	Private Sector	Banking	Team Leader	Manager-leader	Female
21	Not-for-Profit	Disability Services	Director	Manager-leader	Female

From the purposive perspective, I wanted to interview manager-leaders and their followers (individuals reporting directing to them) from various organizational levels, i.e., senior, mid-level and junior, and in different roles, from administrative to operational. This intentionally provided a range of experiences of the COVID-19 pandemic's affect on psychological capital rather than focusing on one particular group, e.g., CEOs or front-line managers. I also wanted to have a cross-section of ages and experience and maintain gender balance.

Convenience sampling was supported through the personal contacts of the two members of my research committee and my own personal and professional relationships.

### **Data Collection, Organization & Management**

#### **Data Collection**

Enlisting a sufficient number of manager-leaders for the study via the convenience sampling process was straightforward, however, recruiting followers for the manager-leaders proved difficult.

This was primarily attributable to the reluctance of a number of the human resource departments and some manager-leaders involved in the study, to allow the interviewing of their employees during the pandemic. Concerns were expressed that having employees in follower roles discuss their lived experience of the pandemic while it was still ongoing might trigger psychological trauma, although none of the manager-leaders who chose to participate in the study expressed any concern regarding being traumatized through their own involvement in the study.

During the interviews, no participants indicated that they were experiencing psychological or emotional distress, and none were reported to me after the interviews. Most study participants stated at the end of their interviews that they found the process interesting and enlightening, with a number of the interviewees declaring having experienced profound insights.

The inability to recruit the necessary followers to provide the comparative and triangulation data desired for the study design necessitated a change in approach. Ultimately, 21 individuals, consisting of 14 manager-leaders and seven followers, were interviewed, and the data from these interviews were analyzed for the study (refer to Table 5 for demographic information).

Data from the interviews were collected using qualitative and quantitative methods after receiving informed consent from all 21 interviewees in accordance with Athabasca University's Research Ethics Board Certification of Ethical Approval File Number 24317; please refer to Appendix A for details.

The cross-sectional study design entailed a single 60-minute, one-on-one video interview conducted between June 2021 and October 2021 to collect qualitative data to elucidate the participants' experiences during the first 18 months or so of the pandemic. Prior to commencing the qualitative interviews, a validated psychometric instrument, the Psychological Capital Questionnaire-24 was administered to acquire quantitative data for triangulation purposes.

The video interviews were recorded for later transcription and analysis of non-verbal cues and communication.



The interviews were conducted with individuals in the public sector (11 of 21 interviews), not-for-profit organizations (8 of 21 interviews) and private sector (2 of 21 interviews). Please refer to Table 5 for Interviewee Demographic Data.

### **Qualitative Data Collection**

A phenomenological interviewing technique was used to collect the qualitative data necessary to understand and interpret the participants' lived experience of the COVID-19 pandemic.

After receiving the study participants' written consent, I conducted similar 60-minute interviews for each participant, employing a remote video-conferencing service, either Zoom™ or MSTeams™. The interview consisted of a combination of descriptive and structural questions based on phenomenological interviewing principles that provided for data collection.

### **The Process**

A data-gathering log and Excel spreadsheet provided information on the date/time, location, activity, interviewee and subject of each interaction. Audio and video data were collected via either MS Teams or Zoom video-conferencing applications and stored on a password-protected cloud-based server.

Field notes taken during each interview, including “detailed, non-judgmental (as much as possible), concrete description of what was observed” (Marshall & Rossman, 2016, p.143) were recorded in a journal immediately after each interview.

Interviews were then transcribed within the recording applications and exported to fireflies.ai to enable the production of transcripts.

The interview data collected were organized and managed using NVivo™ qualitative data analysis software. NVivo was used to transcribe, organize and analyze the interview data. This included coding the data, which assisted in identifying themes within the interviews.

### ***Phenomenological Interviewing***

Broad descriptive questions were used to initiate a conversational interview tone, which facilitated the development of a relationship of mutual trust and comfort. The nature of the pandemic has caused severe mental and emotional health issues for millions of people, so I strove to remain attuned to each interviewee's affect, body language, tone and engagement to facilitate a supportive and psychologically safe environment.

Structural questions guided the interviewee to specific areas of their experience when necessary. In situations where an interviewee struggled to bring to mind an example that illuminated examples of the psychological capital constructs, imaginative/eidetic variation was employed to assist the interviewee in providing a meaningful response.

For example, if an interviewee did not relate any experience indicative of goal pathway finding instigated due to encountering roadblocks toward goal achievement, I posed a specific question designed to stimulate an appropriate response.

During the interview, I used a checklist to record interviewee identification of examples of subconstructs associated with each of the four first-order psychological constructs of hope, self-efficacy, resilience, and optimism. This ensured that complete data about all of these phenomena were available for analysis for each interviewee.

In addition to data pertaining specifically to the psychological capital subconstructs, each interviewee's perception of the effect of the COVID-19 pandemic on their sense of purpose and

meaning was recorded. My perception of each interviewee's affect during the interview was also noted to enable a more holistic interpretation of the effect of the pandemic on their lived experience.

Following the phenomenological principles of epoché and phenomenological reduction, I made every effort to present participant experiences accurately, and endeavoured to bracket preconceptions and biases that would otherwise interfere with accurate participant representations.

I opened each interview by thanking the interviewee for their participation in the study. I confirmed that they were willing and able to participate and then provided a brief explanation of the purpose of my research, outlined the interview process, and assured them of their anonymity and the confidentiality of the information they provided me.

After receiving their confirmation of the ability to proceed with the interview, I provided a brief, non-technical overview of psychological capital.

I spent a few minutes getting to know their personal situation before beginning the interview questions. This was intended to find common areas of interest and experience in order to build the rapport and trust necessary to have them feel comfortable sharing their lived experience of the COVID-19 pandemic.

Once I felt that rapport had been developed, I segued the conversation into a discussion of the effect of the pandemic by opening with the question, "Have you or are you experiencing the COVID-19 pandemic as a disruptive event?".

Without exception, each interviewee replied that they were experiencing the pandemic as a disruptive experience, typically describing it as “totally” or “absolutely” disruptive. However, the effect of the disruption varied considerably.

I allowed each interviewee to talk at length when describing their experience and the pandemic’s effect on them. They tended to relate their lived experience in significant detail, offering examples pertinent to both their organizational and home lives.

I chose not to interrupt their recitations except to clarify information or to ask them to elaborate on behaviours or situations particularly relevant to the four first-order constructs of psychological capital.

When the interviewees did not describe behaviours indicative of the phenomena I needed to collect, I posed direct questions designed to elicit the required data. For example, if an interviewee did not make mention of any activity regarding goals, I would ask questions such as “Has the pandemic had any effect on your personal or professional goals?”, or “Has your sense of agency been impacted by the pandemic?”, and then ask them to elaborate on their answers. Both of these questions relate directly to the psychological capital construct of hope.

Once I had sufficient data on the construct in question, I checked this construct off my list, then directed the conversation to other construct areas where I needed more interviewee data to ensure sufficient detail to form as complete a picture as possible of all the constructs.

I also asked interviewees directly about the effect of the pandemic on their sense of meaning and purpose at work. Although not explicitly part of psychological capital theory, one’s sense of purpose and meaning in work is a critical factor and a significant influence on an individual’s overall well-being, including resistance to burnout at work.

I was especially attentive to each participant's affect and would frequently re-view the video recording of the interview during the analysis stage.

### *Apprehending the Effects of Disruption on Psychological Capital*

This stage of the interview process was designed to narrow the focus to the experience I was interested in and involved exploring the experience in detail with descriptive questions and, where appropriate, structural questions (Bevan, 2014). Descriptive questions like those below were used to access the “what” of the interviewees’ lived experience. Structural questions were used to discover the “how” of the interviewees’ experience, i.e., questions that show how interviewees structured or categorized their experiences. These questions helped me correctly identify which of the four first order (HERO) constructs the interviewee was manifesting as revealed in their narratives.

### **Analysis**

Data analysis for this study was initiated by entering interview transcripts into the NVivo™ qualitative data analysis software program. These transcripts were then reviewed against the original video recordings of the interviews to ensure the transcriptions accuracy, resolve any confusing statements and provide contextual clarity for interviewee responses.

A deductive approach to collecting and analyzing the interview data was based on psychological capital theory (Luthans & Youssef, 2013). During the study, inductive reasoning was employed to help explain and interpret data emerging from the interviews that were not directly related to psychological capital theory. Consequently, several additional theories were utilized to elucidate the emergent data, including the Conservation of Resources theory (Hobfoll, 1998; 2011) and the Positive Human Development theory (Lerner, 2006a, 2006b)

A total of eight themes emerged from the analysis of the transcript data:

Theme 1: Disruption During the COVID-19 Pandemic

Theme 2: The Effects of the COVID-19 Pandemic Disruption on Psychological Capital

Theme 3: Leadership

Theme 4: Perceived Organizational Support

Theme 5: Personal Well-Being

Theme 6: Context

Theme 7: Culture

Theme 8: Perceived Research Interview Value for Interviewees

(Please refer to Appendix D: Codes & Themes Workbook for the list of codes derived from the transcript data and their themes)

Although all of these themes emerged from the qualitative data in the interview transcripts, this study focused on Theme 1 (Disruption During the COVID-19 Pandemic) and Theme 2 (The Effects of Disruption on Psychological Capital).

Notwithstanding the importance and interesting nature of the other six themes, they are outside the scope of this study and, therefore, were not analyzed in detail, although elements of each are interwoven into the discussion of the disruption's effect on psychological capital. I hope to pursue research in each of these areas in future, as they are all pertinent to disruption.

Coding the data and identifying themes within the nearly five hundred pages of transcripts was a laborious but comparatively straightforward exercise. Organizing and analyzing all the

data so that I could compare and contrast the disruptive effects of the pandemic on individual and collective psychological capital proved far more challenging.

Reading and re-reading the transcripts and even rewatching the video interviews did not give me the sense that I understood the data well enough to allow me to clearly grasp the individual differences and the bigger picture of the pandemic's disruptive effects.

Ultimately, I determined that the most effective way to enable analysis and comparison of the interviewee data was to “quantitize” or convert the qualitative data of the interviews into quantitative data, i.e., numbers, that would more easily facilitate comparison, understanding and interpretation. This also had the benefit of strengthening the quantitative aspect of the mixed-methods study by providing another analytic perspective of the data..

### ***Quantitizing Data and Inferred Psychological Capital Scores***

Quantitizing is a tried-and-true methodological intervention which involves “assigning numerical (nominal or ordinal) values to data conceived as not numerical” (Sandelowski et al., 2009, p. 209) and “has become a staple of mixed methods research” (Sandelowski et al., 2009, p. 208).

In order to apply the quantitizing technique to the qualitative data in the interviews, I needed to identify factors related to the psychological capital first-order constructs of hope, self-efficacy, resilience, and optimism and then assign appropriate numerical values to each of these constructs for each interviewee.

I identified eight factors to be quantitized: two factors each for the constructs of hope, self-efficacy, resilience, and optimism.

Five factors are longstanding descriptors of the first-order constructs included in psychological capital theory literature. They are:

- sense of agency (Hope)
- pathways finding (Hope)
- self-belief (Self-efficacy)
- positive outcome belief (Optimism)
- personal influence belief (Optimism)

The additional three factors developed are part of the psychological capital “resource caravan” of attributes critical for personal and organizational success. They are:

- growth mindset (Self-efficacy)
- executive function (Resilience)
- coping/competence (Resilience)

These three factors were selected due to their affinity for the other HERO constructs. They also provided facets of meaningful potential differentiation between manager-leaders and between manager-leaders and those in follower roles.

The two-factor model for each of the psychological capital first-order HERO constructs of hope, self-efficacy, resilience, and optimism maintains the equally weighted structure employed in the Psychological Capital Questionnaire-24 (PCQ-24) which assisted in comparing their respective results as detailed in Appendix M.



I quantified the values of each of these eight factors through a combination of observation of behavioural indicators, reasoning and comparison, which allowed me to determine a numerical value representative for each of the four HERO constructs for each interviewee please see Table 4 on pages 67 - 68, for identified behaviours associated with each first-order construct). These inferences were supported by supplemental interview notes and replaying the video interviews to compare and contrast interview responses relevant to each of the eight factors.

Interviewees who demonstrated the greatest amount of each of the eight factors were assigned a value of up to 10. Comparisons were made with all other interviewees against the maximum possible score of 10, and numerical values reflecting the amount of variation from this potential maximum standard were then assigned.

The Inferred Psychological Capital (IPC) scores for each of the eight factors for all 21 interviewees were compiled in spreadsheets, which are located in Appendices E - L. These appendices contain data segmented into various analytical categories, which enabled deeper analyses of the text-based data segments and assisted in identifying points of comparison and differentiation and their relative magnitudes.

A more detailed explanation of the quantizing process for assigning values to each of the eight IPC scores is contained in Appendix N.

Table 6

*Inferred PsyCap Scores Appendix Numbers*

<b>Appendix Number</b>	<b>Inferred Psychological Capital (IPC) Scores Appendix Description</b>
E	IPC Scores & Declared Sense of Purpose/Meaning (SoP/M)
F	IPC Scores – Declared Positive SoP/M
G	IPC Scores – Declared Neutral SoP/M
H	IPC Scores – Declared Negative SoP/M
I	IPC Scores – Male/Female Difference
J	IPC Scores – Difference between Manager-Leaders & Followers
K	IPC Scores – Difference between Manager-leader & Followers – Reallocated Roles Calculation
L	IPC Scores – Interviewees Disclosing Depression

**Results of the Inferred PsyCap Scores vs. Psychological Capital Questionnaire Scores**(Triangulation)

The use of triangulation in qualitative studies involves employing multiple methods or data sources to enable a comprehensive understanding of phenomena (Patton, 1999). It can also be used as a “qualitative research strategy to test validity through the convergence of information from different sources” (Carter et al., 2014, p. 545).

For this study, scores from the Psychological Capital Questionnaire PCQ—24 were used to achieve both purposes. Quantitative data from the completed PCQ-24 questionnaires were compiled by the developer’s website of the PCQ-24 questionnaire (Mindgarden, Inc.) before conducting the interviews. Raw data results were tabulated in a spreadsheet for both the 11

manager-leader questionnaires completed (Self-Rater) and the five follower questionnaires completed (Rater) and subsequently analyzed.

These data were converted to allow a comparison of the questionnaire-derived results for each interviewee with the Inferred Psychological Capital scores. This served as a validity test for the IPC scoring approach by examining the convergence of the data when employing a different quantitative method.

A comparison of the Inferred Psychological Capital scores with the PCQ-24 Self-Rater scores for the 11 interviewees who completed the PCQ-24 survey is provided in Appendix M.

Eight of the 11 scores indicate a maximum variance of less than or equal to +/- 0.5 points between IPC scores as assessed by me versus the interviewees' self-rated PCQ-24 questionnaire scores. The minimum variance between the individual IPC scores and the PCQ-24 questionnaire scores is 0.0. the maximum noted variance is -0.7 points, based on a six-point scale structure with a minimum score of 1 and a maximum score of 6.

There was no apparent positive or negative appraisal bias in the IPC-derived data compared to the PCQ-24-derived data. Of the 11 scores compared, the IPC scores I assigned were higher than the interviewee's self-rated score in five cases, lower in five cases and identical in one.

### **Psychological Capital Questionnaire Data Collection**

A total of 11 interviewees completed the Psychological Capital Questionnaire (PCQ-24). These individuals were requested to complete the "Self-Rater" PCQ-24 questionnaire. The nine individuals identified as followers were asked to complete the "Rater" questionnaire, evaluating only their direct supervisor, not themselves.

Data from the Self-Rater questionnaire were obtained from 11 of the 12 manager-leaders. One of the 11 identified manager-leaders did not complete the PCQ-24, while one follower inadvertently completed the “Self-Rater” questionnaire intended for manager-leaders rather than the “Rater” questionnaire.

### **Validity & Reliability of the PCQ-24 Questionnaire**

The Psychological Capital Questionnaire (PCQ-24) independently assessed the psychological capital scores. It served as a triangulating device that enabled the comparison of a number of manager-leader self-rated PCQ-24 scores versus the assessment of their direct reports (followers) PCQ-24 scores.

It also provided triangulation for 11 of 14 manager-leaders who completed the self-rater PCQ-24 scores, which were compared to the Inferred Psychological Capital Scores determined by me. This comparison suggests that the PCQ-24 scores and the Inferred Psychological Capital scores are largely in alignment. Please refer to Appendix M for a comparison of the findings.

The PCQ-24 instrument provides adequate discriminant and convergent validity scores and demonstrates high internal reliability. The instrument has also been found to significantly predict positive and negative work outcomes and explain variance (Luthans et al., 2007). It is, therefore, appropriate as a triangulating device for this study.

### ***Qualitative Trustworthiness***

For the qualitative portion of the study, the term trustworthiness is considered a more appropriate alternative to validity and reliability. Lincoln & Guba (1985) described trustworthiness as a combination of the following criteria:

- Credibility - confidence in the 'truth' of the findings
- Dependability - showing that the findings are consistent and could be repeated
- Confirmability - a degree of neutrality, or the extent to which the findings of a study are shaped by the respondents and not researcher bias, motivation, or interest, which are consistent with the phenomenological requirement for interviewer bracketing (epoché)

Validity and reliability of the coding and analysis of the qualitative data were accomplished first by ensuring that the interviews contained the necessary data to answer the research questions posed by the study.

This was achieved by interviewer bracketing to reduce potential bias, frequent checking with interviewees during the interviews to ensure that the understanding of the descriptions of participants' lived experiences was correct, and triangulation of the qualitative results via the Inferred Psychological Capital scores (Cho & Trent, 2006).

### ***Ethical Considerations***

This study's phenomenological approach to qualitative research presented the potential for challenging ethical considerations due to its emergent and flexible design.

In order to address these potential issues, the study established safeguards to protect the rights of the participants, including informed consent and confidentiality protections (please refer to Appendix B – Letter of Informed Consent). Individual participant information, such as names and locations, was anonymized to protect their identities from unauthorized disclosure. All collected electronic data are stored on a secure server with password protection. Paper-based records are secured in filing cabinets accessible solely through me.

This research proposal for this study received approval from Athabasca University's Research Ethics Board (Certification of Ethical Approval File Number 24317, May 12, 2021).

## **Findings**

### **Overview**

This section elucidates the findings associated with the disruption to the lives of the interviewees during the first 18 months of the COVID-19 pandemic.

Theme 1 depicts the direct and indirect effects of the pandemic's disruption on the interviewees' lived experience. It provides a more holistic perspective and context for the explication of the findings in Theme 2, which focuses specifically on the effects of the pandemic's disruption on interviewee psychological capital.

The following Table 7 provides a summary of the qualitative and quantitative findings, and the interpretation of these findings. These are elaborated on in the section below the table.

Table 7

*Findings*

Quantitative Finding	Qualitative Finding	Interpretation
<b>Theme 1 – Disruptive Effects of the Pandemic</b>		
1) 21 of 21 interviewees described the COVID-19 pandemic as disruptive, with many characterizing it as “absolutely disruptive”.	For almost all the interviewees the COVID-19 pandemic has been the single most disruptive event in their organizational lives, and for many in their personal lives as well.	<p>The disruption associated with the COVID-19 pandemic affected all the interviewees both personally and professionally, but to differing degrees depending on their particular circumstances. Context was an important factor in how people were affected by the pandemic.</p> <p>COVID-19 prompted significant changes in both professional and personal domains of interviewees’ lives. It induced exceptional levels of stress for many, especially those who were younger and less well-established. Some experienced serious negative mental health effects that may have longer-term impacts on their lives.</p> <p>A number of interviewees in more senior roles were able to identify and act on opportunities provided by the disruption that</p>

		strengthened their organizations.
2) 17 of 21 interviewees cited multiple negative effects of the pandemic, however, 19 of the interviewees also cited at least one positive effect each.	While participants perceived the pandemic's overall effect as predominantly negative, almost all were able to discern some beneficial outcomes from it.	<p>While the interviewees' remarks regarding the first 15 – 18 months' experience of the pandemic were predominantly focused on its negative effects, upon reflection almost all were able to recognize at least one beneficial outcome directly attributable to it. Often people were able to articulate multiple positive results.</p> <p>The most frequently cited beneficial outcome was the positive effect of the pandemic on the interviewees' sense of purpose and meaning they found, or reconnected with, in their work.</p> <p>Many participants commented that they had not reflected on the effect of the COVID-19 pandemic on them personally until prompted by this interview.</p>
3) The context surrounding the pandemic significantly impacted the variability of the pandemic's effects on all 21 individuals and their organizations.	Interviewees who were more mature, well-established in their work and personal lives, and who were able to draw on previous life experience fared better than the those without	An individual's susceptibility to the effects of the disruption associated with the COVID-19 pandemic are multifactorial. The complex, mutually influential bidirectional relationships between these



		<p>factors and each individual affected their response, either favourably or unfavourably.</p> <p>The particular personal and professional circumstances of each individual had a large bearing on the impact of COVID-19. The personal and organizational resources available to each interviewee, including their own skills, abilities, experience and relationships all played a large role in their response to the pandemic's effects.</p>
<p>4) 7 of 21 interviewees disclosed that they were actively engaged in upgrading their academic and/or professional credentials.</p>	<p>One-third of the interviewees disclosed that they were actively working to build their professional marketability in anticipation of new opportunities presented during the COVID-19 pandemic.</p>	<p>The interviewees who were actively pursuing upgrading their academic and/or professional credentials during the pandemic were motivated by various factors to do so. Effectively they personified a growth mindset. In some cases, these individuals related reevaluating their commitment to, or interest in the work they were currently doing and decided they wanted something else. Often this related to the recognition of the meaning and/or sense of purpose from the work, or lack of same.</p> <p>Others identified advancement opportunities, in their current organizations or others, where longer-term staff in more</p>

## EFFECTS OF DISRUPTION ON MANAGER-LEADER PSYCHOLOGICAL CAPITAL DURING THE COVID-19 PANDEMIC

		senior roles were choosing to exit the workforce due to the changes associated with the pandemic. This opened up more desirable roles, for which they wanted to strengthen their credentials.
5) 10 of the 21 interviewees were experiencing significant work-related changes that pre-dated the COVID-19 pandemic.	Almost one-half of the interviewees were experiencing significant changes that pre-dated COVID-19 and were additive in terms of the pandemic-related stress. These included organizational downsizing or restructuring that in some cases involved unwanted job change.	<p>Consistent with the importance of context in interviewees' responses to the COVID-19 pandemic, almost half were also dealing with significant changes to their organizations, including new/different responsibilities and/or role changes for five interviewees.</p> <p>This created additional uncertainty and stress for most of these, especially the younger ones with less seniority in terms of roles and tenure with the organizations.</p> <p>Within this subgroup were individuals with disclosed prior mental health issues such as anxiety and/or depression, which were exacerbated by the combined effects of unwanted organizational and/or job change and the pandemic.</p>
<b>Quantitative Findings</b>	<b>Qualitative Findings</b>	<b>Interpretation</b>
<b>Theme 2 – Pandemic Effects on Psychological Capital</b>		
6) Regarding the psychological capital	The effect of the pandemic on each interviewee's sense of	Sense of purpose and meaning are important components of

<p>construct of hope, all 21 interviewees related having their sense of purpose and meaning affected by the pandemic. 12 of 21 cited a positive impact, while 4 experienced a neutral impact, and 5 related a negative effect.</p>	<p>purpose and meaning in their work were varied. Most described being positively affected, while others were negatively impacted, or experienced a neutral effect on their purpose.</p>	<p>the hope construct since they influence an individual's goal-directed behaviour, including the effort they will expend in pursuing alternative pathways to success when initial plans fail.</p> <p>The majority of interviewees worked in public sector or not-for-profit environments where service to their clients was their primary focus (as opposed to for-profit organizations with potentially different priorities). This seemed to emphasize the pertinence and importance of their roles serving the public during the COVID-19 crisis.</p> <p>The context and interrelationship of factors for each individual significantly influenced their perception of the pandemic's effect on their sense of purpose and meaning in their work. The majority of interviewees experiencing positive effect were older, more stable, and in more senior roles.</p> <p>Individuals experiencing a negative effect attributed this primarily to being mandated to work from home, which resulted in feelings of social isolation, plus increased child-rearing responsibilities, including unwanted teaching duties for some.</p>
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<p>7) 16 of 21 interviewees disclosed that their goals and goal pathways were significantly affected by the pandemic.</p>	<p>More than three-quarters of interviewees described marked effects on their goals, whether personal or organizationally related.</p> <p>Individuals with the highest inferred hope scores described activities emblematic of a strong sense of personal agency, and success in finding alternative pathways to goal achievement.</p>	<p>The COVID-19 pandemic affected the goals of the majority of the interviewees. In some cases, these were personal goals, such as deciding whether to advance or delay retirement, or to pursue a new role with another organization. Organizational goals also changed due to the pandemic's unprecedented demands, which frequently affected individuals' work-related goals.</p> <p>Interviewees demonstrating high levels of agency who successfully identified pathways to achieve their goals were primarily mid-level managers and above. Interviewees with lower levels of agency and who were less successful in goal pursuit tended to hold junior roles and be more precariously employed. Previous diagnoses of depression and anxiety were more present in this lower hope group.</p>
<p>8) Regarding the psychological capital construct of self-efficacy, 17 of 21 interviewees related perceived increases in their self-belief during the pandemic.</p>	<p>The vast majority of interviewees described feelings of increased personal capability due to their accomplishments during the pandemic.</p>	<p>All but four of the interviewees described experiencing increased self-belief, as well as increased belief in their organizations' capabilities due to their effective responses to the</p>

		<p>novel demands of the pandemic.</p> <p>These involved developing innovative responses to logistical, legislative, process, and systems-related issues that were changing frequently. Taking advantage of novel opportunities and using the pandemic as the catalyst for strategic as well as tactical improvements were noted, especially by interviewees in more senior roles.</p> <p>The individuals with lower self-efficacy assessments were mostly in junior roles and had less scope and authority to effect change and did not experience improvement in self-belief.</p>
<p>9) Robust growth mindsets were noted in 18 of 21 interviewees, with scores of 7 out of 10 or above.</p>	<p>Most of the interviewees described their commitment to maintaining or expanding their personal and professional self-development despite the constraints associated with the pandemic. This included academic learning and pursuing new work opportunities.</p>	<p>Despite the many difficulties and challenges associated with the COVID-19 pandemic, the vast majority of the interviewees remained committed to their personal and professional development through on-line education, virtual attendance at conferences, and participating in research projects. Many described taking on new work and home responsibilities that stretched them into new areas of development.</p> <p>Eight of the interviewees in CEO-level roles chose to launch new initiatives to</p>

		advance organizational strategies, or to effect significant structural and technological changes that were considered very difficult, if not impossible to attempt prior to the pandemic.
10) Regarding the psychological capital construct of resilience, 20 of 21 interviewees recounted examples of significant resilience in the face of the pandemic, notwithstanding substantial setbacks for 15 of the 21 interviewees.	Almost all the interviewees were able to recount at least one example of significant personal and/or professional resilience demonstrated during the pandemic, notwithstanding substantial setbacks ranging from deferred strategic initiatives to mental health issues.	<p>Despite the negative effects of the pandemic for the vast majority of the interviewees, almost all were able to describe situations where they were able to bounce back from significant setbacks, whether personal or professional, or both.</p> <p>The most resilient were well-established in terms of organizational stability, seniority, and tenure, supported by strong personal support, and access to helpful resources.</p> <p>Those who had not bounced back were less secure in their work roles, more junior, and had fewer supportive relationships at work, and personally. They also tended to be younger and more likely to have suffered from anxiety and depression prior to the pandemic.</p>

<p>11) Executive functioning, an important aspect of resilience, was high in five of the 21 interviewees, moderate in 11 and low in five.</p>	<p>Executive functioning involves effective self-regulation, analytical skills and creativity. The novelty, variability, severity, and duration of the COVID-19 pandemic have demanded high levels of cognitive flexibility, and adaptability, to develop effective responses.</p>	<p>The uniqueness of the COVID-19 pandemic for all interviewees challenged their self-control and cognitive flexibility, which resulted in varying degrees of successful adaptation.</p> <p>Five individuals who best demonstrated high executive functions were able to exercise self-regulation, analyze, and develop innovative solutions to the pandemic's challenges. They also identified opportunities that advanced their organizations' strategic goals, assisted by their ability to draw on and leverage their followers' sense of purpose and meaning in their work.</p> <p>The five interviewees with the lowest executive function were all in junior, follower roles. Four of the five disclosed previous diagnoses of anxiety and/or depression.</p>
<p>12) The ability to cope is the critical factor in resilience. Nine of 21 interviewees were identified as having a high level of coping skills. Six described moderate coping skills and six exhibited comparatively lower skills.</p>	<p>The most effective copers leveraged their executive functions and assumed adaptive approaches to tackle the myriad problems they faced during the pandemic. When stymied by challenges beyond their control, they employed reappraisal, and reframing techniques in order to direct their personal and organizational resources to best effect.</p>	<p>Coping in adverse situations can take multiple forms. The most effective copers tended to be motivated by approach behaviours, as opposed to avoidance behaviours. They used their executive functions to develop adaptive plans and solutions that faced challenges head-on. For problems that were insurmountable given the situation and resources available, the best copers reappraised the situation and</p>

		<p>reframed the problem which enabled their organizations to pivot and in numerous cases, leverage the circumstances to their advantage.</p> <p>This approach had the added benefit of keeping their followers engaged in constructive, goal-directed efforts, that strengthened their organizational commitment.</p> <p>The most effective copers in leadership roles capitalized on the pandemic-derived opportunities as developmental vehicles for staff, and as a way to identify potential leadership candidates based on their response to the COVID-driven challenges.</p>
13) Regarding the psychological capital construct of optimism, nine of 21 interviewees exhibited high levels of optimism, eight described moderate levels and four had comparatively low optimism scores.	Interviewees with high optimism scores viewed the pandemic as disruptive, but also as presenting opportunities for the advancement of personal and organizational goals, whereas the moderate and low-optimism groups did not.	<p>There was a marked difference between the perception of the pandemic's disruption between the high, moderate and low optimism groups.</p> <p>High Optimists were able to reframe the disruption and perceive it as a rare opportunity to advance their personal and organizational agendas. These individuals were predominantly in more *senior roles, were resourceful, and displayed strong executive functions.</p> <p>Individuals with low optimism were all in support roles, and three were younger with minimal full-time work</p>



		<p>experience, and more precariously employed.</p> <p>The moderate optimism-level group displayed more variability in the perception of their experience of the pandemic, recognizing both good and bad outcomes</p>
<p>14) Positive Outcome Belief scores demonstrated a large variance, from 3 out of 10, to 10 out of 10, largely related to interviewees' expressed sense of purpose and meaning .</p>	<p>Interviewees who experienced the pandemic as having either a positive or neutral effect on their sense of purpose and meaning, had much higher belief in a positive outcome post-COVID.</p>	<p>Whether the interviewees ultimately expected to experience a positive outcome post-COVID-19 appeared to be related to their perceived sense of purpose and meaning during the pandemic.</p> <p>Individuals with high positive belief in the pandemic's outcome were more opportunistic in pursuit of their goals while still experiencing its disruptive effects. This belief may be explained by the mutual bi-directional influence of the expectation of ultimate success, which inspired the sustained effort required to achieve success.</p> <p>These individuals were predominantly in senior roles and had experienced considerable prior organizational success, coupled with significant life experience on which to predicate their positive</p>

		expectations of a beneficial outcome.
<p>15) 16 of 21 Interviewees exhibited high Personal Influence Belief scores averaging 8.8/10, while five exhibited much lower scores averaging 4.8/10.</p> <p>The variance of 4.0 points represents the largest scoring gap for any of the eight psychological capital factors (along with Factor 5, Executive Functions, which also registered a gap of 4.0 points out of 10).</p>	<p>The interviewees with the highest Personal Influence Belief scores seemed confident in their ability to sway events to improve the probability of a positive outcome from the pandemic.</p> <p>Interviewees with the lowest scores appeared far less assured that they possessed the influence necessary to effect positive outcomes.</p>	<p>The interviewees with the highest Personal Influence Belief scores were more senior in terms of age, position, and tenure than the interviewees recording the lowest Personal Influence Belief scores.</p> <p>This may partially account for the very large gap in Personal Influence Belief scores, since one's belief in their ability to influence events may partly reside in the authority and power associated with their organizational role. Additionally, individuals who have successfully attained and maintained senior organizational roles may be predisposed to higher-than-average levels of self-belief and self-efficacy.</p> <p>The interviewees with the highest Personal Influence Belief scores consistently rated their scores for this factor higher than their belief in a positive outcome, whereas the interviewees with the lowest scores consistently rated their belief in positive outcomes equal to or higher than their perceived ability to influence those outcomes.</p> <p>This may be attributable to a track record of success for the highest scorers which the younger interviewees did not yet possess i.e., a difference in</p>

		Self-belief (Factor 3), and a history of diagnosed anxiety and/or depression for four of the five lowest scorers which negatively affected their belief in their personal influence.
<b>Quantitative Findings</b>	<b>Qualitative Findings</b>	<b>Interpretation</b>
<b>Overall Psychological Capital Theme</b>		
<p>16) The overall inferred psychological capital score for all 21 interviewees averaged 7.8/10.</p> <p>Of the four constructs comprising PsyCap, the interviewees scored highest in hope, at 8.6/10, followed by self-efficacy at 8.4/10, optimism at 7.5/10, and lastly, resilience at 6.7/10.</p> <p>More than three-quarters (16 of 21) of the interviewees expressed feeling an increased or sustained sense of purpose and meaning during the COVID pandemic.</p>	<p>Interviewees with higher overall psychological capital scores were better able to cope with the pandemic's exigencies than interviewees with lower psychological capital scores.</p> <p>Their attitude and affect were consistently more positive. They did not avoid the difficulties presented by the pandemic, but used their executive functions to meet them head-on, and when unable to resolve the problems, they reappraised and reframed the problems as challenges presenting opportunities for personal and organizational growth.</p>	<p>Interviewees who fared better during the adversities presented by COVID-19 pandemic coped more effectively and maintained their pre-pandemic levels of competence by effectively using their executive functions and other attributes to solve many of its difficulties.</p> <p>In a number of cases, individuals with high PsyCap developed even greater competence during the pandemic by reframing insurmountable adversities into personal and organizational opportunities. A strong growth mindset was evident in these individuals.</p> <p>These mostly senior managers drew on their sense of purpose and the meaning they found in their work to energize themselves and engage their followers in a variety change initiatives and opportunities that advanced their personal and organizational goals.</p>

		<p>They also tended to demonstrate a higher level of belief in their personal influence on outcomes associated with the pandemic's effect than interviewees with lower overall PsyCap scores.</p> <p>The study's sample of interviewees is weighted toward manager-leaders in mid to senior organizational roles. This was not intentional but resulted from the purposive and convenience sampling methodology used. Regardless it is likely that these individuals may possess higher PsyCap scores than would be experienced in the general population of workers, as evidenced by their ability to attain and retain comparatively senior positions.</p> <p>The PsyCap scores of the most senior interviewees, those at a Director level or above, are considerably higher than the interviewees in lower organizational roles. Determining the direction of causation for higher levels of PsyCap was beyond the scope of this study, but future research into this topic could prove valuable for individual and organizational development initiatives.</p> <p>While none of the interviewees would likely welcome a repeat of the</p>
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		<p>pandemic, many recognized it as a rare test of their mettle and a unique growth experience.</p> <p>The interviewees with lower PsyCap scores shared many common challenges that turned the pandemic into a distressing endurance contest with significant negative effects on their relationships and career development, as well as their physical and mental health.</p> <p>These individuals tended to be younger, have less life experience, fewer social and organizational resources on which to draw, were employed more precariously in junior roles, and more likely to have declared anxiety and/or diagnosed depression than the interviewees with higher PsyCap scores.</p> <p>In conclusion, individuals in this study who exhibited higher levels of psychological capital, in conjunction with a strong sense of purpose and meaning in their work were able to withstand the negative effects of the pandemic better than those individuals with less psychological capital on which to draw.</p> <p>In many cases individuals with higher psychological capital reserves were able to leverage</p>
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		<p>these to experience the COVID-19 pandemic as a unique developmental opportunity.</p> <p>The results of this study, while limited to a small number of subjects, suggests that individuals and organizations would be well served to devote time and resources to the development of worker psychological capital in order to prepare both of these for the inevitable disruptions yet to come.</p>
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### **Theme 1: Disruptive Effects of the Pandemic**

After initial introductions were made at the start of each participant interview, the lead-off question was, “Have you experienced, or are you now experiencing, the COVID-19 pandemic as a disruptive event?”.

The question was intentionally general in nature to allow the interviewees to relate their lived experiences in whatever context they chose to begin the interview, producing the first finding for this theme:

***Finding 1:*** All 21 interviewees described the COVID-19 pandemic as disruptive, often characterizing it with adjectives such as “highly”, “totally”, and “absolutely”.

The following are representative responses to this question:

A dean at a post-secondary institution stated:

” Absolutely, no question. It has completely turned our world upside down this past 20 months”.

A vice president of a regional economic development agency responded:

“Absolutely, ...we built a whole series of plans as an organization for what we were going to do prior to COVID...and all of that fell apart.”

The CEO of an NGO providing support services to special needs individuals stated:

“Well, the answer is absolutely. It has caused the organization to pause on every level, from a strategic perspective in terms of implementation of our strategic plan to how we do business on a day-to-day operating level.”

The female CEO of a wellness provider observed:

The biggest disruption I think was for those who have young kids and who had no place to put them. And that was the biggest challenge for me personally and for the people that I worked with... I found that really difficult, to have three young kids and then having to try to work with them around was really difficult.

Based on the interviewee response, further questions were posed to provide greater detail on particular effects; for example, the second question asked whether interviewees characterized the effect of disruption as positive, negative, or neutral.

***Finding 2:*** While participants perceived the overall effect of the pandemic to be negative, almost all were able to identify at least one beneficial outcome they could attribute to it. The pandemic’s most frequently mentioned negative effect was the felt loss of social connection. The most frequently mentioned positive effect was gaining a renewed sense of purpose and meaning found

in work (this is explored more fully in the context of the psychological capital construct of hope in Theme 2).

The lived experiences of the interviewees, as related below, reflect the dialectical nature of the pandemic's effects that most study participants were still grappling with at the time of the interviews:

The Director of Recruitment and Partnerships for an education services provider related:

We've been able to demonstrate our adaptability and effectiveness to government, so they are looking on us very favourably right now, which means we can deliver more services, including to First Nations' communities, which I've been working on for years.

A physician and university professor:

"...the experience, while disruptive, has been very satisfying, and something that we'll be able to leverage academically moving forward".

The CEO of a not-for-profit community services provider for autistic children:

It just blew me away to watch what our staff were doing to support some of the (autistic) kids that couldn't come in to our clinic at all. The kind of creative options, the creative use of video that still allowed us to come into their house virtually, and the progress the kids are making, it's just amazing. It warms your heart and brings a tear to your eye.

Perhaps the Dean of the business faculty at a post-secondary institution best captured the pandemic's dialectical nature with her reflection:

I think COVID has been the biggest disrupter that we've ever experienced in terms of our psychological and physical well-being, as well as emotionally...Its revolutionary change



threw us into this completely different and uncertain environment that allowed us to maybe explore how to do things in a new and interesting way, or do things better, and it reoriented our thinking to ‘how do we care for each other?’, and ‘how do we continue to inspire and get to where we want to go?’

Details on their particular contexts were revealed to be very important in terms of interviewees’ perceptions of the disruption.

***Finding 3:*** The context within which the pandemic was experienced significantly impacted the variability of its effects on all 21 interviewees.

The particular circumstances of each individual’s situation during the COVID-19 pandemic appeared to influence their perception of the quality, i.e., the nature, extent, and impact of the disruption.

The interviewees most negatively affected by the pandemic were younger, more precariously employed and in junior follower roles within their organizations. Two of the participants interviewed were in their early 20s, while a third interviewee was estimated to be in his mid-30s, based on information emerging from the interview.

All three expressed significant anxiety levels, primarily due to concerns regarding their perceived tenuous employment situations and reduced social connections due to an inability to interact face-to-face with family, friends and co-workers. Two of the three individuals disclosed previous psychological issues pertaining to anxiety and depression.

One of the twenty-somethings expressed the loss he felt during the pandemic as he had been hired virtually and had just started a new job when COVID struck:

In terms of disruption, I feel like it disrupted my work because I was at home, so I didn't get the full experience. I didn't get to experience going out and being (at work) actually in person, like, having these meetings, conversing with my manager and working alongside her. I felt very isolated.

Older interviewees in more senior positions and more stable personal relationships generally related experiencing less distress associated with the pandemic's effects. Individuals who expressed predominantly positive effects resided in contexts where the pandemic provided emergent opportunities that they recognized and acted on.

The Dean of a post-secondary institution on the challenges and opportunities of the pandemic:

Absolutely there's been challenges and the most significant concern I've had is the support for my people, building a community, or maintaining community, or rebuilding a community in a virtual format. From the advancement from a post secondary perspective, the expedited change that has happened will bring us to a point that we would have never attained, even in a five potentially a 10-year time frame.

Female interviewees with school-aged children forced to adjust to working from home "offices" and taking on teaching roles during the pandemic faced additional stress, as expressed by an IT team manager for a large bank:

When employees were directed to work from home our whole network actually crashed, because the bank didn't foresee so many people logging into a VPN (virtual private network), so the infrastructure was never put in place for a disaster like this. So, we were told not to be on the network during the core business hours, so we were working from, say 5:00 p.m. to whatever you know you have to work, which would be like 12:00 a.m.

***Finding 4:*** One-third of the interviewees disclosed that they were actively upgrading their skills, education and experience to take advantage of identified pandemic-driven changes and opportunities:

The Director of Recruitment and Partnerships for an educational services provider commenting on her decision to pursue a degree to improve her security and opportunities for advancement:

If I were to apply for my job, I would not even be considered in the running. I don't have a degree. So that being said, this week I started my degree at Ryerson, so if something tragic happened with my organization I could be out there in the market and be competitive because my skills are competitive, my experience is competitive and with that frickin' piece of paper I feel quite confident for the future.

The Director of Continuing Education for a post-secondary institution on taking advantage of the pandemic to upgrade her education to prepare her for potential promotion:

I'm in a five-month secondment position where I'm exploring a new business opportunity for the institution that's related to some mergers and acquisitions within the tech-ed space that we saw during COVID, so I'm exploring some new potentials for the university. Also, I always wanted to start a doctorate program, and I did during COVID.

The General Manager of an oilfield services supply company on taking personal responsibility for leveraging potential opportunities associated with impending organizational changes:

When I discovered that the organization was looking to approach the reduction in our workforce in Canada, I said to myself I could sit back and do nothing and let it happen, or I could actively participate in that. And in doing so I created a new role for myself where

I'm able to support business units and the investor relations group on navigating, not just the current environment, but the future.

***Finding 5:*** Almost one-half of the interviewees were experiencing significant changes that predated the COVID-19 pandemic and were additive in terms of pandemic-related stress. These included organizational restructuring, downsizing initiatives, and non-voluntary role and responsibility changes.

The Manager of Financial Services & Student Enrollment for a post-secondary institution discussed the multiple challenges she was facing due to the effect of the pandemic, plus a major reorganization at the university:

I'm being moved out of the business faculty into a finance business partner role reporting centrally and so that's a big thing for me because I won't have anything else, or anything more to do with student enrollment services. No one will be reporting to me, and I currently have five reports, so it's a huge change.

She elaborated on the effect it was having on her stress level:

I'm finding it difficult right now because I've already been in a ton of meetings for that new position and I'm not even in the new position yet, so my regular work is kind of suffering at this point. There just isn't enough time to get everything done that I'd like to. I'm usually pretty positive, but I do find I'm more stressed than usual.

A twenty-something employee working on a practicum who had been hired remotely, on the frustration and stress with working and completing his university degree during COVID, stated:

The past year and a half, I've known that I'm not too keen on my degree, so I've got this sense of urgency and frustration when I'm working on my degree and I just wanted to get it done and over with, so that was already existing before (COVID-19). And then COVID hit, and I found myself at home, having to be self-motivated to finish the degree that I'm not even that passionate about. So that compounded and created bigger and larger issues for me. I felt exhausted, overwhelmed, and overworked. I felt like my mental (health) was in a bad spot.

The effects of the disruption above were broad in scope. The following section focuses specifically on the disruptive effects of the pandemic on the psychological capital constructs of hope, self-efficacy, resilience, and optimism.

## **Findings Theme 2 – The Effects of Disruption on Manager-Leader Psychological Capital**

### **Overview**

Psychological capital has consistently been associated with beneficial individual and organizational outcomes (Ahmad et al., 2019; Datu et al., 2016; Luthans, 2017; Newman et al., 2014). Its core constructs of hope, self-efficacy, resilience, and optimism constitute a number of the foundational building blocks of human flourishing at the individual, team, organizational and societal levels. Without them, success is not possible.

These attributes are especially critical during significant disruptions like the COVID-19 pandemic. The ability to respond quickly and effectively to novel situations and rebound from the unavoidable setbacks experienced during times of high volatility and uncertainty while

maintaining a commitment to personal and organizational goals are hallmarks of high levels of psychological capital.

Disruptive events inevitably affect a person's psychological capital. Psychological capital is considered a "state-like" construct instead of a more fixed "trait-like" construct such as an individual's personality. It will, therefore, vary over time, depending on circumstances. People with high levels of the attribute tend to be less likely to suffer emotionally during disruptive events and may even emerge from the experience psychologically stronger. They also demonstrate more effective coping mechanisms and adaptive responses and make more positive attributions about future success. Taken together, it is understandable why individuals exhibiting high levels of psychological capital are frequently successful.

Interviews for this study attempted to elicit information directly from manager-leaders and their followers in organizational settings to understand how individual levels of the interviewees' psychological capital were affected during the COVID-19 pandemic as related through the participants' descriptions of their lived experience.

In order to describe these effects, it was first necessary to deconstruct the constructs of hope, self-efficacy, resilience, and optimism into more readily identifiable component behavioural indicators, or the perceived lack of these indicators, as follows:

Table 4

*Behavioural Indicators of the First-Order Psychological Capital Constructs*

Note: this is a repeat of Table 4 from pages 67 – 68. It is included here for reader convenience.

**Hope**

<b>Positive Behavioural Indicators of Hope</b>	<b>Negative Behavioural Indicators of Hope</b>
Drive, conation, volition, agency	Lack of initiative, ennui, burnout
Thinking ahead, scenario planning	No planning or future orientation
Goal planning, contingency planning	Disorganization, lack of sense of direction
Proactivity, takes appropriate initiative	Reactivity, waits for direction, waffles
Commitment, perseverance	Diminished commitment, gives up easily
Positive affect, upbeat voice tone	Negative affect, defeatism, low energy, mono-tone voice
Sense of purpose, enthusiasm	Lack of commitment, indifference or rejection of personal & organizational mission and vision

**Self-efficacy**

<b>Positive Behavioural Indicators of Efficacy</b>	<b>Negative Behavioural Indicators of Efficacy</b>
Self-belief, self-esteem	Insecurity, pridefulness, arrogance
Realistic self-confidence, decisiveness	Self-doubt, hesitant, wishy-washy
Increasingly challenging goals, stretch goals	Avoids constructive risk, lack of ambition
Exhibits growth mindset and self-development	Fixed mindset, little effort to improve self
Sees potential in opportunities	Overly focused on obstacles
Realistic self-appraisal, knows limitations	Lack of self-knowledge

**Resilience**

<b>Positive Behavioural Indicators of Resilience</b>	<b>Negative Behavioural Indicators of Resilience</b>
Displays effective self-regulation of emotions, good analytical and problem-solving abilities under pressure, displays positive affect	Unable to function effectively in adversity, ineffective analytic and problem solving ability under pressure, displays negative affect
Approach mentality to problems, seeks opportunities, uses reappraisal and reframing skills	Avoidance mentality to problems, unable to reappraise or reframe problems to find opportunities
Perseveres in face of difficulties, displays effective coping skills, maintains competence despite adversity	Reduces effort in adversity, uses counter-productive difficulty coping skills,
Demonstrates “grit”, doesn’t quit. Toughs it out, sees personal responsibility to carry on	Gives in and gives up, resigned to failure
Ability to bounce back from failure, handles setbacks in stride, learns from failure	Perceives defeat as a permanent condition, is demoralized by setbacks, repeats mistakes

**Optimism**

<b>Positive Behavioural Indicators of Optimism</b>	<b>Negative Behavioural Indicators of Optimism</b>
Sees the glass as half-full, expects positive outcomes	Sees the glass as half-empty (or the chamber pot half-full), expects the worst to happen
Remains grateful for the positive things in life	“Woe is me” attitude, holds self-pity parties
Uses expressions such as “I/We can do this”; “I got this”; “We are going to get through this and come out stronger”, etc.	Expresses pessimism, affect depresses others, aka Gloomy Gus
Takes personal responsibility, believe that they can influence events in their favour. good things that happen to oneself are the result of personal effort – the bad things are because of others	Lacks belief in their ability to influence future events. Avoids personal responsibility for outcomes, inappropriately attributes failures to others and circumstances
Believes that good things are persistent, the rule and not the exception, bad things are the exception and will not last	Believes circumstances will not improve and probably will get worse, sees the future as bleak



## Findings for Theme 2

### Hope

Study participants' levels of hope were affected by the COVID-19 pandemic, and as with the Disruption theme, both positive and negative effects were reported.

**Finding 6:** All 21 participants referenced the pandemic's effect on their sense of purpose and meaning in their work.

Positive Statements:

A Dean of a university business faculty:

“I always had a pretty strong sense of purpose about what we do, but I think the way COVID affected us, I feel like it's given us more opportunities to prove it”

The Lead Pastor for a faith-based organization:

If anything, it [COVID-19] sort of sharpened our purpose and meaning. When life is the same...you don't necessarily think about why you're doing it. So COVID made us have to be totally creative and to use our skill sets and to figure out what to do.

The Vice-President of an economic development agency:

“What I'm more aware of is this whole idea of purpose and finding ways to connect and seeking out ways to connect.”

An IT team leader at a major bank:

I've observed that there are so many new inventions and medicine (sic) discoveries that are happening now, and people are trying to live a better life. So, to me, all of this is progress, so anytime you see progress, it sparks hope.

A senior physician-scientist co-leading a provincial task force on COVID-19:

“... my commitment and enthusiasm for {my normal role} are very high, I love working with the people I'm working with, but it doesn't turn my crank the way this [COVID-19 related] stuff does.”

Negative Statements:

The CEO of a wellness provider:

“The work I do is very purpose-driven; it's something I'm passionate about, and so there's always been that clear sense of it, but I think somehow [during COVID-19] it's slightly frayed ... just because of the lack of connection and seeing the impact firsthand.”

The Director of Economic Development for a territorial government:

Yeah, it's had a negative impact... when you can't get your job done, it affects your work satisfaction, right? I feel very frustrated that I can't, for example, visit my [remote] office in P. as much ... I feel like I'm dropping the ball.

Overall, 12 of the 21 participants perceived the disruptive effects of COVID-19 on their sense of meaning and purpose as predominantly positive, five assessed the disruption as having a predominantly negative impact, and four were predominantly neutral.

***Finding 7:*** Following Finding 6 regarding the disruptive effect of COVID-19 on the participants' sense of purpose and meaning in their work, interviewees' goals and the pathways necessary to achieve them were also significantly affected by the pandemic.

A Vice-President of an economic development agency:

“Right at the beginning of COVID ... we thought that our vision and strategies still made a ton of sense, but we changed almost everything we were doing in terms of the tactics to pull it off”.

The CEO of a wellness provider:

“Just going back and re-evaluating the strategy plan ... I started thinking about... ‘how can we shift what we’re doing... to meet people where they’re at?’ ... there’s another way around this [COVID-19], and we’re gonna figure it out”.

The CEO of an NGO providing social support:

I would say that it’s been our attempt to leverage the situation we find ourselves in. As horrific as the pandemic has been. ... we’ve tried to use the pandemic to reinforce the values, principles, and culture of the organization rather than habit. The pandemic is a terrible thing to waste.

The same CEO provided an example of this adaptive organizational mindset:

We have seen a significant increase in the number of people we actually serve by going virtual, whenever possible. ... [Prior to COVID-19] if we were driving somewhere rural, it may have taken us all day to get there and back, now staff are able to jump on Zoom and do [the interview] in an hour, and they still have six hours left in the day to do a couple of more appointments.

The goals mentioned by participants were not solely organizational; some personal goals were also affected.

The general manager of an oilfield service supply company:

“... in this period of disruption, it is still ‘what are we doing ... regarding professional development?’. I’m looking beyond the boundaries of the organization to what will position me for the future”.

The CEO of a distance education provider:

“I am at the tail end of my career, and for the last 18 months or so, COVID-19 has enabled us [he and his wife] to practice retirement together... it has been an amazingly good practice of early retirement”.

### **Self Efficacy**

***Finding 8:*** Participants’ behavioural indicators of self-efficacy reflected the impact of the pandemic on their self-belief, their ability to cope with and succeed at the often-novel COVID-19-related tasks they faced, as well as their described achievements during this time.

The CEO of a social services provider:

We’ve been asked to step up and provide additional services and supports [by the Ministry of Health], so we’ve been looked to more than perhaps we would have [before COVID-19]. I can’t think of a better thing to be proud of than the way staff have rallied around to protect people. We have received a lot of letters from staff thanking us and saying how proud they are to work here.

A senior physician-scientist co-leading a provincial COVID-19 task force science table:

“You can’t overestimate what we’ve accomplished at the science table and influencing government opinion through our independence and transparency. We caught lightning in a bottle”.

The Director of Recruitment and Partnerships for a not-for-profit organization:

I’ve learned that I can be patient, I can be empathetic, I can be effective...I could get shit done, that’s what I’m known for, but could I do it and be kind at the same time? I don’t know if I would have said that I could be before COVID, but now I know I can.

A twenty-something, precariously employed contract worker relating his experience of the pandemic:

I’m young, so fair enough, but I wasn’t prepared for this, and so I want to build resiliency for the next time this comes at me so that I’ve got the tools and the knowledge to deal with it. That’s obviously crucial, building your network, building your connections. I was lucky I have a lot of people to fall back on and talk to, and I have that social support. My family’s a huge part of that, but they’re moving away, so I’ve got to keep building, making sure I have the friends that are in the right places, and the right kind of friends to help me out, that’s always important.

He elaborated on how he remained focused on his goals during the disruption:

I found it was very helpful during COVID to really keep a tight calendar so writing out my goals and not just my long-term goals but like, this is what I want to do today, what I want to accomplish.

At the time the interviews for this study concluded, the participants had been experiencing the pandemic's effects for 18 months or more. Many of the interviewees expressed frequent feelings of being highly stressed and occasionally even overwhelmed by events; however, none disclosed a belief that their own sense of self-efficacy was diminished by COVID-19's effect. As the quotations above suggest, many have had their self-belief and sense of mastery either confirmed or strengthened. In some cases, they experienced a sense of mastery for themselves or their organizations for the first time.

***Finding 9:*** Despite the many difficulties and challenges associated with the COVID-19 pandemic, the vast majority of the interviewees displayed growth mindsets, as witnessed by their continuing commitment to their personal and professional development through on-line education, virtual attendance at conferences, and participating in research projects. 18 of 21 described taking on new work and home responsibilities that stretched them into new areas of development.

Noting one of the benefits of the COVID-19 experience to personal and organizational growth, the Dean of a post-secondary IT faculty stated:

If we continue to improve ourselves, I think that the work we've done will absolutely make us a stronger educational system and will produce stronger graduates. ... A lot of our partners now have a completely new way of looking at the way they do business.

The Director of Recruitment and Partnerships for a not-for-profit organization reflecting on her commitment to self-development:

I actually feel quite positive for my future, which is sometimes a unique thing for me, but a lot of that has to do with the fact that I have started a degree at Ryerson University.

A vice president of an economic development agency demonstrated a growth mindset:

Prior to COVID, the organization was thinking in a very traditional, kind of old school way, ‘What’s marketing, what’s communications?’ I think marketing and communications both have a central role and set strategy. And so, I’ve really been able to kind of change how the organization functions and put a much more holistic approach to what we do and how we go after things.

The Lead Pastor of a faith-based organization:

I’m so humbly proud managing this organization through COVID to make us stronger, for not backing down, not hiding away. And as we’re coming out of it, you see all the positive results in terms of people engaging and giving and supporting.

Eight of the interviewees in CEO-level roles chose to launch new initiatives to advance organizational strategies, or to effect significant structural and technological changes that were considered very difficult, if not impossible to attempt prior to the pandemic.

## **Resilience**

***Finding 10:*** COVID-19 has afforded society nothing if not ample, opportunity to demonstrate the ability to persevere in adversity and recover from various setbacks. The participants in the study provided multiple examples of situations that elicited resilient responses.

The CEO of a wellness provider struggling to deal with a setback in plans:

I like to create a plan and follow the plan, and I'm highly productive when I'm able to do that. But the downside is that when you keep getting wrenches thrown into your plan, it's sometimes hard to recreate them. When you take plans out, it can be a bit of a setback. I found that was hard.

A Director for an online education provider for corporate clients commenting on the differences in individual adaptability during COVID-19:

It's interesting to see different personalities and how personalities have handled the change. I think the more senior level you get in a position, the more you have to be comfortable with ambiguity, you have to live in the gray. And some people can't. You know, some people, that really affects them, and that's a tough road in a tough challenge and hard to manage.

The Director of Recruitment and Partnerships for a not-for-profit organization discussing the connection between resilience and having a sense of purpose and meaning:

"I think that COVID didn't necessarily change my motivation ... or sense of value and mission of the work, but it really kind of distilled and showed why we do it."

The Lead Pastor of a faith-based organization reflecting on his organization's resilience in the face of the pandemic's adversity:

"Our mantra was suffering under COVID leads to perseverance, because you have to deal with it and persevere, which leads to character change in who you are and how you act, which then impacts the deeper hope."



In total, 20 of the 21 interviewees were able to recount examples of significant resilience during their COVID-19 experience. Substantial setbacks were described by 15 of the 21 interviewees; however, all but one of these were able to reframe the experience to either minimize its perceived impact or to utilize the experience as a learning opportunity for the future.

***Finding 11:*** The uniqueness, ubiquity and duration of the COVID-19 pandemic challenged the self-control and cognitive flexibility of all interviewees, which resulted in varying degrees of successful adaptation.

The five individuals who best demonstrated high executive functions were able to exercise self-regulation, analyze, and develop innovative solutions to the pandemic's challenges, despite having to deal with novel situations and staff who were often nervous and afraid. They identified opportunities to advance their organizations' strategic goals, leveraging their followers' sense of purpose and meaning in their work.

The five interviewees with the lowest executive function were all in junior, follower roles. Four of the five disclosed previous diagnoses of anxiety and/or depression.

The Dean of a post-secondary institution demonstrated the use of sense-making and reframing in the context of resistance to COVID-19-driven organizational changes by a number of her staff:

“We are repurposing and rebranding, moving away from traditional energy to renewable energy, and having a lot of conversations about how we can support that shift.”

The CEO of a distance education services provider on reframing the disruption associated with the pandemic so that his organization could use it to improve enhance their services:

“Due to COVID-19 we were able to dramatically improve and streamline the way we help students to engage with stakeholders online. Every single one of the disruptions has enabled us to accelerate steps toward greater self-efficacy.”

***Finding 12:*** Coping is perhaps the sine qua non of resilience. The most effective copers in this study were motivated by approach behaviours, rather than avoidance behaviours. They used their executive functions to develop adaptive plans and solutions that faced challenges head-on. For problems that were insurmountable given the situation and resources available, they used reappraisal techniques to reframe problems, which enabled their organizations to pivot and frequently leverage adversity situations to their advantage.

This approach had the added benefit of keeping their followers engaged in constructive, goal-directed efforts, that strengthened their organizational commitment.

The most effective copers in leadership roles capitalized on the pandemic-derived opportunities as developmental vehicles for staff, and as a way to identify potential leadership candidates based on their response to the COVID-driven challenges.

A manager of multiple residential group homes demonstrating team perseverance:

We have a situation right now where a residential manager resigned a couple of weeks ago. So, we have a gap, ... a huge gap. So, I say, ‘everybody, again, we need to pull together everyone, ... what can we do? What can you add? You know, even if it’s one piece?’ And then, how do we get through that? So, you know, they’re there. Our team is good at it. And also respecting the fact that they have enough on their plate. And then, to add more, we understand that’s a huge ask.

A twenty-something, precariously employed contract worker on his newfound appreciation for resilience:

I've taken in how important resiliency is... because life changes, it throws things at you. So, you can't always just live where you're most comfortable or do what you're most comfortable with. You've got to learn to roll with the punches and deal with disruption, and so I think that this time I wasn't prepared.

The spirit of resilience, as manifested by the Lead Pastor of a faith-based organization, in his organization's ability to not only cope with the pandemic's adversity but to emerge stronger from the test:

"... that's the whole idea of this suffering and this difficulty, this disruption, being the seed of development, the seed of hope and change in you. Seeing it as a positive opportunity to change"

### **Optimism**

***Finding 13:*** COVID-19 has conferred unprecedented challenges that have taxed the positive outlook of even the most ardent optimists; however, most interviewees were still able to find silver linings that allowed them to remain optimistic about their post-COVID-19 futures.

A Vice-President of an economic development agency discussed the organization's employees' perspective on their role in influencing their collective futures:

[COVID-19] has created this attitude that we're all responsible for creating the culture that we want, and we're all responsible for bringing ideas forward for championing the activities and the things that will lead to transformative change ... so it's challenged all of us to be deeply engaged.

The CEO of a social services provider demonstrating an active choice of positive future attribution:

“We all know that difficult situations and difficult times can bring out the best and the worst, and we’ve tried to leverage the best and move it into the organization as the new normal”

The Lead Pastor of a faith-based organization speaking about his future expectations:

I’m afraid I might be a little bit over-optimistic, but that’s in my nature. This [COVID-19] isn’t going to end soon, and so I’m going to continue to walk this journey...to where I’d like to see us go. We have big dreams.

***Finding 14:*** Interviewees who anticipated a positive outcome post-COVID-19 demonstrated higher levels of perceived sense of purpose and meaning they derived during the pandemic.

Individuals with a strong belief in a positive post-pandemic outcome were more opportunistic in pursuit of their goals while still experiencing its disruptive effects.

These individuals were predominantly in senior roles and had experienced considerable prior organizational success, coupled with significant life experience on which to predicate their positive expectations of a beneficial outcome.

A long-term manager of multiple residential group homes on her faith in the future:

There’s such a wide variety of emotions that can happen on any given day pre-pandemic, and so I think that’s where my years of experience come into it. I know we’ll get through this and that, in the end, it will all be good.

***Finding 15:*** All but one of the interviewees were able to provide examples of drawing on their ability to influence, if not control, events to their benefit. The vast majority remained steadfast in their belief that ultimately good outcomes would prevail.

A large variance in Personal Influence Belief scores was noted between interviewees with the highest scores versus the lowest. The gap of 4.0 points on a scale of 1 – 10 was the largest noted of all eight Inferred Psychological Capital factors.

Individuals with the highest scores appeared confident in their ability to positively influence events to their benefit, whereas interviewees with the lowest scores displayed self-doubt. As with earlier findings, individuals in more senior roles with greater work and life experience, and with more resources at their disposal tended to exhibit higher confidence in their ability to impact outcomes.

The general manager of an oilfield service supply company reflected on taking control of his future:

I really think I'm the one responsible for my future. I take on that responsibility, I don't expect anyone else to. I want to be the one influencing or shaping that, and I don't want to leave it in the hands of others because, I might not like what they have in mind for me.

### **Overall Psychological Capital Theme Findings**

***Finding 16:*** The interviews demonstrate the application, variability, and importance of psychological capital in organizational settings during the disruption of the COVID-19 pandemic from March 2020 to October 2021.

*Bloodied...but unbowed (Invictus, William Ernest Henley)*

Although each of the study's participants described experiencing significant adverse effects during this time due to the disruption, the vast majority were able to draw on their psychological capital reserves of hope, self-efficacy, resilience, and optimism in order to function effectively in their organizational, and frequently, in their personal lives. In more than a few cases, participants described an increased sense of meaning and purpose during the pandemic, heightened confidence in their self-efficacy and more positive attributions of future success.

Interviewees with higher psychological capital scores coped more effectively with the pandemic's adversity than did those with comparatively lower scores. Their attitude and affect were consistently more positive and their superior executive functions allowed them to respond more effectively to the multiple challenges presented.

Many of the interviewees described feelings of increased self-efficacy based on the recognition of their ability to not only survive the pandemic, but to grow and discover newfound confidence that will serve them well during future adversity in a VUCA world.

## **Discussion & Interpretation**

### **Introduction**

The findings provided in the previous section explicate the lived experience of the manager-leaders and their followers during the first 15 - 20 months of the COVID-19 pandemic, i.e., the “how” and “what” of the disruption.

This section seeks to comprehend the meaning associated with the disruption and how it affected the “why” as we seek to understand the pandemic’s impact on individuals and their organizations and possible underlying mechanisms.

The first theme of the Interpretation section addresses “The Effects of Disruption.” This examination of the impact of the COVID-19 pandemic will rely primarily on the theoretical framework provided by Hobfoll’s Conservation of Resources Theory, a motivational theory that helps explain how significant life stresses involving threats of loss, such as the pandemic, affect individuals in organizational settings (Hobfoll, 1989; Hobfoll et al., 2018).

### **Theoretical Lenses**

The interpretation of the pandemic’s disruption on manager-leaders and their followers utilizes several models and theories to facilitate an understanding of its genesis, progression and effects.

### **Conservation of Resources Theory**

Conservation of Resources Theory is a motivational theory developed to help understand how major life stresses involving objective elements of threat and loss influence and affect individuals who share a culture or workplace. It has been utilized frequently to help comprehend

the dynamics of workplace situations, such as healthcare settings, where burnout and resource depletion are highly problematic and commonplace (Hobfoll, 2011).

Conservation of Resources Theory is well suited for helping understand how individuals and organizations were affected by and responded to the COVID-19 pandemic. After more than three years of unrelenting demands on both individual and collective resources, many individuals, organizations and societies have experienced ongoing resource depletion that threatened their well-being.

### **Relational Developmental Systems Theory**

The mutually influencing, ↔ bidirectional relationship between individuals and their environment affects, and is affected by, the exchanges that occur between them (Lerner, 2006b).

An individual's environment and circumstances influence their psychological capital, while their psychological capital influences their circumstances and environment. In the context of this study, the primary aspect of environmental focus and circumstance is the interviewee's organizational setting, although their home life, social network, and broader connections to their community also exert significant influence.

The interpersonal relationship of particular significance to this study, constituting a crucial aspect of the interviewees' environment, is the one between the manager-leaders and their followers. Other interpersonal relationships, such as with co-workers, family, and friends, may also have played a significant part in influencing interviewee psychological capital during the pandemic.



### **Psychological Capital Theory**

One of the critical attributes individuals depend on for the acquiring and retaining desired resources is their psychological capital. Psychological capital is an individual's positive state of development comprised of the four first-order constructs of hope, self-efficacy, resilience, and optimism (Luthans & Youssef, 2004). These attributes are essential for individuals experiencing prolonged stressful situations, such as the disruption associated with the COVID-19 pandemic. Psychological capital has been strongly correlated to numerous desirable outcomes in organizational settings and will be examined in greater detail in Theme 2 of this paper.

The above theories will help explain the experience of the COVID-19 disruption on the interviewed manager-leaders and their followers, as well as the meaning associated with this monumental event.

### **Theme 1: The Disruptive Effects of the COVID-19 Pandemic**

While the broader effects of the COVID-19 pandemic affect every individual alive today, this study focuses on the disruptive effects on manager-leaders and their followers currently working in organizational settings in Canada.

The primary focus is the disruptive effects on the psychological capital of the manager-leaders and their followers.

Individual, in-depth interviews of approximately one hour each were conducted with the twenty-one study participants between June and October 2021, beginning approximately 15 months after the World Health Organization declared the COVID-19 pandemic.

## **Understanding the Interview Findings**

All interviewees participating in this study related their feelings of having their personal and professional lives disrupted in ways they had not previously experienced. A substantial majority (17 of 21 interviewees) related adverse effects on multiple aspects of their well-being due to the COVID-19 pandemic, although no interviewee disclosed having been infected by the SARS-CoV-2 virus.

These included:

- Cognitive effects such as the reduced ability to focus or concentrate, diminished creativity and experiencing COVID-related “fog.”
- Physical effects such as fatigue, exhaustion, and unwanted weight gain
- Emotional effects such as anxiety, increased alcohol consumption, irritability, and, for four interviewees, depression
- Social effects such as restricted physical access to extended family members and diminished personal relationships with friends and colleagues

## **“Working From Home” Goes Mainstream**

The perceived impact of working from home (WFH) for the 16 of 21 study participants required to do so during the pandemic was mixed. Due to the nature of their work, five of the 21 interviewees did not relocate their offices and continued working from the same location they resided in before the pandemic.

The 16 interviewees who were mandated to relocate to home offices related various challenges associated with transferring their work site from well-equipped office environments

shared with colleagues to work in isolated, often makeshift conditions. The experience of working in a home environment ranged from enjoyable and highly productive to isolating and lonely, to unproductive and occasionally mildly chaotic. Chaotic environments were most prevalent for interviewees required to provide child care and educational support.

Of the 16 individuals relocated to home offices, one-half worked in a communal space shared with their partners and children and, not infrequently, pets. These home-work environments were typically ad hoc arrangements, frequently described as hectic and sometimes chaotic due to competing work and school schedules, often with limited private space to work or study.

### *Home Sweet Home?*

Participants were divided on their feelings regarding working from home. Of the 16 WFH participants, five described the new arrangement as predominantly positive, primarily due to not having to endure the commute to their previous places of work. Several interviewees advised that not having to commute saved them from 1 – 3 hours per day.

Four of the five interviewees who applauded the WFH arrangement were working women with school-aged children. These women related improvements in their relationships and feeling less harried than when required to attend in a conventional office setting. This was not, however, an unalloyed opinion as the stress associated with having to attend to young children as both a mother and a teacher began to chafe as the weeks of virtual/home-schooling turned into months.

The other individual who felt positively about working from home was a self-described introvert who disliked what she perceived as the continuous disruption of colleagues dropping

into her office uninvited and distracting her from her work. She believed her productivity improved significantly during the pandemic.

### *Not So Much...*

Almost one-half of the interviewees (10 of 21) described having negative feelings about working from home. Some related feeling unsettled, citing the inconvenience of being dislocated from their normal work environment, access to organizational supports, and office routine. The negative perception was most pronounced regarding the physical and consequent psychological separation from colleagues.

### *Cultural Disaggregation*

The impact of losing the deeper personal connection to co-worker colleagues that was associated with face-to-face, in-person communication was the most frequently cited drawback of working from home. Terms such as “cultural disaggregation” and “culture loss” were mentioned as perceived consequences of being physically distant from colleagues for months and now years.

Some interviewees initially revelled in their newfound freedom from onerous commutes, exercising more control over their work schedules and enjoying serendipitous benefits such as being able to do their laundry while at work! Unfortunately, this glow did not last for some who soon experienced working from home as isolating.

### *The Boss's Perspective*

The concern regarding the effects of many, sometimes all, of an organization's staff working remotely for an extended period was most frequently expressed during the manager-

leader interviews. Regardless of their feelings about the personal benefit they experienced from working remotely, most manager-leaders expressed apprehension about the possible negative impact of remote work on interpersonal relationships, team cohesiveness, creativity, innovation capability and esprit de corps.

They also worried about the effect of hiring and onboarding people virtually without having met job candidates in person. Several manager-leaders and followers referred to having experienced this situation during the pandemic. They were unanimous in describing it negatively compared to their prior experience of hiring or being hired and onboarded in person. Many of the interviewees expressed concern about how this necessary but undesirable practice would impact the new employees' indoctrination and acceptance into the organization.

### ***Communication Aggravation***

One of the most organizationally and culturally significant consequences of working remotely during the pandemic was the near-ubiquitous adoption of video-based conferencing applications such as Zoom, MS Teams, or Google Meet and its effect on many of their users.

Participants reported spending hours on-screen daily, and while this enabled them and their organizations to support better working from home, most participants considered video conferencing a poor substitute for face-to-face interactions with their colleagues, customers, and clients. Over time, many have come to dread participating in the inevitable and unavoidable "Zoom meetings".

### ***"Death by Zoom"***

After more than three years of communicating and attending virtual meetings, the terms "Death by Zoom", and "Zoom Fatigue" have entered the lexicon as descriptors of the tiredness

and burnout associated with the overuse of videoconferencing technologies (Ramachadran, 2021). Video conferencing has necessitated learning how to connect with, communicate meaning and understand colleagues via a medium that seems unnatural and unnerving to many.

Seeing one's face on a computer monitor daily, sometimes for hours, is fatiguing for many. The cognitive load required to communicate effectively via video conferencing is greater than during face-to-face communication. Videoconferencing requires compensatory measures to convey the meaning of subtle facial expressions and gestures that are second nature with in-person communication (Ramachandran, 2021).

One interviewee somewhat facetiously lamented the loss of the ability to kick a colleague under the table during labour negotiation meetings if they were about to give the store away. In response to the stresses experienced by many, often due to feeling the need to "perform" while on camera, some individuals turned off the video and relied solely on audio to reduce their stress level.

A 2021 study found that women were more negatively affected by video conferencing than men, primarily due to the greater mirror anxiety they experience when viewing themselves on screen, as well as the unsettling feeling that they were being stared at by others, i.e., the hyper-gaze effect (Fauville et al., 2021). While it is evident that working from home necessitated the widespread adoption of video conferencing technology, it is also apparent that it has been a source of increased stress for many, particularly women.

The discovery of "Zoom fatigue," while interesting from the technological and organizational perspectives, is illustrative of a more important sociological insight regarding the COVID-19 pandemic that its effects have not been felt equally in organizations or in societies.

### *Disruption & Gender*

There is mounting evidence that the COVID-19 pandemic has more negatively affected women, minorities and people with disabilities than men (Carli, 2020; Erickson, 2020; OECD, 2020). From higher unemployment rates, often associated with women's greater representation in the service industries, which were hardest hit by the pandemic, to bearing a larger share of the caregiver role in most families, the disruptive effects of the COVID-19 pandemic have proven especially difficult for women.

A Mayo Clinic study found that more women than men suffer from the long-term effects of COVID-19, especially greater fatigue and muscle pain (Mayo Clinic, 2023). This study's data support the evidence that women have been more negatively impacted than men by the COVID-19 pandemic.

In this study, women represented almost one-half of the participants, 10 of 21 interviewees. All ten women were working full-time; seven of them had children, and four of these seven had school-aged children at home (three were childless). A careful review of the interview transcripts revealed that all seven women with children referred to them multiple times during their interviews. In contrast only two of the 11 male participants made mention of children.

It should be noted that the information regarding children emerged spontaneously as part of the interviewee's discussion of their particular context. I did not explicitly inquire about the participants' children. Consequently, data regarding the number of children of the male interviewees is limited to the two individuals who made specific reference to them during the interview.

### ***On the Tightrope***

All four women with school-aged children while working from home spoke of the challenges associated with trying to achieve work-life and personal balance. Torn between caring for their families, including providing their children with what they perceived as additional educational support required due to the inadequacies of virtual schooling, engaging their children in constructive activities and keeping them entertained while attempting to remain productive in their professional spheres frequently proved arduous and stressful. Only one of the four women cited receiving significant support from their male partners, as evidenced by sharing responsibilities for looking after the children and allowing dedicated time for the mother to work and to occasionally relax.

While not conclusive evidence of the disproportionate responsibility borne by women during the pandemic, the study's findings mirror those of extant research. They also speak to the difficulty of achieving adequate self-care necessary to persevere through a protracted disruption, particularly for women.

### ***Every Disruptive Cloud...***

Four interviewees reported being less negatively affected than the other 17 interviewees during the pandemic. Of these four, two were self-described introverts who preferred working alone. Although they, too, found aspects of the pandemic disruptive, e.g., reduced ability to travel internationally, they reported experiencing much higher levels of personal productivity compared to pre-COVID-19 and to the other study participants. They attributed this increased productivity to their ability to maintain uninterrupted focus and concentration while avoiding excessive and unproductive social interactions with their peers.



*“A Crisis is a Terrible Thing to Waste” Paul Romer*

Two other interviewees related their experiences of thriving during the pandemic. Both were the CEOs of their respective organizations, who were seasoned leaders with significant work and life experience and blessed with stable, supportive work and home lives. Each was confident and comfortable in their CEO role and reported having the complete support of their Board of Directors.

These two executives perceived the COVID-19 pandemic as a catalyst to enact significant organizational change. They seized the opportunity to leverage the crisis to increase staff commitment to and engagement with their organization’s mission. Through skillful reframing of the circumstances of the pandemic, they successfully implemented transformational changes that both believe will position their organizations for increased future success.

While the circumstances during the pandemic may have been exceptionally fortuitous, these two individuals nonetheless demonstrated the confidence, courage and clarity of purpose necessary to transform an existential crisis into an exceptional opportunity for organizational growth. Their behaviour exemplified transformational leadership.

The circumstances described above are illustrative of two noteworthy aspects of the COVID-19 pandemic:

- 1) while all participants perceived the pandemic as predominately negative, there were nonetheless positive outcomes reported by interviewees
- 2) context counts: The individual and organizational context in which the participants found themselves during the pandemic influenced their lived experience significantly

***“Only in the Darkness Can You See the Stars” Martin Luther King***

All 21 of the interviewees related that the pandemic disrupted their lives on multiple levels. In many cases, the disruption was profoundly felt and continued to be felt 15 months after the pandemic’s initial shock.

The interviewees reported the effects of the pandemic as predominately negative. These included the impact on individuals’ physical, mental and emotional well-being, diminished personal relationships at work, reduced social interactions due to remote work and physical distancing mandates, deferred business and professional opportunities, and increased levels of stress attempting to address unique challenges with dwindling resources. However, as illustrated in the examples above, not all of the study participants’ experiences of the pandemic were negative.

For the vast majority of the interviewees, some good has come from their pandemic experience. Nineteen of 21 interviewees related at least one significant positive result they attributed to the pandemic, primarily associated with developing a renewed sense of purpose and meaning in their work and personal lives, improved relationships with people important to them, and developing greater empathy and compassion for others.

Consistent with the Conservation of Resources theory, more than one-half of the interviewees disclosed rethinking their career goals or current employment arrangements.

Seven of these individuals were actively upgrading their credentials to better prepare themselves for new opportunities that better fit their pandemic-inspired personal visions.

Ten of the 21 interviewees experienced significant work-related changes that pre-dated the arrival of the pandemic, including organizational revamping and downsizing initiatives,

which included moving to a new job for five. These concurrent personal disruptions exacerbated the effects of the pandemic and created additional unwelcome stress for most.

### ***Disruption Upon Disruption...***

As discussed earlier in this study, we live in an ever-more VUCA world (Volatile, Uncertain, Complex, and Ambiguous). Global interconnectedness, perhaps best exemplified by the worldwide web, has proliferated over the past few decades to a level that would have astounded our grandparents. The benefits of this interconnectedness have been many, but there are also significant costs associated with the increased interdependence it has engendered.

The disruption associated with the COVID-19 pandemic has both exposed and exacerbated the inherent flaws in what many now perceive as an over-reliance on foreign sources of materiel critical to the functioning of our economy and society. A particularly telling example was the shortage of computer chips that threatened the viability of entire industries, from the auto sector to video game makers to refrigerator manufacturers, for months during the pandemic. Computer chip shortages responsible for idling manufacturing facilities were attributed to a combination of rapidly increasing demand, geopolitics, trade embargoes, weather interruptions, and in March 2021, a massive fire at the plant of a critical chip supplier in Japan (Brearton, 2021). The COVID-19 pandemic has amplified the pre-existing volatility and uncertainty caused by the complexities of supply chains.

### **In it for the long haul...**

The term “long COVID” aka “long-haul COVID, post-acute COVID-19, post-acute sequelae of SARS CoV-2 infection (PASC), long-term effects of COVID, and chronic COVID” (CDC,

2022) has entered humanity's lexicon and will no doubt become more familiar to us than anyone would prefer.

After more than three years of global infection, the longer-term effects on survivors are just beginning to be quantified and understood. The list of commonly experienced symptoms compiled by the U.S. Department of Health & Human Services is extensive but far from exhaustive based on the disease's ability to affect multiple body systems and organs, including the heart, lungs, kidneys, skin, and brain (HHS, 2022). COVID-19's effects may include lingering emotional illness and other mental health conditions (Mayo Clinic, 2023).

While defined as a physiological condition, COVID-19 has, since July 2021, been legally enshrined in the "Americans with Disabilities Act" as both a physical and mental impairment (Health & Human Services, 2021).

### ***Not "One and Done"***

One of the problematic and dangerous consequences of the virus's ability to continually mutate is the opportunity for repeated infections, in some cases only weeks after recovering from a previous infection. Evidence is emerging that suggests that repeated infections may have a cumulative negative impact on individuals however, the full impact of contracting multiple variants of the SARS-COV-2 virus may not be apparent for years (Mayo Clinic, 2023).

### ***A Beast of a Burden***

Preliminary data indicate that long-COVID symptoms have been experienced six months post-COVID infection in more than 30% of people who were hospitalized for treatment (CDC, 2022). A comprehensive study of long-term COVID-19 effects conducted by the U.S. Veterans Administration estimates that patients face a 42% increased risk of developing neurological

sequelae in the year after infection, including stroke, cognition and memory disorders and peripheral nervous system deficits, even among those experiencing mild COVID-19 symptoms who did not require hospitalization (Xu et al., 2022).

A 2022 study from Brazil has revealed that the SARS Co-V-2 virus can penetrate the blood-brain barrier and infect brain cells, potentially resulting in alterations in the structure of the cortex, the area of the brain involved in memory, learning, reasoning and consciousness, as well as affecting the central nervous system itself (Henderson, 2022).

A recent meta-analysis of 48 studies found that almost 1 in 3 COVID-19 patients developed delirium as a result of their infection. This rises to 1 out of 2 patients in ICUs, with a consequent 3-fold increase in mortality compared to patients without delirium (Shao et al., 2021).

Perhaps most alarming is a study's finding that the risk of memory and cognitive disorders and other neurological impairments is stronger in younger adults; the study authors state, "the effects of these disorders on younger lives are profound and cannot be overstated" (Xu et al., 2022, p. 8).

In the first six months of 2022, the Omicron variant alone infected between nine million (Unity Health, 2022) and 17 million Canadians (COVID-19 Immunity Task Force, 2022). Effectively, the number of Canadian citizens who have contracted COVID-19 increased from 5.4% of the population prior to the onset of Omicron in November 2021 to 79% of the country's citizens in June 2022 (COVID-19 Immunity Task Force, 2023).

The U.S. Centers for Disease Control reported that from August 2020 to September 2022, more than 5.3 million Americans were hospitalized for treatment of COVID-19 (CDC, 2022),

with almost 100 million infected to that date. The burden on hospitals and their staff, especially in emergency departments and ICUs, is sobering.

Xu et al. (2022) estimated that the excess burden on the U.S. healthcare system at more than 70 patients per 1,000 over and above the non-COVID-19 burden represented a 7% increase attributable to COVID-19 alone. The chronic and complex nature of many of these post-COVID-19 conditions suggests that many patients will continue to draw on the depleted resources of the healthcare system, possibly for years and, in some cases, for the rest of their lives.

The potential effect on the employment and personal well-being of tens of millions of individuals and their families is staggering. While the organizational impacts and costs for society are incalculable, these data suggest that COVID-19's health effects will afflict humanity for years to come in ways we have yet to comprehend fully.

### ***Tired, Reluctant, Confused...***

The vast majority of Canadian society participated in public vaccination programs, with greater than 90% of individuals over the age of 12 having received at least the primary series of vaccinations (Government of Canada, 2022). However, the uptake of booster vaccines has been lacklustre. As of September 2023, nearly 40% of people over the age of five have received no booster shots (Canada, 2023).

Similar numbers prevail in the U.S., where almost one-half of people eligible for a vaccine booster have not received it. More than a month after introducing the newest booster vaccines intended to ward off the virus during the impending flu season, fewer than 8 million of 200 million eligible citizens had yet to get them (Stein, 2022).

***In God We Trust; Government, Not So Much...***

The twin challenges of “vaccine hesitancy” and “vaccination fatigue” pose potentially significant risks to increasing population immunity to the SARS-CoV-2 virus.

Vaccine hesitancy is an individual’s concern about the vaccine's short and long-term safety or mistrust in governments and health authorities (Davis, 2022).

Vaccine fatigue is “people’s inertia or inaction towards vaccine information or instruction due to perceived burden and burnout” (Su et al., 2021, p. 1).

Both of these effects are real and potentially damaging at both the individual and collective levels. However, after 3-plus years of living with the pandemic and the multiple restrictions on people’s lives imposed to attempt to keep us safe, most people are just plain weary of the entire business. However, to paraphrase Leon Trotsky, “you may no longer be interested in COVID, but COVID is still interested in you”.

Individual and collective immunity is influenced by both the virus’s behaviour and humanity’s reactive and proactive actions, or lack of the same. As with all viral diseases (save Smallpox), once established, these viruses become permanent if unwelcome residents. Unfortunately, the Sars-CoV-2 virus is here to stay. Its effects not only impact us today; they will continue to adversely affect many millions of us into the foreseeable future.

**Long-Term COVID and Long-Term Disruption...Political and Societal Consequences**

As the health effects of “long COVID” begin to erupt with potentially significant long-term impacts on millions of individuals worldwide, the pandemic's political and societal consequences are already being felt.

Canada experienced massive job losses attributable to the closure of many businesses or reduced capacity limits in high-contact settings such as restaurants, bars, and gyms, as these organizations complied with public health mandates. In the three months between February and April 2020, almost 3 million Canadians became unemployed. Almost all of these losses were recouped by January 2022 before dipping again due to the effect of the highly infectious Omicron variant (Statistics Canada, 2022).

Despite the fact that the job market remains very tight, uncertainty about the stability of the economy in the face of the highest rate of inflation in four decades is sure to be preying on the minds of many people, especially the precariously employed who also tend to be disproportionately female and younger workers, as well as racialized persons, immigrants, Indigenous persons, persons with disabilities and older adults (Fong, 2018).

### ***Depressing Statistics***

The disruption associated with losing one's employment while concurrently dealing with the stresses of a pandemic has resulted in staggering increases in anxiety and depression in individuals worldwide. The World Health Organization estimates that global anxiety and depression increased by 25% during the pandemic. This effect is particularly pronounced in women and young people (ages 20 -24) who are more predisposed to suffer from these conditions than men (WHO, 2022). Perhaps not coincidentally, younger people and women were disproportionately affected by job loss during the pandemic. This may also be attributable to the fact that more women and younger people tend to work in service-oriented roles than men, which were particularly hard hit by mandatory closures and layoffs (Grekou & Lu, 2022).



The issues around mental health have been worsened by severely reduced access to critical outpatient services during the period 2020 - 2021 (the most recent period for which data is available). As with many services during the pandemic, efforts have been made to respond to the disruption in clinical care by delivering it remotely; however, it needs to be clarified how the efficacy of treatment may be affected by this change in delivery mode.

It is known that individuals with mental disorders were more likely to be hospitalized due to COVID-19, suffer more severely from it, and have an increased risk of death. Again, these risks were greater for the young, which is a depressing thought in its own right (WHO, 2022).

### ***Government to the Rescue***

Temporary government programs such as the Canada Emergency Response Benefit (CERB), the Canada Workers Benefit (CWB), and the Canada Recovery Benefit (CRB) for the self-employed were implemented to provide financial support to individual workers, while businesses were offered support for employee wages and property rental costs.

The costs of the various programs and initiatives required to respond to the COVID-19 pandemic are extraordinary; a combined deficit for the fiscal years of 2020/21 and 2021/22 of almost \$475 Billion (Hill & Fuss, 2022). Notwithstanding the necessity of providing support to Canadian workers and businesses during the single most disruptive event since the Second World War, the economic cost of doing so will be borne by the population for years to come. Difficult programmatic and budget decisions will likely face future governments as they grapple with the economic disruption and fallout of the pandemic.

Might the pandemic influence society's belief in and support for public institutions and the political system? According to various public opinion surveys, the answer seems to be "yes".

A study published by the Pew Research Centre in February 2022 found that the American public's confidence in medical scientists, scientists, and elected officials to act in the public's best interest has declined significantly since November 2020 (Kennedy et al., 2022). A study published in JAMA in July 2022 revealed that from November 2020 to July 2021, the percentage of Americans surveyed who believed that harassing public health officials because of business closures was justified increased by 25% (Topazian et al., 2022).

In Canada, trust in these same professions has also eroded, but less than in the U.S. (MacLellan & Eaton, 2022). The difference in relative levels of trust between the two countries may be attributable in part to the significantly increased political polarization observed in the U.S. even prior to the emergence of COVID-19. However, Canada is also exhibiting greater political polarization, which appears to have been exacerbated during the pandemic.

Politicians, in particular, seem to have suffered the biggest erosion of trust during COVID-19, perhaps due to the difficult task of trying to balance public health issues against the interests of business, the economy and the general public's increasing resistance to restrictions on their freedoms, not to mention their re-election prospects (MacLellan & Eaton, 2022).

In September 2022, The Lancet COVID-19 Commission published "a scathing report" on the World Health Organization's response to the pandemic (CMAJ, 2022, p. 1), describing it as "a massive global failure" (The Lancet COVID Commission, 2022, p. 1)

Public mistrust may have been due in part to a lack of perceived transparency as governments discontinued mass testing for COVID-19 infection, thereby making it more difficult to gauge the trajectory of the disease and assess the efficacy of governmental actions. Reducing isolation requirements while the prevalence of both infections and hospitalizations was

increasing, as was the case during the Omicron wave in early 2022, may have also eroded confidence in the judgment of public officials (CMAJ, 2022).

Indeed, public trust was not reassured when the then-President of the United States of America proclaimed, as he did on the September 18, 2022, broadcast of CBS's 60 Minutes, "The pandemic is over... If you notice, no one is wearing masks. Everybody seems to be in pretty good shape." Two months later, the JAMA Network reported that the United States "continued to experience significantly higher COVID-19 and excess all-cause mortality compared with peer countries during 2021 and early 2022" (Bilinski et al., 2022).

## **Conclusion**

We must continue to research the mechanisms and multiple effects of the SARS-CoV-2 virus in order to combat it. As yet, there is minimal knowledge of the longer-term health and sociological impacts of the disease. However, new studies being published weekly are shedding light on what has happened and what might be improved to better protect against and respond to future pandemics.

Unfortunately, the SARS-CoV-2 virus is very adept at mutating into new forms that are capable of eluding the protective effects of vaccinations and immunity gained through exposure to early variants. The Omicron variant alone has 26 unique mutations, far more than earlier versions of the SARS-CoV-2 virus (Katella, 2022). Achieving herd immunity from a virus that changes sufficiently to deceive our natural immune functions and the most modern vaccinations science has produced to date makes this unlikely (Mayo Clinic, 2022).

After more than three years of combatting COVID-19, it is apparent that we are not fighting a battle but a war of attrition. The likely outcome is a stalemate, hopefully one that

allows us to live with the SARS-CoV-2 virus much as we do with the hundreds of previous viruses capable of infecting humans.

The massive disruption that the COVID-19 pandemic produced wrought profound consequences for individuals, organizations and society. While we can not yet know what state of accommodation ultimately will be achieved with the disease, to improve the probability of achieving a successful outcome, we must continue to develop and draw on our individual and collective efficacy, creativity, resilience, adaptability, and optimism, all of which have been challenged during the COVID-19 pandemic.

These attributes influence our individual and collective responses to the COVID-19 pandemic. How the disruption has impacted them will be examined in Theme 2 of this report.

### **COVID Coda**

In the larger sense, what have we learned from the COVID-19 pandemic disruption that may inform how we anticipate and prepare for future disruptions, whether environmental, technological, economic, political, or something beyond our comprehension?

The answer to this question is beyond the scope of this study; however, The Lancet COVID-19 Commission (2022) provides some intelligence about the obvious failures of how we have dealt with the COVID-19 pandemic, which may prove instructive for future disruptions, potentially affecting humanity as a whole.

The shortcomings identified by the Commission's report included failures in preparation, rationality, transparency, cooperation and solidarity. These were exacerbated by slow governmental responses, ignoring the most vulnerable citizens, which worsened and extended

the pandemic, and widespread public distrust coupled with “an epidemic of misinformation” (The Lancet COVID-19 Commission, 2022, p. 1).

While some of these shortcomings may be particular to the COVID-19 pandemic, it is possible to envision most as entirely applicable to future disruptions.

With all due respect to George Santayana, it is not enough to remember the past in order to avoid repeating it. We must examine it closely and apply the learnings we find there to better prepare for future disruptions.

## **Interpretation of Theme 2: The Effects of the COVID-19 Disruption on Psychological Capital**

### **Introduction**

This section examines the effects of the COVID-19 pandemic disruption on the psychological capital of manager-leaders and their followers by answering the following questions:

- Can differences in psychological capital, including fundamental motivations such as an individual's sense of purpose and meaning in their work, help explain the variation in interviewees' experience of the COVID-19 pandemic?
- What role might other factors, such as personal and organizational contexts, play in dealing with disruption?

The interpretation of the effects of the pandemic on the psychological capital of the interviewees in this study involves deconstructing the four first-order constructs of hope, self-efficacy, resilience, and optimism, into their underlying factors. These will then be used to identify and explicate the variations in the interviewees' related experiences based on an analysis of interview transcripts.

The interpretations of these experiences during the pandemic will be supported by the Inferred Psychological Capital (IPC) Score, found in Appendices E - L. Please refer to the document "Methodology for the Inferred Psychological Capital Score", (Appendix N), for an explanation of the Inferred Psychological Capital Score's development process and application.

Luthan's (2004) "Psychological Capital Theory", Hobfoll's "Conservation of Resources Theory" (Hobfoll et al., 2018), and Developmental Systems Theory (Lerner et al., 2006) provide theoretical support at the micro and macro levels of analysis.

### **The Resource Caravan**

Resources such as the HERO constructs are vitally important for individuals, organizations, and society because they support goal achievement (Hobfoll et al., 2018). Defined as "a source of supply or support; something to which one has recourse in difficulty" (Merriam-Webster, 2022), resources are imperative for achievement.

Hobfoll et al., (2018, p.107) asserted that "resources do not exist individually, but travel in packs, or caravans, for both individuals and organizations.". This phenomenon is observed with the HERO constructs, which have repeatedly demonstrated high convergent and discriminant validity in support of psychological capital as a second-order construct.

Finally, resources must be sufficiently abundant to realize desired objectives; without adequate levels of necessary resources, individual, organizational, and societal aspirations are unattainable.

### **Resource Development & Conservation**

Hobfoll's Conservation of Resources Theory states that "individuals strive to obtain, retain, foster and protect those things they centrally value" (Hobfoll et al., 2018, p. 104), which include health, well-being, peace, family, self-preservation and a positive sense of self (Hobfoll, 2011, p. 117). Conservation of Resource Theory is a motivational theory that explains human beings' evolutionarily driven need to acquire and develop the resources required for survival,

which include personal strengths, material resources, energy, and social connections (Hobfoll et al., 2018).

Conservation of Resource Theory is most helpful in interpreting and understanding phenomena when integrated with more particular, micro-level theories such as psychological capital theory, where it is applied to a “given set of resources in a given context” (Hobfoll et al., 2018, p.113). The ecological context is critical to the growth of resources such as psychological capital since it either promotes or prevents the development of the individual and organizational assets necessary for success and survival.

### **Context Counts**

Resources are the consequence of cultivation within a nurturing ecology, typically families and/or organizations, but also within the broader culture. Resources are developed as well through learned adaptation based on lived experience (Hobfoll et al., 2018). Unfortunately, ecological influences, whether familial, organizational or cultural, can also inhibit resource development or even degrade resources if the ecology is dysfunctional or problematic.

A pertinent, pandemic-related example of the negative impact organizations can exert on individuals’ resources is demonstrated in the current state of the country’s hospitals. Many emergency departments and intensive care units are experiencing extraordinary capacity shortfalls attributable to acute and chronic staff shortages that threaten their ability to remain operational. In August 2022 alone, 14 hospitals in the Province of Ontario announced temporary closures of their emergency and intensive care units attributed to “exhausted and depleted nursing staff struggling to cope with a surge of patients with COVID-19” (Dyer, 2022, p. 378).



In the fall of 2021, less than six months after the start of the pandemic and in only the second wave of the viral infection, the working environment for many nurses was already so onerous that 1 in 4 expressed the intention to leave the profession within three years (StatsCan, 2021).

In fairness, the lack of adequate resources in the Canadian healthcare system has been a looming crisis for years. The COVID-19 pandemic may have brought the system to its tipping point, but the ecological influences that enabled its current critical condition are long-standing and intractable.

### ***A Pandemic Context***

Conservation of Resources theory is especially applicable during situations such as the COVID-19 pandemic, which are more accurately described as sequences of threatening challenges rather than single discrete events (Hobfoll et al., 2018). This distinction is important because the cumulative physiological and psychological strain on individual and collective resources associated with highly stressful environments for extended periods can induce allostatic overload, resulting in reduced health outcomes (Guidi et al., 2021).

The aggregated effect of repeating waves of infection extending over years is likely influencing the human race in ways currently beyond our comprehension. These could include long-term and even multi-generational psychological and physiological changes associated with epigenetic modifications (Ozturkler & Kalkan, 2022).

### *A Spiral of Defeatism*

The load on people's psychological capital resources rises during extended stressful circumstances. High-stress levels can significantly reduce an individual's ability to cope and respond effectively to disruption, triggering more stress and additional resource loss. Losing other important resources, such as intentional effort, morale, adaptability, and commitment, can initiate a downward spiral of defeatism.

When the stress increases to the point of allostatic overload and persist over time, serious negative physiological and psychological health outcome are also possible.

Consistent with research in behavioural economics (Kahneman & Tversky, 1979) and psychology (Baumeister et al., 2001), Conservation of Resource theory contends that resource losses are felt disproportionately to resource gains, i.e., they are more salient and have greater emotional impact on individuals than resource gains.

Resource losses often tend to shake people's confidence, such as might be experienced by an individual who is demoted or terminated from their job. An individual whose belief in their ability to succeed at a particular task has been diminished by failure is less likely to risk additional loss through further attempts, which, if unsuccessful, would further erode their confidence. This can lead to a vicious spiral, ultimately culminating in feelings of desperation (Hobfoll et al., 2018).

Individuals with greater resources are better able to withstand the effects of stress and disruption and to be less negatively affected by them. In comparison "those with fewer resources are more vulnerable to resource loss and less capable of resource gain" (Hobfoll, 2011, p. 117).

These individuals become especially vulnerable to the negative consequences associated with disruptions of longer duration since they do not have the same wherewithal to withstand extended stress as do individuals with greater means.

Individuals with fewer assets to draw on, including psychological capital resources, tend to be more negatively impacted and experience greater distress during adversity. Additionally, any loss of resources ‘is disproportionate in terms of not only degree, but also speed’ (Hobfoll, 2011, p. 117). This suggests that individuals with fewer resources, who may be experiencing greater baseline stress due to reduced circumstances, are even more susceptible to rapid collapse when adversity strikes.

### ***Desperation & Hopelessness***

Hobfoll states that when people’s resources are overstretched or exhausted, they enter a defensive mode to protect themselves. Depending on the severity, this may lead to aggressive or irrational behaviour, which he defined as the desperation principle. (Hobfoll et al., 2018).

The actions of some Canadian citizens who feared the loss of control over their livelihoods and personal freedoms during the COVID-19 pandemic exemplified the desperation principle. Adherents to the so-called “Freedom Convoy,” primarily truck drivers, perceived that the federal government had overreached itself by imposing public health-mandated vaccinations, masking requirements and lockdowns that were negatively impacting their employment and civil liberties.

In response to these restrictions, hundreds of trucks were driven to the nation’s capital. They also targeted international border crossings, and used to blockade public buildings and

impede international commerce for several weeks in an ultimately futile attempt to force the government to abandon its restrictive, albeit necessary, policies.

“Fear is a wonderful motivator, but a terrible advisor.” Gary Latham

The “Freedom Convoy” adherents perceived the federal government's actions as provocative, triggering rumination about their perceived loss of freedom. Consequently, the rumination, enhanced by continuous reinforcement and support from external sources, led to reduced self-control and increased aggression (Denson et al., 2011). The collective aggression of the “Freedom Convoy” manifested itself in an organized assault on the seat of government and at border crossings that required the combined resources of local, provincial and national police forces to quell.

In the grips of desperation, emotional regulation and rational thought become far more effortful. During the moments when cognitive resources are most required, they often seem to be the least available.

### ***Dumb & Dumber***

How effectively individuals and organizations employ their acquired resources in response to the stresses of disruption significantly influences the outcomes experienced by individuals, organizations and society.

Ample evidence exists describing the powerful negative impact on cognitive abilities when people are placed in highly stressful circumstances (Diamond, 2013). In a nutshell, the more stress people are under, the less clearly they think. Cognitive processes associated with emotional regulation, working memory, problem-solving, creativity, innovation and flexibility are all negatively impacted when stressed.

The effects of major stress are particularly pronounced when individuals and organizations find themselves in the midst of novel situations such as the COVID-19 pandemic. The executive functioning skills described above, on which all manager-leaders depend, are critical for adequately understanding and developing effective responses to unique circumstances. This is especially important when relying on instincts alone or employing previously successful solutions may be inappropriate.

In highly fluid, stressful circumstances where conditions are changing rapidly and when relying on prior knowledge may be of limited value or, in some cases, counterproductive, manager-leaders' ability to accurately grasp what is occurring is critical. Developing an effective solution first requires that one clearly and correctly understands the problem. This is especially necessary when circumstances are novel, unfamiliar, and changing rapidly.

### ***Sense & Sensibility***

A manager-leader's ability to make sense of what is occurring so that they understand it to the best of their ability is critical to developing possible solutions and recognizing potential opportunities. Having done so, effective manager-leaders help their followers make sense of the situation so that they have the necessary understanding to appreciate the nature of the challenges and what actions are possible to address them.

Making sense of the situation first for oneself as the manager-leader and subsequently helping one's followers achieve the same understanding with appropriate sensitivity is often the difference between working with a cohesive and engaged team or having two fights on one's hands instead of one.

### *The First Law of Holes...*

The most effective manager-leaders interviewed for this study consistently demonstrated the capacity to comprehend the continuously changing impact of the pandemic on their organizations. Subsequently, they helped their followers make sense of what was happening and what might be done collectively to meet their organizational objectives.

Based on this greater engagement and communication, the manager-leaders recognized early on in the pandemic that many of their organizations' existing policies, procedures, processes and occasionally systems, were insufficient to meet the rapidly shifting needs of their clients, employees and the communities they served.

Through continuous communication intended to reinforce the connection between the followers' individual sense of purpose and the organization's, the manager-leaders who demonstrated the greatest levels of effective adaptation and competence, provided genuine emotional and cognitive support for their followers during the early days of the pandemic, which were fraught with fear and uncertainty. What emerged for many employees was a strengthened, often refound sense of purpose and meaning in their work, and hope for the future.

It should be noted that not all followers recognized a renewed sense of purpose, leading to an increased sense of personal meaning in their work due to the pandemic. In more than a few cases, the opposite was true; some individuals, upon reflection, discovered that their sense of purpose and meaning was not to be fulfilled within their current organization and departed.

In June 2022, PricewaterhouseCoopers LLC surveyed more than 52,000 employees worldwide for their Global Workforce Hopes and Fears Survey 2022. Of the one in five workers who said they were extremely or very likely to change employers during 2022, more than seventy percent were 18 – 41 years old. Of these, two-thirds cited factors related to a lack of meaning and purpose for departing the organization (PwC, 2022).

### *Oh, Canada*

One of the unique aspects of the COVID-19 pandemic is that thousands of employee departures were driven by political, religious, medical or philosophical disagreement with public health mandates compelling workers to be vaccinated to continue working. This became a particularly fractious issue with workers in healthcare settings, where thousands of workers nationally either quit or were suspended without pay or terminated for refusing to provide proof of vaccination at a time when the healthcare system was under unprecedented strain.

While there is scant data as yet on the number of workers terminated or suspended due to non-compliance with vaccination or testing mandates, the federal government of Canada reported having placed 2,108 employees on unpaid administrative leave as of May 30, 2022, the date at which they suspended this policy (Canada, 2022).

Interviewees for this study indicated that because the vast majority of their employees were working from home during the pandemic, few departures due to COVID-19-related vaccination issues occurred; however, in several instances, employees who worked directly with patients/clients were terminated for non-compliance with the vaccine mandate.

### **Purpose, Meaning and Psychological Capital During COVID-19**

Many of the manager-leaders and followers interviewed for this study described experiencing a renewed connection to their sense of purpose and meaning at work due to the effects of the COVID-19 pandemic.

A process of mutual reinforcement between many interviewees' senses of purpose and meaning and the effective application of their psychological capital resources and other attributes enabled them to successfully confront the most stressful organizational and personal challenges of their careers.

More than three-quarters of the interviewees (16 of 21) described the effect of the pandemic on their sense of purpose and meaning (SoP/M) as either positive (12 of 21) or neutral (4 of 21). One-third of the interviewees (8 of 21) expressed having come through the first 18 months of the pandemic with renewed vigour and purpose at both the individual and organizational levels.

For a sizable minority (5 of 21), the benefits of COVID-19 are alloyed with personal and career struggles that have had profound negative impacts on their lives.

### **Interpretation of Sense of Purpose and Meaning Finding**

The findings of this study clearly indicate that the COVID-19 pandemic has disrupted the participants' personal, professional and organizational lives. For some, the effect has been modest, but for most, the pandemic has profoundly affected their lives.



As revealed in the discussion of Theme 1, “The Effects of Disruption,” while the pandemic’s impact on individuals and organizations has primarily been unfavourable, its effect on the sense of purpose and meaning people find in their work has not.

“ S/He who has a why to live can bear almost any how” Friedrich Nietzsche

Slightly more than one-half of participants (12 of 21) related that the “Sense of Purpose and Meaning” they derived from their work was impacted positively by the pandemic, four individuals characterized the effect of the pandemic on their sense of work-related purpose and meaning in neutral terms and five described having their sense of purpose and meaning negatively affected.

A sense of purpose in life is “a central component of well-being and refers to the extent that people see their lives as having meaning, a sense of direction, and goals” (Kim et al., 2022, p. 137).

Purpose in life refers to a propensity “to derive meaning from life’s experiences and possess a sense of intentionality and goal-directedness that guides behavior” (Schaefer et al., 2013, p. 3).

Since most people spend a considerable amount of their lives engaged in work, how they feel about that work, the sense of agency they experience, their goal orientation and the efforts they make to persevere and find alternative pathways to those goals when stymied are motivated by their sense of meaning and purpose. Whether individuals perceive their work as an affirming manifestation of their sense of purpose or construe it as invalidating can have a material impact on their broader sense of well-being.

In organizational life, finding meaning in one's work has become increasingly important to many workers, particularly those employed in post-industrial societies (Casey, 2012). Beyond earning a paycheck, people expect to have a greater number of their psychological, self-development, and social needs met through their employment. In short, work plays an important role in determining one's sense of well-being.

Having a clear sense of purpose, working with intentionality and finding meaning in one's chosen work, are all helpful in keeping people focused and committed to their goals and aspirations. Committed individuals who find meaning in their work are more resistant to job burnout, have lower rates of absenteeism and turnover, and are more engaged and productive (Maslach et al., 2001).

Research conducted by McKinsey & Co. during the COVID-19 pandemic found that people who said they were living their purpose at work reported "levels of well-being five times higher" than those who said they were not (Dhingra et al., 2020, p. 3).

### **The Pandemic Shift**

An individual's sense of purpose and meaning is not immutable; it "can shift relatively quickly, particularly in response to the kinds of changes people are experiencing as part of the pandemic" (Dhingra et al., 2020, p. 4).

Despite, or perhaps because of, the pandemic's unprecedented effect, more than one-half (13 of 21) of the participants described experiencing an increase in their sense of purpose and meaning in their work (Interviewees #1, 2, 6, 8, 10, 13, 14, 15, 16, 18, 19, 20, 21). Many of these also related feeling strengthened bonds with their co-workers with whom they were experiencing common adversity.

Table 8 below shows the relative differences in Inferred Psychological Capital hope scores for all interviewees when describing the effect that the COVID-19 pandemic had on their sense of purpose and meaning in their work:

Table 8

*Hope IPC & Declared Sense of Meaning & Purpose (SoP/M) Orientation*

Interviewee SoP/M Effect Declared Orientation	No. of Interviewees	Avg. Hope IPC Score
Positive Effect of COVID-19 on SoP/M	13	8.1/10
Neutral/No Effect of COVID-19 on SoP/M	3	8.6/10
Negative Effect of COVID-19 on SoP/M	5	6.3/10

Based on their declared orientation, the hope-related Inferred psychological capital scores of interviewees who described feeling an increased sense of their purpose and meaning during the pandemic were much higher than the IPC scores of the participants expressing negative impacts of their work-related sense of purpose and meaning; 8.1/10 vs 6.3/10 (see Appendices F, G, & H).

The three interviewees who expressed a neutral/no effect of the pandemic on their sense of meaning and purpose registered an average IPC score of 8.6/10. The “Interpretation of Neutral Effect Finding” section on page 169 discusses possible explanations for this seemingly counterintuitive result.

### **Interpretation of Positive Effect Finding**

For the positively affected participants, the personal and organizational demands placed on them during the pandemic seemed to rejuvenate their sense of purpose, resulting in a reinvigoration of their engagement with the recipients of their organizations’ services. Perhaps

not coincidentally, all but one of the participants relating this effect worked in not-for-profit (NFP),

governmental or non-governmental organization (NGO) environments whose expressed missions were to serve their recipient stakeholders, as distinct from shareholders.

The individuals working in these institutions related experiencing a revitalization of, and reconnection with the sense of purpose and meaning that initially attracted them to these institutions. Consistent with Public Service Motivation Theory, individuals possessing an “instrumental motive driven by the internal satisfaction or enjoyment from serving the public... are more likely to act beyond monetary or reputational benefits, and to engage in behavior that serves the public” (Wang et al., 2020, p. 2).

The trials and stresses associated with the COVID-19 pandemic have provided these individuals with a salutary experience that likely plays a large role in their perception of the pandemic as positively affecting their sense of purpose and meaning.

### **Again, Context Matters**

The majority of individuals (7 of 12) who described having their commitment to their organization’s mission positively impacted by the pandemic were manager-leaders with substantial work and life experience holding senior organizational roles (Interviewees # 1, 6, 15, 16, 18, 19, 21).

These individuals enjoyed substantial organizational influence, job security and role stability. Their organizations were financially durable, and their funding through the pandemic was secure.

Five interviewees (#2, 8, 10, 13, 20) in follower roles also articulated experiencing a positive impact on their sense of meaning and purpose at work. Their perspective was somewhat different from the manager-leaders in that the positive effect of the pandemic on their sense of purpose and meaning revolved around increased opportunities for personal and professional growth. While still committed to their organizations' missions, they perceived the disruption as presenting possibilities for advancement due to significant changes in their organizations' operational models or, in one case, the opportunity to participate in meaningful work for the first time (Interviewee #13).

While the perspective of the manager-leaders regarding their sense of purpose and meaning was primarily directed toward strategic opportunities for their organizations, the followers' motivations were more tactically oriented in support of personal considerations.

The differences may be attributable to the fact that the manager-leaders who tended towards a strategic focus had no further advancement opportunities because they had attained the most senior role available within their organizations and/or were close to retiring. The followers held less senior roles and, in each case, had better prospects for additional career growth.

### **Interpretation of the Neutral Effect Finding**

Three of the 21 participants responded to the interview question regarding their perception of the COVID-19 pandemic's effect on their sense of purpose or meaning as having a "neutral/no" effect (Interviewees #4,11,12, see Appendix G for details). While all interviewee responses are subjective interpretations of lived experience during the pandemic, the context of that lived experience is a major factor informing their interpretation.

Interestingly, the three individuals declaring a neutral or no effect collectively averaged 9.0/10 on their hope IPC scores (see Appendix G), which was 0.4 points higher than interviewees who described the effect of the pandemic on their sense of purpose and meaning as positive (see Appendix F), and 2.3 points higher than interviewees who described experiencing a negative effect on their sense of purpose and meaning through COVID-19 (see Appendix H).

A difference of 2.3 points on a scale of 1 - 10 between the “neutral/no effect” individuals and those expressing a negative impact on their sense of purpose and meaning is substantial. All the more so when the average IPC score of the “neutral/no effect” interviewees exceed the average IPC score of individuals expressing a positive effect on their sense of purpose and meaning. What might account for this counterintuitive result?

### ***PsyCap and Specific Purpose***

All three of the “neutral/no effect” individuals displayed higher IPC scores for the hope construct, comprised of their sense of agency and pathway finding scores, than either the “positive effect” or “negative effect” interviewees (see Appendices F, G, & H).

These individuals also had higher Total IPC scores, i.e., for the combined IPC score of all four HERO constructs (8.6/10 vs. 8.1/10 vs. 6.1/10, respectively). They displayed a greater sense of hope and self-efficacy, resilience, and optimism (see Appendices F, G, & H), supporting the concept of psychological capital as a resource caravan. Combined, these four individuals made up more than one-half of the top seven Total IPC scores for all interviewees.

Another common aspect of these four individuals was their ability to make sense of the effects of the COVID-19 pandemic on themselves personally, professionally and organizationally. Having re-evaluated the pandemic-related circumstances over which they had

comparatively little control, i.e., its duration, severity, and societal-level impacts, they chose to reframe the situation by focusing their efforts on initiatives that promoted specific senses of purpose and meaning important to them.

*The Line of Greatest Advantage...*

One of the interviewees (# 11) was the Dean of a technology-oriented faculty within a post-secondary institution who was preparing her program for significant organizational change before the onset of the COVID-19 pandemic.

While the pandemic presented her with challenging, sometimes difficult technical, personnel, and policy issues, she recognized multiple opportunities inherent within the adversity that enabled her to accelerate her organization's transformation. Consequently, she described the pandemic's effect on her sense of purpose and meaning as neutral; essentially COVID-19 was just another obstacle to be overcome to achieve the organization's transformational goal.

The two other individuals who expressed a "neutral/no effect" on their sense of purpose and meaning may have done so because they apprehended the possibility of better realizing their sense of purpose and meaning by changing their work roles.

One (#4) was vigorously pursuing a newly designed role with his current employer resulting from an existential corporate reorganization accelerated by the COVID-19 pandemic. The other individual (#12) indicated she felt ready for greater responsibility and was actively pursuing new employment opportunities outside her current organization.

All three interviewees exhibited higher-than-average hope, Growth Mindset, Executive Function, and Total IPC scores. They seemed particularly adept at re-appraising the unique

circumstances associated with the COVID-19 pandemic, and responded pragmatically and effectively.

As mentioned above, each interviewee's response to the question about their perception of the pandemic's effect on their sense of purpose and meaning is entirely subjective. Compared to the responses of the other 18 interviewees, the three individuals who provided "neutral/no effect" answers might be considered more representative of "positive" responses in light of their proactive opportunism, notwithstanding how they chose to characterize its personal effect on them. Regardless, "their perception" was the operative term of the question.

#### Interpretation of the Negative Effect Finding

While 16 of 21 interviewees experienced positive or neutral effects on their sense of purpose and meaning at work due to the COVID-19 pandemic, five individuals described its predominantly negative effects (#3, 5, 7, 9, 17).

Over and above the challenges and limitations imposed by being compelled to work from home, as 17 of the 21 interviewees were, these five individuals related the additional stresses associated with a substantial reduction in their work-related opportunities, often coupled with increased responsibilities in their home lives.

For three of these individuals, coincidental organizational initiatives, such as organizational restructuring and job loss, magnified the negative impact of the pandemic (#3, 7, 9).

While other interviewees who expressed either positive or neutral COVID-19 effects on their sense of purpose and meaning disclosed that they had their career plans negatively affected by the pandemic, they did not relate experiencing anywhere near the same level of adverse emotional impact as did these five interviewees.



The disruption and loss of connection to their work for interviewees experiencing a negative effect on their sense of purpose was exacerbated by apprehensive thoughts and emotions, with tendencies toward rumination. They also described feelings of physical and psychological detachment from their organizations, co-workers and clients, which negatively impacted the connection to their organization's larger purpose and, to some extent, their own.

### *Anxiety, Loneliness & Depression*

Four of the five individuals who expressed a negative impact on their sense of purpose and meaning (#3, 7, 9, 17), plus one positive-effect interviewee (#20), communicated feeling increased levels of loneliness and anxiety, which they attributed to effects experienced during the pandemic.

In three of the five cases, the individuals had unstable or challenging conditions at home (#7, 9, 20) primarily due to a lack of familial support. Two of these three individuals were female.

Four interviewees disclosed having a previous diagnosis of clinical depression (# 9, 10, 13, 20). It is possible other individuals may have had prior depressive episodes as well, but chose not to disclose this during the interviews. In three of the four cases (#7, 9, 13), their anxiety and/or depression may have been exacerbated by disrupted employment and income loss concerns, in addition to any negative impact the pandemic had on their sense of work-related purpose and meaning.

## **Observed Affect of Interviewees During the Research Interview**

### **Mea Culpa**

During the course of conducting the individual interviews for this research, it became apparent after the third interview that there was considerable variation in the affect of the interviewees.

The fact that this was not considered in the Methodology section of the research proposal prior to initiating the interviews was a significant oversight on my part. In retrospect, it seems evident that a phenomenologically based interview process should include a focus on the interviewees' emotional states that can exert considerable influence on their cognitive processes and behaviours (Isen, 1987) and, ultimately, their lived experience during the COVID-19 pandemic.

Fortunately, the oversight became apparent early enough to enable increased attention to interviewees' emotions and described moods, i.e., their affective states. Consequently, field notes were collected in all subsequent interviews. The video recordings of the first three interviews were re-watched to capture the affect data omitted during the live interviews.

### **What is Affect?**

Affect is defined as "a feeling state" (Schimmack & Crites, 2005, p. 398), with both moods and emotions being considered affective states (Gasper et al., 2019). Emotions tend to be more intense but shorter-lived than moods. They are also apt to be focused on an object (Gasper et al., 2019), e.g. "I become afraid when I see a spider", whereas moods generally do not have a salient cause, e.g., "I have been feeling anxious lately".

Typically, affect is comprised of at least two crucial qualities: valence (experiencing an emotion as either pleasant or unpleasant), and arousal. Gasper et al., (2019) have argued that in addition to feeling positive and negative emotions, it is also possible to experience a neutral affect, defined as a feeling of indifference indicating a lack of preference for either a positively or negatively valenced emotion.

Affect is, by definition, evaluative. It can influence behaviour by providing individuals with information or feedback which can shape how individuals think or act (Gasper et al., 2019).

Positive affect is evidenced by emotions such as interest, joy, confidence, pride, and contentment, while emotions, such as fear, anger, stress, hostility, sadness, and guilt evidence negative affect.

Positive Affect can, in most instances, improve cognition in individuals by enlarging their cognitive context, which in turn can enhance creative thinking and mental flexibility. It is an important component in decision-making as it supports more efficient problem-solving, innovation, creativity and cognitive processing (Isen, 2001).

### ***Positive Affect and manager-leaders in disruption***

Positive Affect's effects tend to be more pronounced in situations that individuals consider to be important, and "facilitates systematic, careful, cognitive processing, tending to make it more efficient and thorough, as well as more flexible and innovative" (Isen, 2001, p. 75).

For manager-leaders grappling with the novel and stressful situations associated with disruptive events such as the COVID-19 pandemic, positive affect's ability to improve decision-making, strengthen conflict resolution skills, and enhance team behaviour can prove invaluable

(Isen, 2001). Combined with the heightened social skills and greater kindness resulting from positive affect, it seems likely that manager-leaders exhibiting high positive affect would find themselves better positioned to withstand disruptive effects, and perhaps even profit from them.

### ***Observed Affect in the Interviews***

Affective states can arise in response to whatever thoughts are occurring to an individual, be they positive, negative or neutral appraisals about objects, subjects or people (Gasper et al., 2019).

In the case of interviewees for this study, observations regarding interviewees' emotional reactions were based on the descriptions of their lived experience during the pandemic, or in response to specific questions posed by the interviewer.

In addition to any emotional content within the words spoken by the interviewees, their tone of voice, use of humour or sarcasm, expressions of joy or frustration, facial expressions, such as smiling or frowning, along with other aspects of body language, e.g., the crossing of arms, diverting their view, or tearing up, were noted as indicators of affect. Moments of silence and hesitation were also noted as possible signals of affect.

### ***Observed Differences in Affect***

The emotional responses of interviewees varied considerably during the interviews. Most interviewees displayed positive, negative and neutral affects at various points during the interviews depending on the particular emotions they were manifesting in reaction to what they were relating. For example, interviewees who recalled being happy when told they could work from home during COVID, displayed positively-valenced emotions, however, when discussing

the frustration, they experienced when having to provide daily educational instruction to their children, a number displayed negatively-valenced emotions.

The assigned descriptors in the “Observed Affect” column in Appendices E - L reflect my appraisal of the interviewees’ predominant affect style during the interview. Although most of the interviewees had a variety of positive, negative and neutral emotional responses, all exhibited an overriding inclination toward either a mainly positive, negative, or neutral affect; an “affective gestalt” perhaps.

The interviewees assigned “Positive” affect value for “Observed Affect” (#2, 4, 6, 14, 15, 19, 21) had an average Total IPC score of 8.8/10, versus a score of 8.2/10 for “Neutral” affect interviewees (#1, 5, 8, 10, 11, 12, 16, 18), and 5.7/10 for “Negative” affect interviewees (#3, 7, 9, 13, 17, 20). Please see Table 9 below.

**Table 9**

*Observed Affect of Interviewees and Total IPC PsyCap Scores*

Designated Interviewee Affect	No. of Interviewees	Average Total IPC Score
Positive	7	8.8/10
Neutral	8	8.2/10
Negative	6	5.7/10

The Positive Affect interviewees displayed a more consistently positive, energetic demeanour throughout the interview. While acknowledging the challenges and difficulties they had experienced over the prior 18 months from the start of COVID-19’s impact on them, they nonetheless related multiple beneficial effects of the pandemic. All seven of the interviewees with observed “Positive Affect” were manager-leaders, with five of these seven individuals describing their sense of purpose and meaning as being positively impacted by the pandemic.

Within the “Neutral Affect” category, there were two distinct groups. The first group (#8, 11, 12, 18), displayed an attitude of apparent equanimity, almost emotional indifference to the vicissitudes of the pandemic. They seemed to be less emotionally affected, either positively or negatively, largely seeming to “take things in stride”. It is possible that their apparent lack of emotional affect was attributable to an inherently less demonstrative nature than the other interviewees, or their life experience developed the ability within them to maintain an even emotional keel.

The second group of Neutrals (#1,5, 10, 16) seemed to experience greater variability in the demonstration of both positive and negative affects, but neither was predominant.

The Negative group was comprised entirely of followers, save for one (#17). They consistently displayed emotions such as sadness, anxiety, and fear, accompanied by a low-energy demeanour. These individuals seemed to be narrowly focused on issues pertaining to their loss of social connection and, in some cases, uncertain economic prospects as well. Four of the six described their sense of purpose and meaning as being negatively impacted during the pandemic.

### **Summary Regarding Affect**

Awareness of one’s own affect as a manager-leader and its effect on followers and others is a valuable and useful insight. This is especially so during times of disruption when manager-leaders are under intense pressure, often for weeks or even months.

The data from the interviews suggests that, in at least this study, there likely is an association between an individual’s psychological capital and their affect. Consistent with

Relational Developmental Systems theory, it seems plausible to suggest that the interviewees' demonstrated affect may have been influenced by and influenced their psychological capital.

### **Interpretation of Interviewee Hope During Disruption**

The psychological capital first-order construct of hope is based on Hope Theory proposed by C. Rick Snyder (1991). Snyder posited that rather than being the amorphous expectation of a positive outcome, or that good things would happen, as it was generally understood, hope was actually comprised of two distinct and definite elements; a sense of agency, and pathways, also referred to as willpower and waypower (Snyder et al., 1991).

An individual's sense of productive agency directly relates to their sense of "successful determination in meeting goals in the past, present and future" (Snyder et al., 1991, p. 570). Agency is one's drive and goal-directed determination. Pathways to success represent the plans necessary to reach the desired destinations (Snyder et al., 1991).

The combination of these two elements makes hope an important determinant of success. Snyder et al. (1991) postulated that having the drive, determination and persistence to achieve a goal without a plan necessary to achieve it would lead to failure. Likewise, having a plan without the motivation to see it through would also prove unsuccessful.

Snyder (1991) further suggested that the process by which goals are met is an iterative one in which potential pathways are evaluated, attempted and then re-evaluated to determine if progress is being made toward one's goal. New pathways are identified and pursued if unsuccessful until the desired outcome is achieved.

## **Having Hope Helps**

Multiple studies indicate that having higher hope corresponds to superior academic and athletic performance, greater physical and psychological well-being, and enhanced interpersonal relationships (Rand & Cheavens, 2012).

A ‘high-hope’ individual’s analysis of possessing sufficient agency and pathways for a particular goal leads to their perception that the probability of achieving their goal is high. This belief engenders a success-focused outcome, and a relatively positive emotional state wherein the individual perceives a challenge rather than a problem. Unfortunately, ‘low-hope’ individuals often experience the reverse, where a lack of agency and pathways elicits an expectation of a low probability of success, leading to a negative emotional state, and frequently a self-fulfilling prophecy of defeat (Snyder et al., 1991).

Individuals possessing higher levels of hope “appear to set more difficult goals (by objective but not phenomenological standards) and that they evidence a more positive, challenge-like set as they pursue these goals... higher hope is associated with superior performance.” (Snyder et al., 1991, p 582).

### ***Sense of Agency Interpretation***

The hope subconstruct of sense of agency, describes the interviewees’ feelings of drive, having control over their actions, and the resulting consequences. Agency is often referred to as “willpower.”



### ***Willpower***

Defined as “the ability to resist short-term gratification in pursuit of long-term goals or objectives” (American Psychological Society, 2012, p. 1), willpower is critical in attaining goals, especially those that are distal and demanding.

The hallmark of willpower is the capacity to ignore distractions and counterproductive impulses while remaining focused on the difficult but necessary tasks required to achieve the goal. It is positively correlated with better academic achievement, higher self-esteem, lower substance abuse rates, greater financial success, and improved physical and mental health (APA, 2012).

Described in analogical terms, a sense of agency is being in the driver’s seat, as opposed to merely being a passenger along for the ride.

### ***Pathways Finding/Waypower***

An individual’s sense of agency is defined as their perception of success in achieving their objectives based on past, present and future goals (Snyder et al., 1991), i.e., goal-directed determination.

What makes agency operative is the sense that one can formulate the plan necessary to achieve the desired goals. This includes developing alternative plans, or “pathways finding,” when the original one proves insufficient in producing the desired result. In circumstances where achieving one’s desired goals proves impossible, or the goal no longer exists, individuals exhibiting higher levels of hope can cope more effectively by considering other alternative goals. This phenomenon is observed in multiple spheres of their lives, such as careers, relationships, and recreation activities (Snyder, 1994).

It is the combination of willpower and waypower (agency and pathways) working together in a synergistic, iterative process that ultimately produces success. An individual's perception of their Hope is a reflection of the cumulative level of their perceived agency and pathways developed with time and experience. As such, it becomes "an enduring disposition that is subjectively defined as people assess their agency and pathways related to goals" (Snyder et al., 1991, p. 571).

"Hope is the essential process of linking oneself to potential success" Rick Snyder.

### *Hope Is a Plan*

Each of the manager-leaders who related their personal and organizational experiences of success and growth during the pandemic exemplified the psychological capital construct of hope. They consistently exhibited both willpower (agency) and waypower (pathways finding) by developing adaptable plans driven by a clear sense of purpose.

When it became apparent that their existing processes and systems, and in some cases services, were inadequate to meet their clients' novel emerging demands driven by the pandemic, the most effective manager-leaders revised existing plans or developed new ones.

Rather than struggling to do more of what their organizations were doing pre-COVID-19, these individuals engaged with their followers to focus on providing services essential to their stakeholders' pandemic-based needs. Often this involved delivering their services via unconventional and innovative methods. Occasionally brand-new services were developed to meet their clients' needs.

Front-line employees assumed much greater prominence in developing and implementing the workable solutions necessary to support their clients than they had before the pandemic.

Rather than utilizing a “command-and-control” management style, the most effective manager-leaders focused on making sense of what was occurring for front-line personnel, supported them emotionally, and provided the resources necessary for them to serve their clients’ needs effectively.

### ***Who’s Driving the Bus?***

The average Inferred Psychological Capital score for hope for all 21 interviewees was 8.6/10, which is expected of a non-random sample which included 13 individuals in upper management roles, six of whom were CEOs or equivalent. All study participants are graduates of post-secondary institutions, with more than one-half holding post-graduate degrees.

Interviewees demonstrating the highest hope scores provided specific examples of their instrumental thoughts and voluntary actions relative to achieving their desired goals (#1, 2, 4, 5, 6, 10, 11, 12, 14, 15, 16, 18, 19).

The descriptions of their lived experience during the pandemic involved higher-level conceptual feelings, i.e., “judgments of agency” (Moore, 2016) with explicit attributions to themselves of agency and pathways finding. They appeared confidently in the driver’s seat, knew where they wanted to go, and believed they would get there.

Interviewees assessed as having lower hope scores (#3, 7, 9, 13, 20) displayed more generalized and non-conceptual “feelings of agency” (Moore, 2016). These individuals did not tend to relate explicit examples of acting deliberately while feeling in control of the situation. While still in the driver’s seat, they did not have as firm a grip on the wheel, were not as sure of their destinations and were less certain about arriving there.

### ***One's Role Plays a Role***

There was a large difference in average hope scores (1.6 points) between manager-leaders (8.9/10) and followers (7.1/10), please see Appendix J for details.

This effect is especially apparent when interviewee scores for followers working at the director level or above are assimilated into the manager-leader category to reflect their role seniority more accurately. This reallocation of roles accentuates the difference between manager-leaders (8.9/10) and followers (6.1/10), increasing the differential to 2.8 points from the 1.6 point differential noted prior to reallocation. Please see Appendix K for details.

### ***Other Findings Regarding Hope Scores***

Gender differences in hope scores were modest at 0.6 points (Male average: 8.7/10; Female average: 8.1/10; see Appendix I for details).

Interviewees who disclosed previous diagnoses of depression (#,9,10,13,20) had an average hope score of 7.1/10, markedly lower (1.5 points) than those who did not disclose depression during the interview (average of 8.6/10, see Appendix L).

The notable exception was Interviewee #10, whose hope score was 9.0/10. This individual was operating at a Director level in her organization. Although she had struggled with her mental health, she was receiving therapy. She was actively pursuing a number of ambitious goals, particularly obtaining a university degree to improve her career potential. This was in contrast to the other disclosers of depression who lacked a clear sense of direction and had no definitive plans for their futures.

While their sense of agency scores averaged 7.8/10, depression disclosers' pathway-finding scores were only 6.3/10. This suggests that although they may have possessed the determination to pursue their goals once clearly defined, they seemed to lack the capability to plan effectively, develop alternative pathways to desired outcomes, or access the resources necessary to see their goals through when they encountered difficulties.

Interviewees #10 & 20 held manager-leaders roles, while Interviewees 9 & 13 were in comparatively junior follower roles or new to the workforce. Therefore, a lack of knowledge and experience in goal planning and execution might play a role in these deficits. Considering the novelty, severity and duration of COVID-19, interviewees who lacked relevant experience on which to draw might be more challenged than manager-leaders with considerably more work/life experience.

All four depression-disclosing individuals related consequential work and home-related issues that exacerbated the more generally experienced disruption associated with the pandemic, including lack of familial support, social isolation, and uncertain career prospects.

### **Summary of Hope Interpretations**

Several significant findings regarding the psychological capital construct of hope emerge from the analysis of the interviews.

Firstly, the disruptive effect of the COVID-19 pandemic on the sense of purpose and meaning was compelling for 18 of the 21 interviewees. In 13 cases, the interviewees described the effect as positive; in 5 cases, it produced a negative effect. Three interviewees described the effect as neutral/no effect.

The twelve individuals who characterized the pandemic's disruptive effect as positively influencing their sense of purpose and the meaning they found in work described it as "rejuvenating" and "reinvigorating" regarding their engagement with their organizations' missions and the people they served.

Five individuals described the disruptive effect on their sense of purpose and meaning in negative terms such as "isolating" and "stressful," resulting in feelings of disconnection from their co-workers and clients.

Secondly, manager-leaders average scores for the hope construct were higher than the follower average (8.9/10 vs. 6.1/10, respectively), indicating that the former demonstrated higher levels of agency and pathway-finding. Please refer to Appendix K for details.

Finally, hope is the driving force and the planning mechanism for achieving one's goals. It is a crucial determinant of success, but other attributes are also instrumental, including a belief in one's ability to grow through mastering new tasks and responsibilities.

This is known as self-efficacy, the second pillar of psychological capital, and will be examined in the next section of this paper.

## **Interpretation of Interviewee Self-efficacy During Disruption**

### **Introduction to Self-efficacy**

The psychological capital construct of self-efficacy is firmly rooted in Albert Bandura's theory of the same name (1994).

Perceived self-efficacy pertains to individuals' beliefs in their capability to exercise control over the operation of the happenings of their own lives. Individuals' beliefs affect their

choices and motivation levels. They also impact how well they function in pursuit of their goals and their resilience in the face of adversity. Beliefs also affect individuals' susceptibility to stress and depression (Bandura, 1994). It is a critical component of individual success.

People with a strong sense of self-efficacy perceive difficult tasks as challenges to be met and mastered rather than as threats to be avoided (Bandura, 1994). Consequently, they approach these challenges with energy, enthusiasm, curiosity, and commitment, which help sustain their discretionary effort. They tend to recover quickly from failures and setbacks, which they attribute to inadequate effort or lack of knowledge or skills, rather than perceiving these as personal shortcomings. Skills and knowledge can be acquired, and setbacks are part of achieving significant goals for individuals with high self-efficacy. These attributes result in personal accomplishment, lower stress levels, and reduced susceptibility to depression (Bandura, 1994).

Individuals with low self-efficacy are prone to self-doubt and avoid tasks they perceive as challenging or threatening. They tend to set the bar low, are weakly committed to their stated goals and can become overwhelmed when they encounter obstacles. Setbacks are keenly felt, often perceived as personal deficiencies which can induce stress and potentially lead to depression. Recovery from setbacks and failures is often slow and difficult, potentially exacerbating a loss of confidence and faith in one's abilities (Bandura, 1994).

### **Self-efficacy Development**

According to Bandura (1994), an individual's self-efficacy develops through four mechanisms.

The first and most influential mechanism is mastery experience. People's sense of self-efficacy develops as they successfully overcome problems and persist through challenges to

achieve their goals. Multiple successes develop a robust belief in an individual's personal efficacy. In contrast, failures undermine this development, especially if multiple failures happen before an individual can establish a well-grounded sense of efficacy (Bandura, 1994).

Vicarious experiences provided by social models are the second way of developing an individual's belief in their efficacy. Successful individuals possessing similarities to which an individual can closely relate are important influences in developing the belief that they, too, can be successful.

Role models who demonstrate the competencies necessary to be successful, such as their approach to planning and problem-solving, can exert a powerful influence on the development of self-efficacy in others. The behaviours of role models are particularly impactful when the role models are in positions of power or influence. Observing a role model operating in their environment, notably during challenging circumstances or under stressful conditions, can be highly influential for followers.

Social persuasion in the form of encouragement and reinforcement of an individual's ability to be successful is the third factor in developing self-efficacy. Receiving genuine support from another person, especially if that person is a role model or held in high esteem, can exert meaningful influence in encouraging a person's belief in themselves, including inspiring greater effort and persistence toward goal achievement.

Finally, modification of self-efficacy can occur through individuals' awareness and interpretation of their emotions and physical reactions to them. The ability to reduce one's stress reactions and modify negative emotional predispositions through improved recognition of one's physical states enables individuals with a high sense of efficacy to perceive a state of affective



arousal as energizing and beneficial. Individuals who struggle with self-doubts are likely to view the same situation as crippling (Bandura, 1994).

### ***Coaching for Self-efficacy Development***

The development of employee self-efficacy occurs through a combination of these four mechanisms, whether intentionally applied and leveraged by manager-leaders and organizations or without organizational awareness and support. Regardless, they are an inherent part of an effective coaching process through which manager-leaders can develop follower self-efficacy.

One of the key responsibilities of manager-leaders is to identify appropriate mastery opportunities that offer followers safe yet challenging developmental prospects consistent with personal and organizational goals.

A supportive, co-constructed coaching environment concentrated on cultivating skills, knowledge and behaviours through mastery development can effectively engender a sense of employee self-efficacy. When conducted effectively, coaching enables the manager-leader to reduce direct performance-management efforts, instead concentrating on supporting the employee's self-efficacy development through the mastery opportunity, thereby producing a more competent, confident and effective employee.

### ***Leadership as Social Influence***

In addition to providing the venue for presenting mastery opportunities to employees, manager-leader coaching is an excellent vehicle for role-modelling desirable behaviours, such as sense-making, effective problem-solving, and ethical decision-making. The coaching habitat enables a customized, at least partially controlled environment designed for the specific developmental needs of the coachee in support of improved self-efficacy.

Organizations appoint managers, but only followers decide if they are leaders. Whether they choose to be or not, every manager-leader is a role model for the people they lead. Manager-leaders who recognize this can capitalize on the opportunity to contribute and positively influence followers' self-efficacy development by role-modelling behaviours supportive of organizational goal achievement.

Manager-leaders can also exert considerable positive influence through the social persuasion associated with communication provided to followers during coaching. Through encouraging feedback and constructive observations, manager-leaders can help coachees identify knowledge and ability gaps that impede the development of competence and confidence.

Effective coaching is an ongoing, continuous process of follower development. It does not happen solely in dedicated one-on-one coaching sessions but can also occur in daily micro-foundational interactions "at the coalface" (Nayak et al., 2020, p. 282). The opportunity to provide real-world, real-time coaching to the employee based on immediate experience can often provide the most impactful developmental opportunities.

These opportunities may present themselves when manager-leaders choose to engage with a follower in response to identified stress reactions and emotional responses to particular activities that produce a state of affective arousal. When appropriate, manager-leaders can help followers raise their awareness of what is occurring and how it is affecting them, enabling powerful developmental opportunities.

### ***Self-efficacy Development Caveat***

Through their inappropriate application or complete absence, the developmental mechanisms of self-efficacy can have negative consequences for an individual's self-belief.

Manager-leaders who throw people into the proverbial deep end of the pool without providing adequate training or support are apt to do more self-efficacy damage than development. Mastery experiences only work when appropriately applied to individuals based on their particular capabilities and needs.

Role models are not always positive. Inexperienced, impressionable, often younger individuals, whose life or work-related knowledge is limited may choose to emulate the behaviour of less-than-ideal exemplars. Replicating oneself after a manager whom one may not recognize as being ineffective, abusive or manipulative can serve to perpetuate bad management. Often, this ends unhappily for the ignorant imitator, those around them, and, frequently, the organization.

Social persuasion cuts both ways. Negative or derogatory communication aimed at individuals with low self-efficacy can trigger career/lifelong negative consequences. Even offhand remarks uttered without conscious regard for their potential effect can have devastating impacts, particularly when made by people in positions of influence. Deflating comments, whether intentional or not, are much more impactful than positive ones for most people, making them potentially far more damaging.

Finally, most individuals do not understand the connection between physiological responses and emotional impacts on their cognition when under stress. Without intentional education and assistance to help individuals develop effective and appropriate responses, people and organizations suffer.

The development of an individual's self-efficacy is an organic process influenced by multiple factors and activated via cognitive, motivational, affective and selection processes.

### *Efficacy Activation*

Just as there are four mechanisms through which self-efficacy develops, there are four distinct processes by which self-efficacy is activated in people. These are cognitive, motivational, affective, and selection processes (Bandura, 1994).

What people choose to think about and focus on, i.e., their desired goals, is heavily influenced by the perception of their self-efficacy. Individuals possessing a higher self-appraisal of their efficacy set more challenging goals and are more committed to achieving them than people with a sense of lower self-efficacy.

Individuals with higher self-efficacy envision success scenarios, providing a clear picture of their desired outcome that supports their efforts and enables them to anticipate what is required to achieve their desired ends. Low self-efficacy people tend to see failure scenarios that feed self-doubt, diminish commitment and increase stress. As was noted earlier, individuals experiencing stressful events tend to experience lower cognitive processing ability, making achieving success even more challenging.

What people think about also impacts their motivation through causal attributions, outcome expectancies, and cognized goals (Bandura, 1994). Individuals with high self-efficacy attribute failures to insufficient effort, while people with low self-efficacy attribute it to low ability. Attributing the failure to controllable versus non-controllable causes materially impacts one's motivation and determination to persist in goal pursuit.

How motivated people are to pursue their goals is influenced by the likely outcome they anticipate and their belief in their ability to pull it off. Thus, one's degree of self-efficacy is key in how strongly motivated they are to achieve their goal. Since goals operate primarily through a

process of self-influence rather than directly regulated motivation, continually comparing one's results to one's expectations provides individuals with feedback on their performance. When progress is non-existent or slow, individuals with higher self-efficacy use this information to spur greater effort and recommit to their goals. Low self-efficacy people tend to engage in avoidance behaviours, thereby reducing the likelihood of success and reinforcing their low self-belief.

The degree to which people believe they possess effective coping abilities when experiencing difficult situations affects their level of perceived stress and subsequent motivation. Individuals with higher self-efficacy experience less anxiety because they tend to focus on what they can control or influence and avoid the morbid rumination often engaged in by people with low self-belief. A low sense of the ability to exercise control over one's thoughts and the subsequent dejecting rumination can lead to depression, along with other undesirable outcomes such as social isolation.

For high self-efficacy individuals, the combined beliefs that one has strong coping and thought-control efficacies enable a lower sense of anxiety and reduced avoidant behaviours, leading to more productive outcomes (Bandura, 1994).

Finally, people with high self-efficacy exercise more control over the activities they choose to engage in and the environments in which these happen. Because people are partially a product of their environment, their beliefs and behaviours are influenced by this habitat, affecting the type of competencies, interests, and social networks they develop.

The choices one makes in life, whether related to education, career, or the selection of a life partner etc., are influenced by one's perceived self-efficacy. The higher the perception, the

greater the range of perceived opportunities, along with greater motivation to develop oneself and, consequently, a greater likelihood of success (Bandura, 1994).

Self-efficacy also encourages investment in acquiring and developing resources such as education, job skills, and social networks that enable individuals to increase their ability to withstand the negative effects of resource losses due to adversity.

### ***The Role of Growth Mindset in Self-efficacy***

Growth mindset is a motivation theory developed by Carol Dweck (2006) focusing on human intelligence that attempts to explain how different ways of thinking impact an individual's ability to learn and, ultimately, their success. The belief that one's essential qualities, such as intelligence, are fixed from birth or, conversely, capable of change and development profoundly influences an individual's approach to challenges and their willingness to persist when difficulties arise in goal pursuit (Wolcott et al., 2021). People with a growth mindset welcome challenges, develop goals that are mastery-focused, view feedback as a learning aid rather than criticism, and show greater persistence in goal pursuit (Wolcott et al., 2021).

Although not explicitly mentioned in Bandura's self-efficacy theory, growth mindset effectively operationalizes self-efficacy. Individuals with high growth mindsets were easily identified in interviews based on the descriptions of their motivation, decisiveness, pursuits, perseverance and achievements. The difference between individuals with relatively low versus high growth mindsets was readily apparent when relating their lived experience of the COVID-19 pandemic. This is discussed more fully in the following section.

### ***Importance of Self-efficacy in Disruption***

The findings from this research clearly highlight the importance of perceived self-efficacy for the study participants. All but four (#3, 7, 13, 17) of the 21 interviewees expressed positive effects of the COVID-19 pandemic on their perceived self-efficacy. These four individuals registered lower-than-average inferred self-efficacy (please refer to Appendix E for details). Two other individuals with below-average self-efficacy scores (#9, 20) could still recognize multiple benefits from the COVID-19 experience, notwithstanding their comparatively low scores (please refer to Appendix E for details).

The identified importance of self-efficacy in disruption revolved around the individuals feeling an increased sense of personal capability. Their willingness to tackle the many novel challenges presented by the COVID-19 pandemic and the resulting sense of accomplishment in successfully meeting most of these challenges engendered the feeling that they are better prepared for future disruptions.

The 80% of interviewees (17 of 21) who believe that their self-efficacy was enhanced through the trial of the pandemic is reflected in the Inferred Psychological Capital score for self-efficacy, which at an average of 8.5/10, is the highest of the four first-order constructs (please refer to Appendix E for details).

### ***Indicators of Self-efficacy***

Individuals with very high self-efficacy scores (9.0/10 or above) demonstrated deliberate decisiveness, openness to new experiences and approaches, and a willingness to attempt stretch goals that were not apparent in interviewees with lower self-efficacy scores (7.0/10 or lower). They readily related multiple examples of innovative problem-solving and creative solution

development to the novel dilemmas presented by the pandemic. These resulted in significant accomplishments that buoyed their sense of individual and organizational self-efficacy.

The group of interviewees demonstrating the attributes of high self-efficacy (8.0/10 or above) was mainly comprised of mature manager-leaders possessing significant experience and demonstrating a high sense of personal agency. Of the 21 interviewees, 13 fell into this category, and 11 of 13 were in senior management positions.

### ***Uncertain Outcomes***

The successful outcomes referred to by study participants involved taking calculated risks, as they frequently involved making consequential, on-the-fly changes to established processes or procedures requiring staff to adapt significantly to novel demands where the probability of success was uncertain.

These successes were instrumental in achieving organizational and personal goals. They produced what Bandura referred to as “mastery experiences”, thereby increasing the perceived capabilities of both individuals and their organizations. Several senior manager-leaders alluded to reframed possibilities, using expressions such as “there’s no going back to the old ways now that we have seen the future” and “we’re five to ten years ahead of where we were pre-COVID-19, and we’re not going back”.

### ***Other Finding Interpretations of Self-efficacy Scores During Disruption***

Multiple self-efficacy findings were similar to those observed in the hope construct, consistent with Hobfoll’s (2011) Resource Caravan theory.



Interviewees' Inferred Psychological Capital scores for self-efficacy reflected the effect of the COVID-19 pandemic on their sense of purpose and meaning. Individuals who related a positive or neutral effect of the pandemic on their sense of purpose and meaning scored much higher in self-efficacy than interviewees relating a negative effect (8.6/10 for positive; 9.5/10 for neutral; 7.0/10 for negative. Please see Appendices F, G, & H for details).

A significant difference between manager-leaders' and followers' reallocated self-efficacy scores was evident (please refer to Appendix K for details). The gap of 2.3 points (9.0/10 vs. 6.7/10, respectively) may be partly attributable to similarly identified factors for the hope construct, namely the difference in role position, relative seniority, authority, maturity, security, and access to valuable resources.

Gender differences in perceived self-efficacy were modest, at 0.6 of a point, with males recording an average Inferred PsyCap self-efficacy score of 8.9/10 versus females at 8.3/10 (please refer to Appendix I for details).

### ***Mental Health and Context***

The stresses attributable to the effects of the COVID-19 pandemic, the social isolation, anxiety, and physical and mental health concerns were especially notable for younger interviewees in follower roles who were precariously employed (#7,9,13).

A significant differential of 1.1 points was observed in self-efficacy scores for the interviewees disclosing previous diagnoses of depression versus those not disclosing depression (7.6/10 versus 8.7/10, respectively; please refer to Appendix L for details). As noted previously, all disclosing individuals were in relatively junior follower roles. The lack of life and organizational work experience from which to draw, coupled with comparatively fewer

resources, precarious employment and weaker support systems, may be significant in explaining this disparity in self-efficacy scores.

While the scores for growth mindset were only slightly different at 0.3 of a point (8.3/10 versus 8.6/10 for depression-disclosing interviewees versus non-disclosing, respectively), the gap associated with the individuals' self-belief scores was substantial at 2.0 points (6.6/10 versus 8.6/10).

### **Summary of Self-efficacy Findings' Interpretations**

An individual's perception of self-efficacy is drawn from their life experience, their successes and failures, i.e., mastery experiences, as well as the vicarious experiences of the individuals with whom they choose to identify.

Role models function as key influencers for many. Genuine encouragement from significant individuals such as parents, friends, colleagues, teachers, coaches, or mentors can help build an individual's sense of self-efficacy, just as criticism and harsh treatment can crush a person's self-belief, especially when younger.

Lastly, self-efficacy develops through awareness and interpretation of one's emotional and physical reactions to stress. Developing effective coping skills and leveraging the arousal associated with stress enables one to advance toward challenges rather than avoid them.

An individual's context is of real consequence. This is perhaps especially so during times of disruption when circumstances, environment and resources (or their lack), can test and affect an individual's self-efficacy either positively or negatively.

The two interviewees with the highest Inferred Psychological Capital scores for Self-efficacy were two individuals who had prior lived experience in highly stressful environments. One worked in law enforcement for several decades. The other served as a missionary in Kenya for years during the long-standing ethnic conflict and was taken hostage twice. The ability of these two individuals to successfully withstand and subsequently learn from the extraordinary stresses associated with living in these environments may be informative in understanding how they have survived and thrived during the COVID-19 pandemic, as both have done.

Exposure to extreme physical peril and extraordinary emotional stress is unlikely to be a preferred method of self-efficacy development for most people. These events may, however, provide helpful instruction on how individuals can effectively deal with the significant episodic or chronic pressures associated with disruption.

It is impossible to state with certainty how the mutually influential interplay between the factors of the interviewees' prior experiences affected their psychological capital. Their pre-existing mental health conditions, including predispositions to anxiety or depression, precarious employment and reduced access to organizational support and resources, are likely contributors to the disparities in self-efficacy evidenced in this study.

The comparative sea of calm experienced by the manager-leaders displaying the highest levels of self-efficacy amidst COVID's chaos is likely a product of endogenous and exogenous factors which enabled them to remain highly effective. In comparison, manager-leaders and particularly followers with lower perceived self-efficacy experienced greater stress and less control over their circumstances.

The inherent abilities of the manager-leaders with the highest levels of self-efficacy, whether congenital or developed, or both, were typically supported by environments over which they exercised considerable influence during the pandemic. The ability to react quickly and competently to highly fluid situations, while recognizing and acting on the developmental opportunities afforded by the pandemic's disruption, enabled these individuals to perceive it as a growth opportunity for themselves, their followers, and their organizations.

The effects of the COVID-19 pandemic on the self-efficacy of the manager-leaders were not restricted solely to themselves. As organizational leaders, their decisions and choices directly impacted the lived experiences of many others, in some cases, hundreds of people.

How the manager-leaders with the highest self-efficacy levels comported themselves during stressful events played a critical role in developing a sense of collective efficacy amongst their followers.

The vicarious experiences and the role modelling displayed for their staff, the words of encouragement, and demonstrations of genuine empathy, which provided emotional and mental health support at critical times, were instrumental in helping employees, individually and collectively, believe they would come through the pandemic.

The self-belief and confidence that one can meet adversity head-on and reframe it into an opportunity for growth is one of the hallmarks of resilience, the following construct in psychological capital's resource caravan.

### **Interpretation of Interviewee Resilience During Disruption**

The third pillar of psychological capital theory, resilience, is a complex psychological construct that has continually evolved since its inception in the early 1970s. Generally

understood as the ability to bounce back from adversity, resilience is a more nuanced, multi-faceted construct.

### **Theoretical Foundations**

As with the previously discussed psychological capital constructs of hope and self-efficacy, resilience is conceptualized within a relational developmental systems framework. This structure emphasizes the plasticity of the relationship between individuals and their environments, leading to “an optimistic view of the possibility of promoting positive human development across the lifespan.” (Lerner, 2006b, p. 40).

This conceptual approach aligns with the underlying theoretical constructs of positive psychology (Seligman & Csikszentmihalyi, 2000), positive organizational behaviour (Luthans, 2002), on which positive psychological capital is based (Luthans et al., 2004), and Conservation of Resources Theory (Hobfoll, 1998).

This study draws on multiple theories of resilience in order to facilitate a comprehensive interpretation of its findings. These include the works of Garnezy & Masten (1985), Krupnik (2020), Leipold & Greve (2009), Lerner (2006), Narayan & Masten (2018) and Rutter (2012).

There is significant overlap in most of these theories. However, each offers particular elements of valuable differentiation that, when combined, enable a better understanding of the resilience process, from the initiating adverse event through the stress and coping response to the consequent trajectory of resilience and ultimately to positive individual development.

While each of the 21 interviewees in this study shared the common experience of disruption associated with the COVID-19 pandemic, individual accounts of their responses to adversity are idiosyncratic and highly varied.

### *Per Ardua Ad...?*

Adversity is “a state or instance of serious or continued difficulty or misfortune” (Merriam-Webster, 2023). It can appear in diverse forms, varied intensities and differing durations.

Adversity can manifest as a crisis, leading to numerous detrimental outcomes. In its more extreme forms, it can present as severe, acute trauma, such as the sudden loss of a loved one or experiencing a significant natural disaster. Alternatively, it can be a debilitating chronic condition, such as a long-term illness or a prolonged crisis. Rarely, as in the case of the coronavirus disease known as the COVID-19 pandemic, adversity presents as both.

While generally considered detrimental and unwanted, some experience of adversity is essential to human development through its mechanism as a precursor to resilience.

Adversity is the catalyst that precipitates an individual’s stress response to an event. The manner and degree to which an individual responds to an adverse event, whether adaptively or maladaptively, determines their level of resilience, and although it can be experienced collectively, it is ultimately a uniquely individualized phenomenon involving multiple factors (Masten & Garmezy, 1985).

### *Evolving Definitions of Resilience*

While most people define resilience simply as the ability to bounce back after a reversal of fortune, this narrow characterization belies its intricacy. To more fully appreciate the complexities and challenges associated with resilience and its role in psychological capital, it is necessary to employ multiple perspectives.

In 1990, Garmezy & Masten defined resilience as “the process of, capacity for, or outcomes of successful adaptation despite challenging or threatening circumstances” (Masten et al., 1990, p. 426).

The American Psychological Association (2014) states that resilience is “the process and outcome of successfully adapting to difficult or challenging life experiences, especially through mental, emotional, and behavioural flexibility and adjustment to external and internal demands. Several factors contribute to how well people adapt to adversities, predominant among them (a) how individuals view and engage with the world, (b) the availability and quality of social resources, and (c) specific coping strategies.” (American Psychological Association, 2023, p. 1).

Other definitions suggested by resilience scientists are:

- “a stable trajectory of healthy functioning after a highly adverse event”
- “a conscious effort to move forward in an insightful and integrated positive manner as a result of lessons learned from an adverse experience.”
- “a process to harness resources in order to sustain well-being.”

(Southwick et al., 2014, p. 11).

While these definitions help grasp the multiple potential manifestations of resilience, researchers have pointed out that they do not adequately reflect the complexity of resilience concerning the interactions between biological, psychological and cultural factors that govern how an individual responds to experiences of stress (Southwick et al., 2014).

Ann Masten, one of the pioneers in resilience research, defined resilience as “the capacity of a dynamic system to withstand or recover from significant threats to its stability, viability or

development” (Masten, 2011, p. 494). This explanation reflects the increasing recognition of the effects of multiple interacting systems on individual resilience. It also presents the critical dimension of individual development, not solely in terms of resilience itself but of the outcomes for the individual as a whole, leading to more expansive definitions describing resilience as an individual’s “achievement of positive developmental outcomes and avoidance of negative outcomes, under significantly adverse conditions” (Wyman et al., 2001, p. 133).

They also help frame our understanding of how the constellation of factors that determine an individual’s ability to adapt effectively during adversity enables the connection between the ability to cope and greater resilience in support of realizing one’s developmental potential. This constellation of factors is explored more fully to help explicate the role of resilience in development.

These broader, systems-oriented, and developmentally focused definitions of resilience recognize the dynamic interdependence, multi-level and bi-directional influence between the individual and their context.

They are also consistent with personal human development theory, positive organizational behaviour and psychological capital theory. Leipold & Greve (2009, p. 40) proposed that resilience be viewed as “a stabilizing constellation and should be considered an important part of the conceptual bridge between coping and development.”

Lerner (2006) applied a developmental systems framework to highlight the ontological importance of the plasticity of mutually influential relationships between the individual and their context that regulated an individual’s coping skills, resilience and strengths-based development across their lifespan.



This perspective offers a more holistic understanding of how resilience develops (or not) and provides greater insight into what actions individuals and organizations can take to strengthen individual and collective resilience in the face of increasing levels of disruption.

### ***Level of Analysis***

Exhibiting resilience during times of disruption and adversity is a critical attribute of individuals for their development and personal well-being.

While the collective resilience of individuals ultimately determines the adaptability of organizations, communities, and society at large, this study focuses exclusively on the individual level of analysis.

The reactions of individuals to adverse events can provoke robust responses ranging from positive personal development to damaging psychological and physiological outcomes.

### ***The Stress Process in Adversity: Physiological Factors & Allostatic Overload***

“Survival in a changing environment is the ultimate goal of behaviour, therefore allostasis is the brain’s evolutionary purpose and primary function” Krupnik (2020, p. 4).

The human brain attempts to ensure survival by adjusting an individual’s internal state to meet anticipated demands; thus, the “flight or fight” response was first identified by Hans Selye as “general adaptation syndrome” in 1936 (McCarty, 2016, p. 13).

An individual experiencing adversity has both a psychological and physiological response. To help ensure survival during a perceived threat condition, the brain secretes hormones such as adrenaline and cortisol, amongst others, to facilitate the body’s ability to remove or protect itself from potential harm.

This physiologic regulatory response enables the body to react effectively to ensure its safety, typically for periods ranging only from minutes to days, after which it returns to its pre-stressed homeostatic state, i.e., no longer releasing adrenaline and cortisol into the body. This dynamic process is referred to as “allostasis,” literally meaning “stability through change” (McEwen, 2016, p. 57), and it works to ensure that the body returns to homeostasis when the threat ceases to exist.

When environmental stresses exceed an individual’s ability to cope over extended periods, the results can be physiological dysregulation. Chronic elevation of stress hormones can result in multiple problematic outcomes, including numerous physical and mental health conditions, such as chronic fatigue, metabolic disorders (e.g., diabetes, obesity), depression, and immune disorders (American Psychological Association, 2023).

McEwen (2005) coined the term “allostatic overload” to describe the condition where the protective stress response becomes harmful due to its cumulative effect. “Allostatic overload serves no useful purpose and predisposes the individual to disease” (McEwen, 2005, p. 317). These negative effects of chronic stress are felt both physiologically and psychologically.

Multiple studies have associated allostatic overload with decreased cognitive functioning, including executive function, and an increased likelihood of cognitive decline (D’Amico et al., 2020).

### ***Trait, Process or Outcome?***

As with the other psychological capital constructs of hope, self-efficacy, and optimism, resilience appears to reside on a trait-state continuum, closer to the state end of the continuum, considering its changeability over time.

Resilience is not a binary condition that either exists as “inherent invulnerability” to circumstances or is entirely absent (Rutter, 2012, p. 335). Garmezy believed that resilience should be viewed as a process rather than a fixed attribute and that while some individuals could demonstrate resilience across various circumstances, this was by no means a universal phenomenon (Rutter, 2012). Other researchers have observed that while individuals may possess high resilience in one area of their lives, it does not automatically mean they will demonstrate high resilience in a different setting (Southwick et al., 2014).

### ***An Important Distinction***

There is a difference between resilience and persistence. Persistence is “continuing to do something or trying to do something in a determined but often unreasonable way” (Cambridge Dictionary, 2023, p. 1).

While dedication to a cause and pursuing it with tenacity is a valuable attribute in pursuit of success, it can be counterproductive unless accompanied by an awareness of whether or not progress is being made and, if not, what has to change to achieve the desired success. Without learning from setbacks and continuing to do what has been singularly unsuccessful, one risks descending from persistence into perversity.

Resilience, by definition, involves positive adaptation. Resilient people change their thinking, emotions, attitudes or behaviours to respond to experienced adversity more effectively in pursuit of their goals.

### ***From Risk to Resilience***

The study of resilience grew from research on children at risk for mental health problems due to environmental adversities and/or genetic vulnerabilities (Masten, 2012). Research led by

Norman Garmezy and Ann Masten attempted to understand the etiology of psychopathology in children at risk, during which they observed “enormous variation in the life course development of young people believed to have a higher probability than the general population for psychopathology” (Masten, 2012, p. 346).

What started as an investigation of risk in child development in the late 1970s evolved into research on resilience, i.e., attempting to understand why some children flourished despite experiencing adverse conditions. In contrast, other children in similar stressful conditions floundered, often with lifetime consequences in both situations (Masten, 2012).

The resilience phenomena of particular interest to Garmezy and Masten at this time were “premorbid adjustment” and “competence,” which compared the successes of individuals demonstrating positive adjustment in adversity to those exhibiting maladaptive behaviours (Masten & Tellegen, 2012, p. 347).

An individual’s competence was “inferred from manifested behavior, although the concept refers to the capacity for adaptive behavior” (Masten & Tellegen, 2012, p. 348). In essence, they were comparing individuals who could cope effectively with their adversity to those unable to cope.

### ***Competence as Coping***

As with other constructs associated with resilience, coping has multiple definitions offering various interpretations involving both convergent and divergent concepts. For the purposes of this study, coping is defined as “conscious volitional efforts to regulate emotion, cognition, behavior, physiology, and the environment in response to stressful events or circumstances” (Compas et al., 2001, p. 89).

Coping is considered a subset of emotional regulation. However, it is associated exclusively with processes that respond to stressful circumstances. In contrast, emotional regulation applies across a much broader range of ongoing human experience, including positive and negatively valenced phenomena (Compas et al., 2014).

Self-regulation is also related to coping and, by extension, to emotional regulation. All three constructs involve purposeful regulatory processes that include monitoring, evaluating, and modifying one's behavioural effort (Compas et al., 2014), but only coping focuses exclusively on the response to stressful circumstances.

Emotional regulation and self-regulation are critical factors in dealing with adversity and are discussed in greater detail in subsequent sections of this paper.

### ***The Coping Process***

Individuals use a variety of strategies to cope with the stresses associated with adversity. Individuals perceive stressors as discrepancies between how a situation or circumstance is versus how they would like it to be (Leipold & Greve, 2009).

These stressors can adversely affect an individual's normal function and negatively influence other dimensions of their life, such as their subjective well-being, mental and physical health and relationships (Leipold & Greve, 2009).

This "is/ought" dichotomous perception generates frustration addressed via approaches described as either adaptive or maladaptive depending on their effectiveness in responding to the perceived stressors.

### *Adaptive Strategies*

Adaptive approaches to coping with the stressors associated with adverse events or circumstances typically start with attempts to resolve the underlying problem generating the stress. This involves acknowledging the adversity, i.e., accepting the problem as it “is” rather than how one believes it “ought” to be.

Without acknowledging an event or situation as adverse or denying its existence, one cannot initiate an adaptive response to it. Thus, ignoring a problem or denying its meaning or existence when potentially harmful consequences are possible is considered a maladaptive approach. This is discussed in greater detail under “Maladaptive Approaches” below.

### *“All Life is Problem-Solving” Karl Popper*

Effective problem-solving involves a multidimensional approach employing cognitive, emotional, physiological and behavioural abilities within an individual’s particular context.

A realistic assessment of the adversity-initiated problem, the “is” versus what one believes it “ought” to be, is the critical first step in responding adaptively. Once the “is” has been acknowledged, an individual’s cognitive abilities, including executive functions associated with problem-solving, such as reasoning, creativity, innovation, cognitive flexibility and planning activities, can be employed to maintain competence and normal functioning.

In addition to cognitive abilities, how effectively an individual regulates their emotional response during the initial recognition phase of an adverse event can be crucial in influencing their ultimate interpretation of the event, including their perception of its scope and severity.

Individuals with effective emotional regulation skills such as selective attention and inhibitory control can cope more effectively by remaining focused on finding a solution to the problem while keeping one's goals and larger purpose in mind. An individual's executive function cannot perform optimally if their emotional response and physiological consequences interfere with applying these higher-order cognitive activities.

Adaptive approaches also involve intentional awareness of one's physiological responses to the stressors instigated by adversity. The well-known "fight or flight" response associated with stressful events can impede executive functions and innovative problem-solving and make cooperation with others more effortful.

The ability to monitor oneself for signs of counterproductive biological stress responses, which have the potential to induce allostatic overload, supported by the use of deliberate techniques designed to offset these effects, enables one to maintain the calm, focused attention required to think clearly in pursuit of a solution to the adversity.

***"A Problem Shared is a Problem Halved"***

To effectively cope, individuals must maintain a mental and physiologic state that enables them to apply the resources necessary to address their adversity productively. In addition to the innate resources above, adaptive approaches often include accessing social supports, such as family members, friends, workmates and people in one's wider network (Leipold & Greve, 2009).

Being able to draw on the knowledge, experience, and wisdom of others when one is attempting to solve a difficult problem under stressful conditions can be highly beneficial. Often, just the knowledge that one is not facing adversity alone and has a supportive "ear" on which one

can rely is enough to reduce the perceived stress to a level where one can more effectively employ one's mental abilities.

Accessing additional resources, such as healthcare professionals or others with particular expertise that may be helpful finding a solution when one is stuck, is an adaptive behaviour. Ideally, an individual working in an organizational setting should enlist the support of their manager-leader to help address work-related adversity. Human resource departments and employee assistance plans can also be valuable sources of support that enable adaptive coping.

Successful coping in this sense is not only adaptive, it is also developmental from the perspective of an individual consciously and intentionally employing the resources available to them to maintain their commitment to their goals, increase their self-efficacy through successfully overcoming adversity, and strengthening their belief in their personal influence over their circumstances (Leipold & Greve, 2009).

The ability to maintain one's competence, normal functioning, and stability in the face of adversity is itself adaptive development.

### **Adaptive Approach - "Plan B"**

The nature of some adversities is that they are not amenable to being solved despite an individual's conscious and concerted efforts. The COVID-19 pandemic provides a good case in point. Many negative impacts associated with the pandemic were outside the scope of one's control or influence, such as mandated public health restrictions that curtailed many previously permitted activities and effectively thwarted individuals' goals.

In this case, an alternative coping approach was necessary to adapt to a new reality that precluded the achievement of an individual's existing goals.



### *Reappraisal & Reframing*

In situations such as this, individuals with well-developed coping skills choose to alter their perception of the adversity to view it in a new light to find positive aspects even while dealing with negative circumstances.

These attempts are variously referred to as reframing, benefit-finding, or meaning-making and are valuable resources that can help offset the negative effects of adversity-driven stress or losses (Greve & Staudinger, 2015).

Adaptation occurs in the form of revised objectives that refocus attention, resulting in productive behaviour directed toward the achievement of alternative but valuable goals. To paraphrase Robert Browning's poem "Prospice", "For sudden, the worst turns the best for the adaptive" (Browning, 1864).

This capability is particularly important for manager-leaders facing multiple and diverse challenges during disruption. Effective manager-leaders need to be able to reappraise and reframe problematic situations so that they and their followers can quickly pivot to alternative goals that may represent hitherto unforeseen opportunities for individuals and organizations.

The approach coping strategy and the reappraisal coping strategy described above are "assimilative" and "accommodative" methods, respectively. The assimilative method is primarily cognitive and problem-focused, while the accommodative is primarily emotional and opportunity-focused.

These are often considered to be opposites, with the assimilative strategy typically being the primary approach and the accommodative being the secondary fallback strategy. Essentially,

this sequential coping strategy involves an initial focus on attempting to resolve the adversity and relieve the associated stress using a problem-solving approach.

When the assimilative, problem-focused method proves unsuccessful, adaptive individuals employ an accommodative, emotion-focused approach. This technique involves reframing the problem to promote positively directed action focused on maintaining or restoring normal functioning, i.e., homeostasis, in pursuit of a new, desirable goal consistent with the individual's and organization's purpose.

In practice, it is not uncommon for both approaches to be blended to maximize coping effectiveness (Greve & Staudinger, 2015).

### ***Maladaptive Coping Approaches***

The American Psychological Association defines maladaptation as “a condition in which biological traits or behavior patterns are detrimental, counterproductive, or otherwise interfere with optimal functioning in various domains, such as successful interaction with the environment and effectual coping with the challenges and stresses of daily life.” (APA, 2023, p. 1)

Maladaptive behaviours are defensive. Individuals behaving maladaptively “change neither the problem nor themselves” (Leipold & Greve, 2009, p. 46), thereby obviating the possibility of resolving the problem or of reframing it to their potential advantage. Leipold & Greve (2009) further posited that individuals engaged in ignoring or denying the existence of the problem do so without conscious awareness of their behaviour.

Maladaptive coping, whether intentional or unintentional, involves ignoring potentially problematic or harmful situations. This can result in behaviours comprised of avoidance, withdrawal, passive-aggressiveness, self-harm, anger, and substance misuse/abuse.

When maladaptive behaviours persist over time, they can lead to serious emotional, psychological, and physiological problems due to the overactivation of the body's physiologic stress-response systems as they struggle to maintain homeostasis in a turbulent environment (Wadsworth, 2015).

It is beyond the scope of this paper to address the psychopathology of maladaptive coping, however, from the perspective of manager-leaders and organizations, recognizing and proactively engaging with followers who may be exhibiting symptoms of maladaptive behaviour is critical to both the individual and the organization. Maladaptive behaviours are inimical to effective coping and, ultimately, to individual performance and development.

### ***Foundational Findings of Early Research***

Garmezy and Masten's research on resilience discussed above ultimately spawned "Project Competence," a twenty-year longitudinal study that provided much of the theory underpinning the resilience research that continues today.

Project Competence established numerous significant findings that advanced resilience science, notably, meaningful patterns of good or poor competence in the context of high levels of adversity could be identified, along with resilient and maladaptive behaviours.

This led to the observation that maladaptive adjustment patterns in the context of higher adversity exposure were related to the quality of parenting and the child's cognitive skills. Even with parenting and cognitive skills that were only described as "reasonably good" (Masten, 2012, p. 355), children and adolescents were capable of demonstrating competence in the face of higher adversity. Effectively, individuals who manifested resilience had greater adaptive capacity and were more likely to demonstrate competence when faced with adversity.

### ***Influential Resilience Factors***

Individual resilience is primarily influenced by four main factors: genetics, epigenetics, social environments, and prior experience of adversity.

Genetics influence an individual's characteristics, such as intelligence and temperament. Epigenetics plays a role in gene expression and responds to multiple environmental processes over an individual's lifetime. Social environments, including an individual's home life, especially during the early formative years, along with school, friends, work, and other avenues of social connection, can provide either protective or problematic influence (Kim-Cohen & Turkewitz, 2012; Smeeth et al., 2021). An individual's prior experience of adversity, whether producing an adaptive or a maladaptive response, affects their future resilience.

### ***Tabula Rasa Resilire...***

Resilience is an interactive process involving reciprocal responses between an individual's dispositions and environment where multiple outcomes are possible (Kim-Cohen & Turkewitz, 2012).

Notwithstanding the genetic and epigenetic influences on resilience, fundamental to understanding the concept is that no one is born resilient. Individuals may be genetically predisposed to develop greater or lesser resilience; for example, inheriting a tendency toward heightened anxiety might bias a person to be less resilient than people without this disposition; however, this is not a given.

A critical factor in developing an individual's resilience is the level of adversity to which they are exposed. Resilience requires adversity; it does not develop in the absence of difficulty.

However, too much adversity can overwhelm an individual's ability for positive adaptation, potentially leading to serious negative outcomes.

### ***The Goldilocks Effect***

Optimal development of resilience occurs in situations of moderate adversity (Kim-Cohen & Turkewitz, 2012; Seery et al., 2013). Analogous to the development of one's muscles, too little resistance in the form of weight, i.e., adversity, produces no increase in muscle mass, i.e., no adaptive response, while attempting to lift too much weight can result in injury, i.e., a maladaptive response. Optimized development occurs when there is sufficient stress to stimulate growth but not so much as to inflict damage.

### ***“Steeling” vs. “Sensitizing”***

An individual's prior experience of adversity, their response to resultant stressors, and the developmental outcome of their experience also affect their resilience.

Steeling, the experience of brief, intermittent stress unaccompanied by overall adversity or deprivation, has been shown to support the development of adaptive responses, i.e., a “steeling” effect, rather than provoking a maladaptive response, i.e., a sensitizing effect (Rutter, 2012, p. 337). Both experiences can have immediate and long-term consequences for an individual's resilience (Seery et al., 2010).

### ***Developmental Cascades***

As environmental conditions change over time, they can introduce potential stressors that influence the development of one's resilience; for instance, trauma can spread over time, across domains, from person to person and from generation to generation.

As the amount of trauma and the severity of adverse experiences increase, so do the traumatic stress symptoms. These effects are transmitted through a multitude of mediating processes (Masten & Narayan, 2012), and their cumulative effect can cascade or snowball, with the potential to engender either adaptive or maladaptive responses to stressors (Masten & Cicchetti, 2010; Rutter, 2012).

The combination of an individual's genetic makeup, epigenetic influences, and environment determines their ability for positive or negative adaptation in response to the stress associated with heightened adversity.

An individual exhibiting greater cognitive skills, such as self-efficacy, agency, and conscientiousness, aided by a supportive environment, whether family, school, friends or organization, is likely to respond more effectively than someone in similar circumstances with lower cognitive skills and fewer environmental resources.

### ***The Stress Severity - Vulnerability Model***

The combination of biological predisposition to stressful environmental conditions coupled with prior experiences plays a precipitating or facilitating role in determining an individual's response to adversity.

The stress-vulnerability model, also known as the diathesis-stress model, posits that the strength of an individual's self-regulatory functions mediates their ability to adapt to their adverse situation. Those with more robust self-regulation will adapt more effectively to a given adversity than those with less effective self-regulation. Psychopathology in the context of the diathesis-stress model is conceptualized as an inadequate stress response (Krupnik, 2020).

### ***The Resilience Key: Self-Regulatory Function***

The ability to resist, minimize and recover from the negative impacts of adversity necessarily involves understanding what is occurring, and what can be done during the adverse event to develop an effective response that enables the maintenance of individual and collective competence and effectiveness.

Effective self-regulatory function is one of the primary determinants of an individual's adaptive response to adverse events. Self-regulation refers to internal or transactional processes enabling an individual's goal-seeking activity over time and across changing contexts (Karoly, 1993).

The self-regulatory function involves controlling one's thoughts and emotions (cognitive inhibition), focusing and maintaining attention on problem-solving (attentional focus), and self-control (response inhibition), while maintaining optimal levels of emotional, motivational and cognitive arousal. Collectively, these are referred to as "effortful control."

### ***Self-Regulation as Effortful Control***

Effortful control is "the efficiency of executive attention, including the 'ability to inhibit a dominant response, to activate a subdominant response, to plan, and to detect errors'"(Rothbart & Bates, 2006, p. 129). These are all crucial skills for adapting effectively to adverse events.

Effortful control includes underlying constructs of inhibitory control, attentional control, and activation. It pertains more to emotional activities in nature and is a concept particularly focused on temperament.

Individuals with an inborn temperamental, i.e., genetic predisposition to exercise self-regulation with comparative ease are said to possess good “effortful control” (Diamond, 2013). These fortunate individuals can control unhelpful emotional reactions during particularly stressful situations. This capability is especially important for manager-leaders whose followers look for guidance and reassurance when facing uncertainty and turmoil.

Effortful control is a critical element in supporting an individual’s ability to resolve internal conflicts and in facilitating the brain’s higher-order cognitive functions to operate more productively in search of effective responses.

The cognitive complement to effortful control is executive function, a collection of top-down processes employed in reasoning, problem-solving, creativity and planning (Diamond, 2013). Executive functions will be discussed more fully in the context of the key resilience factors in this study.

### ***Self-Regulatory-Stress Response***

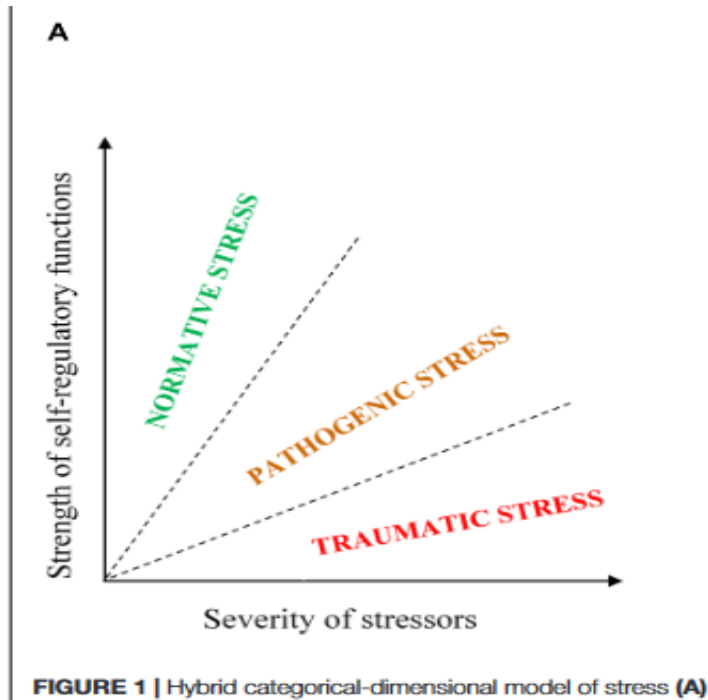
The ratio of the strength of an individual’s self-regulatory functions to the severity of the stress experienced determines whether they respond effectively by maintaining or returning to homeostasis (Krupnik, 2020).

Figure 1 shows three possible stress response outcomes that categorize how an individual responds to stressors of varying severity based on the strength of their self-regulatory functions.



**Figure 1**

*Krupnik's (2020) Hybrid categorical-dimensional model of stress*



Individuals displaying stronger self-regulatory functions are more likely to be resistant and resilient in the face of adversity, and more capable of maintaining their competence and effectiveness when facing adversity than individuals with comparatively weaker regulatory functions. (Krupnik, 2020).

The “Normative Stress” zone, shown in Figure 1, depicts an adaptive response to stressors where the individual returns to their prior functional state without experiencing pathology.

Individuals with weaker self-regulatory functions are more likely to adapt less effectively to adversity, especially when faced with the cumulative effects of chronic stress. In some cases, pathology may ensue. This is shown in Figure 1 as the “Pathogenic Stress” zone.

Individuals with weaker self-regulatory functions cannot remain in or return to their optimal functional state when facing adversity. They “may transition to a new, less adaptive homeostatic state with self-regulatory functions relatively intact” (Krupnik, 2020, p. 2); however, given the cumulative effects of unresolved stress over a prolonged period, some individuals may experience pathologic anxiety and depression. Individuals with a genetic predisposition to anxiety and depression may be more prone to this outcome.

A traumatic stress response involves an event that is both novel and injurious to an individual’s self-regulatory functions. Trauma producing this stress response “must be outside of a person’s normative life experience and a sufficient condition that the response includes a breakdown of self-regulatory functions” (Krupnik, 2020, p. 2).

The “Traumatic Stress” zone in Figure 1 depicts the breakdown of self-regulatory function that occurs when individuals cannot adapt effectively to environmental challenges. An inadequate stress response to adversity produces distress, potentially leading to pathological outcomes such as generalized anxiety, clinical depression and post-traumatic stress disorder (Krupnik, 2020).

### ***Reciprocal Effect***

Individuals with lower self-regulatory function may experience anxiety and eventually depression based on their inability to respond effectively to adversity, especially if it is chronic (Rutter, 2009).

Individuals genetically predisposed to being susceptible to environmental influences that can induce anxiety or depression prior to a stressful event may be more likely to see their symptoms exacerbated by the additional stressors associated with severe adversity.

### ***Resilience Pathways in Adversity***

Masten's (2014, p. 6) definition of resilience as "the capacity of a dynamic system to withstand or recover from significant threats to its stability, viability or development" suggests that resilience is not only the capacity of a system to rebound from setbacks but also to resist the detrimental effects of adverse events, and even to cultivate increased competence.

Adversity outcomes are either adaptive (positive adaptive response), resistive/robust (maintenance of normal function and competence), or maladaptive (negative adaptive response).

### ***"Adversity" versus "Trauma"***

The terms "trauma" and "adversity" are different constructs. However, they are frequently conflated and often used interchangeably (Krupnik, 2020). It is essential to understand the distinction between the use of these terms to avoid confusion about their respective effects on the resilience of this study's participants.

The term "trauma," more specifically "psychological trauma," is broadly applied in both clinical literature and general discourse, but "there is no consensus on its exact meaning and definition" (Krupnik, 2020, p. 2). It can apply to an experience, an event, or symptoms, blurring the distinction between cultural and clinical meaning (Summerfield, 2001).

In the vernacular, non-clinical context, "trauma" is defined as "a deeply distressing or disturbing experience..." or "a disordered psychic or behavioural state resulting from severe

mental or emotional or physical injury” (Merriam Webster, 2023). In the clinical context, “trauma” is defined in the Diagnostic and Statistics Manual of Mental Disorders, Fifth Edition (Sarmiento & Lau, 2020 p. 271) as “exposure to actual or threatened death, serious injury, or sexual violence.”

Further complicating this issue is the distinction between acute trauma involving a singular event (Type I) and chronic trauma where repeated exposure produces a cumulative effect (Type II) (Krupnik, 2020).

Individuals experiencing the COVID-19 pandemic may have been traumatized in the context of Krupnik’s definition of trauma as “a particular kind of subjective stress response...that includes a breakdown of self-regulatory functions, i.e., a Traumatic Stress Response. However, no interviewees in this study demonstrated evidence discernible to me as indicative of a breakdown in their self-regulatory functions.

When the interviews were conducted, the COVID-19 pandemic declaration had existed for almost 18 months. While potentially traumatic for many people, especially those who may have contracted the disease or seen their loved ones afflicted by it, COVID-19 has effectively become a chronic event in the perception of most interviewees.

Notwithstanding this caveat, I believe the Masten & Narayan model, in conjunction with the models of Krupnik (2020) and Leipold & Greve (2009), is valuable in helping describe and understand the findings from this study by providing an appropriate framework in which the data can be presented.

### *Context Counts*

Research by Masten and others found that both genetics, i.e., individual differences, and environmental factors, i.e., family characteristics and social connections, were the primary determinants of individual resilience. Socioeconomic resources, cognitive skills, drive for mastery, conscientiousness, feelings of self-worth, family support, and support from others, were all contributors to producing resilient children and adults (Masten, 2012).

Genetic and environmental factors have been confirmed in research as the primary determinants of resilience since Masten's early work (see, e.g., Rutter, 2012; Kim-Cohen & Turkewitz, 2012; Southwick et al., 2014). However, epigenetic factors have also been identified as potential moderators of resilience, particularly in populations with intergenerational trauma (Smeeth et al., 2021; Southwick et al., 2014).

The amount and intensity of adversity experienced by individuals, particularly in childhood and adolescence, can alter gene expression, producing changes in the brain's development (Hochberg et al., 2011). These changes can ultimately be transferred to following generations through biological (gene methylation), behavioural (inept parenting), or socioeconomic (educational) processes.

Disruption of adaptive behaviour in one aspect of functioning can extend into other domains; for example, trauma experienced in the work environment may affect an individual's home life and vice-versa (Masten & Cicchetti, 2010).

Lerner (2006) argued that the "nature-nurture" perspective represented a false dichotomy because it failed to recognize that it was the dynamic, mutually influencing exchanges between the individual and their context that regulated development.

The plasticity of both the individual and their context at all levels of this developmental system, from “genes and cell physiology through individual mental and behavioral functioning to society, culture, the designed and natural ecology and ultimately history” (Lerner, 2006b, p. 44) significantly influenced the trajectory of intraindividual change over time.

Lerner (2006b, p. 40) described resilience as “an attribute of the developing, bidirectional person ↔ context system” mutually beneficial for both the individual and their setting. The combined effect produced by the interaction between the individual and their context at every level of engagement affects their resilience trajectory.

### *A Plastic Sword*

While Lerner focused on the optimistic potential of human development, the plasticity of the relations between an individual and their context is a double-edged sword. The changeable nature of both the individual and their environment significantly impacts the ability to cope and, ultimately, an individual’s resilience and development. This is especially notable during an individual’s childhood when “steeling” or sensitizing experiences are likely to have an outsized influence on subsequent development.

Experiencing adversity that exceeds an individual’s ability to cope can result in maladaptive behaviours that can expose and exacerbate predispositions to anxiety and depression. This, in turn, can lead to a reduced capacity to cope, leading to greater anxiety. Absent an intervention directed at both the individual and their setting, continued regressive change will likely ensue, accelerating the individual’s downward trajectory away from normal functioning and competence.

In the context of significant adversity in organizational settings, manager-leaders' influence is especially important. As the organization's primary representatives for its followers, the manager-leaders' impact on their followers' setting, culture and environment plays a significant role in supporting or detracting from their workers' developmental opportunities. Manager-leaders' ability to recognize and cultivate followers' strengths by providing appropriately challenging opportunities that are moderately difficult but achievable, is key to developing strengthened coping skills. The manager-leader also has influence, if not control, over much of the environment of their followers in the organizational context.

Understanding that the follower and their context are in a reciprocal relationship interacting at multi-levels as part of an integrated developmental system, affords the manager-leader opportunities to design customized, holistic, resilience-development programs that could better prepare their followers for future adversity.

### *The Long View*

According to a recent 16-year-long study, older adults, i.e., greater than age 55, “appear to become more resilient against new stressors as they accumulate experience dealing with negative life events” (Kok et al., 2021, p. 2041).

An explanation offered by the authors for this steeling effect was the acceptance by older individuals of their limited ability to control life's circumstances.

An alternative explanation for greater adaptive capacity in mid-life is that stressors, such as losing one's parents, and children leaving home, are buffered by a rich set of resources supported within a resilience constellation (Staudinger & Bluck, 2001).

One of these resources is the maturity that may result from years of life experience. Maturity may confer wisdom on reflective individuals who can draw on their hard-won acumen to develop more adaptive responses, thereby suffering less distress when experiencing the vicissitudes of life. One's history can be drawn upon when adversity strikes, enabling potentially more adaptive and thoughtful responses driven by enlightening life experience.

### ***Executive Functions in Adversity***

Successful executive functions encompass self-control, frequently manifested as inhibitory control during stress, preserving goal relevance while exhibiting the cognitive flexibility necessary to facilitate changing perspectives, problem-solving, appropriately reappraising/reframing situations, and engaging in sense-making for others as circumstances dictate. (Diamond, 2013).

Executive functions are particularly important when relying on automatic responses or going on instinct or intuition could be ineffective and possibly even disastrous (Diamond, 2013). Disruptive events such as the COVID-19 pandemic present unprecedented conditions that can negate the benefits of prior experience and make relying on these previously successful approaches problematic.

### ***“If You Can Keep Your Head When All About You...” Rudyard Kipling***

Misfortune often arrives unannounced, catching individuals unaware and unprepared, frequently triggering strong emotional responses.

Emotions are dynamic, often transforming from moment to moment as they are processed in the brain. How effectively individuals react during a crisis, via their thoughts, emotions and



physiological responses, can represent the difference between success or failure and occasionally between Triumph and Disaster.

Emotional regulation refers to the process by which we as people “influence which emotions we have, when we have them, and how we experience and express them” (Gross, 1998, p. 271). The dynamic nature of emotions and how one chooses to regulate them, whether consciously or unconsciously, can significantly influence whether adaptations to adversity are adaptive or maladaptive.

This mental activity is particularly important for manager-leaders who must process their thoughts and feelings to clearly grasp the nature, possible consequences, and stresses associated with adversity. They must also consider how their followers will be affected by both the adversity and the manager-leader’s response to it.

### ***COVID-19 Disruption and Its Effect on Interviewee Resilience***

COVID-19 has disrupted the vast majority of people’s lives globally. In this study, 15 of the 21 interviewees recounted episodes during the first 18 months of the pandemic where they suffered substantial setbacks, ranging from disrupted strategic initiatives to mental health challenges.

The degree of disruption experienced by the study participants varied widely depending on multiple factors, including personal characteristics, the individual’s environment, access to organizational resources, and social support systems.

While fifteen interviewees related at least one substantial setback during the pandemic’s first 18 months, twenty participants described at least one instance of significant resilience

during this time, although for some, this was not sufficient to affect the predominantly negative effect of the pandemic on their overall experience and their resilience trajectory.

Interviewees displaying comparatively stronger coping abilities, and more effective executive functions, described greater personal well-being, better emotional regulation, and higher functionality in their work environments than individuals who presented as less resilient during the first 18 months of the pandemic.

### *Resilience Trajectories*

Masten and Narayan (2018) provide a guide for the possible trajectories of resilience over time, which they describe as “illustrative pathways of adaptive function.”

Figure 2 on page 239, depicts five potential resilience trajectories in response to an adverse event, which it describes as an “Acute Trauma or Disaster,” along with explanatory notes for each trajectory (shown in italics below Figure 2). The trajectories are simplified representations of individuals’ potential responses to environmental stress within a given time frame.

Stress responses can exhibit high interpersonal heterogeneity and may demonstrate significant intrapersonal heterogeneity over time, dependent on the nature of the adversity, an individual’s characteristics, social support and other assistive resources impacting the individual’s coping abilities.

### ***Differing Resilience Trajectories***

For comparative purposes, Figure 2 on page 239, presents the resilience trajectories of all 21 interviewees during the pandemic's first 18 months, based on Masten & Narayan's (2018) model.

Insofar as each interviewee's stress response is unique, the trajectories shown are generalizations for understanding the differentiation of adaptive and maladaptive stress responses between the interviewees in this study.

### ***Maladaptive Stress Response Paths***

Of the 15 participants relating a sizable reversal due to COVID-19's effects, six (#3, 7, 9, 13, 17 & 20) had yet to return to their pre-COVID-19 level of normal, or near-normal functioning. The trajectories of these individuals are depicted by Paths "D" & "E" in Figure 2 on page 239. In Masten and Narayan's terms, these individuals are described as having "maladaptive" responses.

According to the OECD, "The COVID-19 crisis has heightened the risk factors generally associated with poor mental health – financial insecurity, unemployment, fear – while protective factors – social connection, employment and educational engagement, access to physical exercise, daily routine, access to health services – fell dramatically. This has led to a significant and unprecedented worsening of population mental health" (Hewlett et al., 2021).

All six individuals demonstrating low resilience (#3, 7, 9, 13, 17, & 20) experienced stress, anxiety and rumination that they described in debilitating terms. Five of these individuals (#3, 7, 9, 13 & 20) were experiencing other sources of stress superimposed on the hardships

associated with the COVID-19 pandemic. These included unwanted job change or loss, marital issues and financial challenges, which significantly increased their allostatic loads.

The four individuals with declared previous anxiety and/or depression diagnoses (# 9, 10, 13 & 20) described experiencing anxiety and rumination during the first 18 months of the pandemic. This may have been exacerbated by reciprocal effects between their anxiety and their perceived circumstances, i.e., their perceived experience of the pandemic was increasing their anxiety, and their anxiety was making their perceived pandemic experience seem worse, resulting in greater rumination, which in turn fueled more anxiety.

Their predisposition to anxiety and/or depression due to environmental influences may have diminished their ability to adapt adequately to the stressors presented by the pandemic. In contrast, the effects of the pandemic worsened their anxiety and depression. This effect is particularly pronounced during serious, chronic adversities such as the COVID-19 pandemic (Rutter, 2009).

A reduction in access to social and other supports they received from their families, friends, co-workers, and organizations prior to, and during the early phase of the pandemic exacerbated their anxiety and heightened feelings of isolation. In several instances, reduced awareness of, or access to, helpful resources such as employee assistance plans, and mental health supports may have intensified their maladaptive responses.

Interviewee #17 (Path “E”) experienced a moderate loss of function and had not yet returned to his normal, pre-COVID pandemic level.

Although he was experiencing a perceived reduction in his prior functioning level, he was less severely affected by the pandemic than the other four individuals above. This may be

attributable to the fact that while he was experiencing the pandemic as stressful, comparatively, he was better positioned to resist its effects. He related no additional adversity factors, such as organizational change initiatives or home life complications, which the other four interviewees were experiencing.

Despite his pre-COVID-19 pandemic resilience level, he also had the benefit of being in a stable, long-term, senior management role with access to multiple resources and had no declared prior psychological issues.

### ***Adaptive Stress Response Paths***

Paths “A,” “B,” & “C” in Figure 2 on page 239, represent adaptive stress responses to the COVID-19 pandemic. These individuals perceived that their normal (pre-pandemic) function was largely unaffected by the COVID-19 adversity (Path “A”), or had returned to normal or near normal levels comparatively quickly (Path “B”).

Individuals represented by Path “C” described perceiving the pandemic as a challenge that conferred opportunities for individual and organizational growth. This is not to say they welcomed the pandemic, but being forced to confront it they chose to embrace the experience as a unique test of their mettle.

### ***Interviewee Number – Response to COVID-19 Adversity***

Path A: 2, 8, 11, 12, 18, 21 – Adaptive Response (normal, unaffected competence level & effectiveness as of interview date)

Path B: 1, 4, 5, 10, 16 – Adaptive Response (moderate initial reduction in competence with steady recovery to normal or near-normal competence & effectiveness as of interview date)

Path C: **6, 14, 15, 19** – Adaptive Response (optimal competence level & effectiveness as of interview date)

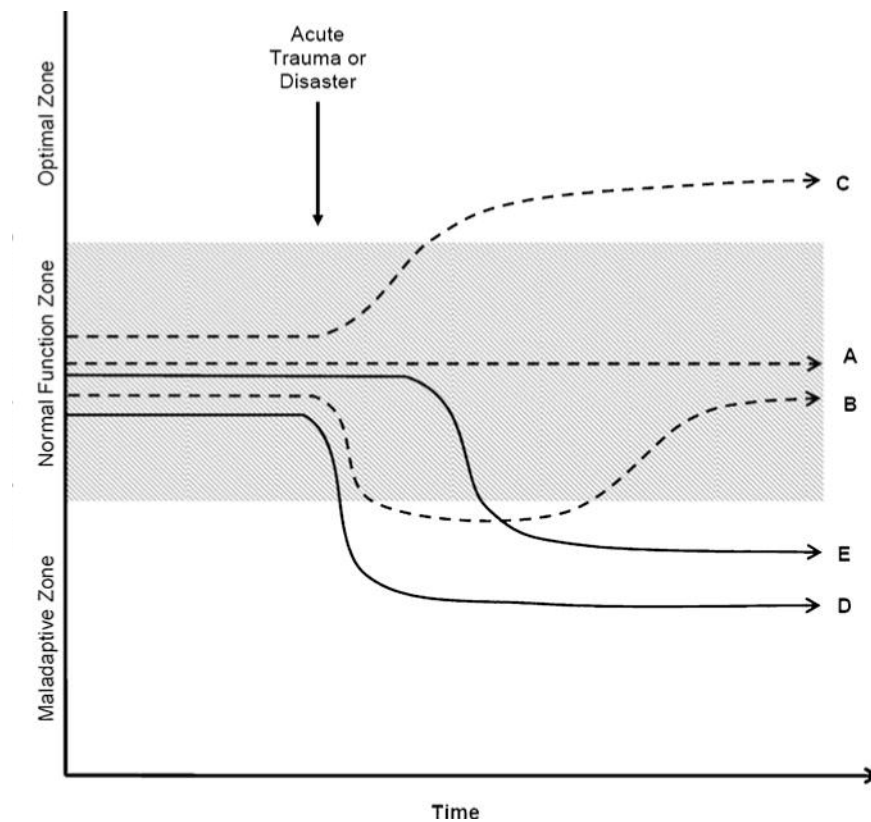
Path D: 3, 7, 9, 13, 20 – Maladaptive Response (significant negatively affected competence level without recovery to normal competence as of interview date)

Path E: **17** – Maladaptive Response (moderate negatively affected competence level without recovery to normal competence as of interview date)

Manager-leaders in bold type; Followers in Roman type.

## Figure 2

### *COVID-19 Resilience Trajectories*



*March 2020*

*June – October 2021*

*Note:* Illustrative pathways of adaptive function before and after an acute-onset disruptive (traumatic) experience. Dashed paths illustrate forms of resilience, and solid lines indicate maladaptive pathways. Path A illustrates stress resistance. Path B illustrates disturbance with recovery. Path C illustrates posttraumatic growth. Path D illustrates breakdown without recovery (yet), and path E illustrates delayed breakdown without recovery (yet).<sup>2</sup>

<sup>2</sup> *Annu Rev Psych.* Author manuscript. Masten, A. & Narayan, A. (2012)

### ***Resilience Evaluation Criteria***

The complex nature of the resilience construct enables multiple interpretations as to what constitutes “high” versus “low” resilience.

The two criteria selected for evaluation of individual participant resilience using the Inferred Psychological Capital scoring structure were “Executive Functions” and “Competence/Effectiveness.”

### ***Study Criterion: Executive Functions***

“Executive Functions” were identified as a critical component of resilience due to its importance in enabling individuals, particularly manager-leaders, to control their attention, behaviour, thoughts, and emotions, to respond effectively to the novel challenges presented by the COVID-19 pandemic (please refer to Appendices E - L).

Executive functions are self-directed, volitional actions required to identify and develop a goal. It also involves implementing the goal and maintaining the behaviour toward the goal that promotes its success, notwithstanding adversity (Baggetta & Alexander, 2016).

Demonstrating self-control, communicating effectively with staff to make sense of what is occurring amid highly fluid situations, and developing effective, flexible responses to constantly changing demands are emblematic of high executive functioning (Diamond, 2013).

### ***Study Criterion: Coping-Competence***

The acid test of resilience is the ability to positively adapt to the persistent adverse disruption of the COVID-19 pandemic by exhibiting effective coping skills and maintaining functional competence.

The variation in individuals' ability level to cope and demonstrate the operational competence necessary to sustain the delivery of services to their clients/customers or co-workers, even when significantly modified, was identified as a critical differentiator of competence.

### ***Executive Functions in COVID-19***

The ability to regulate one's emotions and exhibit effortful control, especially during the initiating moments of adversity, plays a significant role in determining the subsequent effectiveness of an individual's response. This was particularly notable among manager-leader interviewees whose reactions and responses to the numerous novel adversities associated with the early days of the pandemic appeared to have an outsized effect on followers.

Many, if not most, organizations and workers experienced the breadth, severity, and swiftness of the COVID-19 pandemic as disorienting. It frequently appeared to unmoor individuals from the comparative stability of their normal environments in both work and home domains.



In addition to government-mandated restrictions, many workers faced compulsory relocation to home offices. While many individuals welcomed the reprieve from time-consuming commutes, the non-voluntary social distancing from co-workers, frequently coupled with unexpected childcare and educational oversight responsibilities, created emotional stress and strain. This impact was especially notable for women with school-aged children.

The vast majority of the followers disclosed their perception of receiving solid support from their manager-leaders which enabled them to work as effectively as possible given the restraints associated with the pandemic.

Effective support included frequent, detailed communication about what was happening and the effect it might have on followers. The most effective manager-leaders displayed empathy and flexibility while providing support, engaged in sense-making and personalized problem-solving, and continually focused on the meaning and purpose derived from their individual and collective work.

Almost all of the followers expressed genuine appreciation for the efforts of the manager-leaders to keep them apprised of necessary changes on a real-time basis and to be sensitive to the impacts this had on both their working and personal lives.

### ***Keeping an Eye on the Prize***

The interviewees who demonstrated the highest Inferred Psychological Capital scores for Executive Functions of 8.0/10 or above (#2, 6, 14, 15 & 19) all declared having their sense of purpose and meaning positively impacted by the COVID-19 pandemic (refer to Appendix F). They all related maintaining their focus on meeting their stated organizational and/or personal goals and objectives despite the barriers presented by the pandemic. Additionally, they

recognized and acted on the opportunities for individual and organizational growth provided by the COVID-19 adversity.

The observed affect for all five of these individuals during the interviews was consistently positive. They understood the importance of displaying hope and optimism for their followers and peers, and continually connected their collective effort to their organizations' larger purposes.

The interviewees displaying the lowest Inferred Psychological Capital scores for executive functions (#3, 7, 9, 13, & 20) averaged 3.8/10. Four of five were in follower roles, and four of five disclosed previous diagnoses of anxiety and/or depression.

These individuals struggled to remain connected to their goals and their sense of purpose and meaning in their work. Their observed affect was uniformly negative as well.

### ***Competence in COVID-19 Adversity***

The other assessment criterion for measuring resilience was the ability to continue functioning effectively despite the highly adverse situations during the COVID-19 pandemic.

In the context of the interviewees, this ability was typically observed via activities associated with developing new plans, processes and products, as well as services, and occasionally even systems required to meet the novel demands of the single most disruptive event since the Second World War.

The interviewees displaying the highest Inferred PsyCap scores for Competence/Effectiveness with scores of 8.0 or more out of 10 were #1, 4, 6, 8, 11, 14, 15, 19 & 21.

Circumstances during the early months of the COVID-19 pandemic were changing daily, sometimes even hour-to-hour, as new governmental rules and public health mandates emerged, requiring organizations and workers to adapt continuously.

Manager-leader interviewees in this study described having to constantly interpret how to apply the new mandates for their workers since public health officials frequently developed these regulations on the fly, based on constantly changing data.

All of this novel interpretative work occurred in the context of attempting to meet organizational goals and fulfill organizational mandates. This entailed negotiating the challenges of severe staff shortages due to COVID-related illness. Often, staff shortages occurred due to illness of staff dependents rather than staff themselves. Other impediments to operational activities surfaced in the form of stress and mental health issues among workers and dealing with unreliable supply chains.

Eleven of the 15 manager-leaders interviewed for this study worked in public service organizations, such as those providing healthcare, educational, and community services. Seven of these manager-leaders led organizations that continued to deliver services to the public throughout the pandemic, which required them to bear the additional responsibility of ensuring the safety of their staff and clients.

Widespread uncertainty, confusion and fear were particularly prevalent during the first months of the pandemic. The resulting stress experienced by many workers, including manager-leaders, was unrelenting, and there was no perceivable end.

Notwithstanding these considerable impediments, 10 of the 15 manager-leader participants could relate examples of substantial competence in fulfilling their roles.

Interviewees cited multiple examples of high competence levels, mastery development and increased self-efficacy as they successfully rose to meet the pandemic's challenges.

The individuals who described struggling the most to function competently were working in roles they had not held prior to the start of the pandemic. Consequently, they found themselves working in environments with which they were largely unfamiliar, with minimal supervisory and social support. These interviewees were also working from their home offices in isolation from other staff. In three of five instances, the individuals involved had never met another co-worker or supervisor in the flesh.

### ***Divergent Pathways of Resilience***

#### ***Follower Paths***

Notwithstanding the efforts of the manager-leaders, four of the seven followers expressed perceiving a decline in their personal competence and effectiveness during the first 18 months of the pandemic (#3, 7, 9, & 13 – refer to Fig. 2 on page 239, Path “D”).

One follower (#10) felt that her competence had declined at the start of the pandemic but had recovered to pre-COVID-19 pandemic levels.

Two followers (#2 & 8 - refer to Fig. 2 on page 239, Path “A”) felt they had maintained their normal functioning, with no reduction in their competence or effectiveness during the first 18 months of the pandemic.

#### ***Manager-Leader Paths***

Four of the 14 manager-leaders (#1, 4, 5 & 16 – refer to Fig. 2 on page 239, Path “B”) related feeling initial declines in their pre-pandemic levels of normal functioning and

effectiveness during the first 18 months of the pandemic, however, all felt that they had returned to normal functioning at the time of the interviews.

Interviewees # 17 (Path “E”) & #20 (Path “D”) believed that they had yet to return to their pre-pandemic levels of normal functioning.

Four of the manager-leaders (#11, 12, 18 & 21 – refer to Fig. 2 on page 239, Path “A”) believed their competence and effectiveness were maintained at pre-pandemic levels during the first 18 months or so of the pandemic.

The final four manager-leaders (#6, 14, 15 & 19 – refer to Fig. 2 on page 239, Path “C”) all related feeling that their competence and effectiveness had improved significantly as a result of their responses to the pandemic.

Each one of the Path “C” manager-leaders related examples of how in the early days of the pandemic, they were able to grasp its potential implications on their organizations and their clients/customers. They proactively engaged with their staff to assure them of their organization’s commitment to them and promoted their shared sense of meaning and organizational purpose.

### ***The “Optimal Zone”***

These four senior manager-leaders exhibited resilience pathways (Fig. 2 on page 239, Path “C”) that Narayan & Masten (2018) defined as being in the “Optimal Zone” of adaptive functioning.

Three of four (#6, 15, & 19) were CEOs over 50 and had been in their roles for at least five years before the pandemic’s start. Two (#6 & 15) were very close to retirement and were

conscious of how their personal responses to the pandemic might influence their respective legacies.

Each of them related using COVID-19's impact as a catalyst for strategic initiative advancement, including substantial organizational changes that they believed would not have been possible without the impetus of the pandemic.

This was observed in the initiatives of several organizations, which accelerated the adoption and application of new technologies, thereby significantly increasing organizational capability and capacity. The requisite training and developmental opportunities for staff provided mastery opportunities, which resulted in increased employee self-efficacy and agency.

Finally, the reframing of the COVID-19 pandemic by these manager-leaders from a collective catastrophe to a unique opportunity for individual and organizational reinvention and reconnection to one's sense of meaning and purpose helped followers to refocus on a positive and optimistic future.

### ***Speculating on Resilience Differences***

The difference between the trajectory pathways for the manager-leaders versus the followers is likely attributable to the four main factors discussed earlier, i.e., genetic, epigenetic, environment and the individual's historical experience of resilience development.

As defined in this study, executive functions comprise emotional regulation abilities, attentional focus and impulse control, upon which critical cognitive skills and abilities such as analyzing, problem-solving, cognitive flexibility, innovation, and working memory reside. As Diamond (2013, p. 153) noted "executive functions and the prefrontal cortex are the first to suffer and suffer disproportionately if you are stressed, sad, lonely, or not physically fit".

The Executive Functions score of 3.8/10 for followers was the lowest of any of the eight Inferred Psychological Capital factors. Four of the five followers scoring the lowest in Executive Functions were the individuals who expressed experiencing the greatest challenges dealing with the pandemic due to their employment situations, relative youth and lack of work and life experience, as well as having received a pre-COVID-19 diagnosis of anxiety and/or depression.

The gap in the Inferred Psychological Capital scores for Executive Functions (Factor 5) between manager-leaders and followers working in junior organizational roles at 4.0 points was particularly pronounced (please see Appendix K).

Genetic and epigenetic factors play a significant role in determining an individual's stress response to adversity. Manager-leaders generally exhibited more highly developed executive functions, most of which are dispositional, than did followers. However, manager-leaders may also have benefited from the advantages associated with their more senior roles in the organization, greater resources at their disposal, comparative maturity, and the benefit of drawing on considerable work and life experience gained during their rise through their organizational ranks.

The average Inferred Psychological Capital Executive Functions scores indicate a sizable gap of 2.3 points between interviewees who disclosed a depression diagnosis (4.8/10) versus non-disclosing interviewees (7.1/10).

Coping-Competence scores also reflect an appreciable difference of 2.5 points. Overall resilience score for interviewees disclosing prior depression versus those who did not disclose prior depression reveals a sizable gap of 2.4 points, with a non-disclosing interviewee resilience average of 7.3/10 versus the disclosing interviewee average of 4.9/10.

It may be that individuals who were “steeled” by their exposure to adversity rather than sensitized by challenging experiences distinguished themselves as better suited for management roles than individuals who proved less resilient during difficulties.

Individuals displaying more adaptive resilience trajectories may have been selected for manager-leader roles due to their innate resilience capabilities, and these may have benefitted from further development due to years of experiencing the multiple adversities inherent in organizational life and perhaps with life in general.

Having had years, and in some cases, decades, of mastery development opportunities may have resulted in a strengthened sense of agency, self-efficacy, and personal-influence beliefs for those who successfully reached the upper echelons of their organizations. These attributes may also have proffered a comparative advantage for the manager-leaders in facing the most challenging collective crisis of the past seventy years.

### ***A Resilient Future***

Although Garmezy & Masten’s Project Competence study ended in the late 1990s, its findings continue to provide insights into how resilience is developed (or not). Their observations and subsequent research findings by many others have increased our understanding of the complex relationships between adversity, stress response, coping and the development of resilience.

The significance of the mutually influencing, bi-directional exchanges between the individual and their context reinforces the importance of manager-leader and organizational understanding and leveraging the reciprocal nature of this relationship to maximize resilience development in organizational contexts.



Manager-leaders exercise significant influence over the environment in which their followers reside. Manager-leader behaviour manifested as social influence, role modelling, provision of appropriate mastery opportunities, and supportive coaching for individuals during high-adversity situations such as COVID-19, offer daily opportunities to help followers cope more effectively and adapt more successfully to the disruptions yet to come.

### *The Psychological Capital Caravan Continues...*

The psychological capital construct of resilience provides further evidence of Hobfoll's "Caravan of Resources" contained within his Conservation of Resources theory.

Conservation of Resources is a motivational theory that posits that individuals employ key resources to effectively self-regulate, develop and maintain constructive social relations, and behave productively in organizational settings and, more generally, in society. They do this to "obtain, retain, foster and protect those things they centrally value... including health, well-being, peace, self-preservation, and a positive sense of self" (Hobfoll, 2010, p. 117).

These resources "do not exist individually, but travel in packs or caravans for individuals and organizations. Because resources tend to be the consequence of nurturance and learned adaption, they will likely appear as co-travellers. For example, self-esteem, optimism and self-efficacy emerge from common environmental and developmental conditions and are highly correlated" (Hobfoll, 2017, p. 107).

The key resources on which individuals depend for acquiring and retaining the things they value include the constructs of hope, self-efficacy, resilience, and optimism. Each of these constructs demonstrates high convergent validity with the other three constructs, collectively producing a synergistic effect, which is labelled psychological capital (Luthans et al., 2007).

Examination of the Inferred Psychological Capital scores (please refer to Appendix E) supports Hobfoll's "resource caravan" analogy. The average intra-interviewee variability for the hope, self-efficacy, resilience, and optimism constructs is less than 3 (on a scale of 1 – 10).

Rutter's (2012) paper on resilience development refers to multiple studies which described the positive adaptation of study participant behaviours, including self-mastery (self-efficacy) and personal agency and planning (hope) during adversity (see, e.g., Elder, 1974; Hauser et al., 2006; Quinton & Rutte, 1988).

The experiences of moderate adversity that challenge people not only promote the development of resilience; they also bolster self-efficacy. Successfully navigating, possibly even thriving, during adverse events provides evidence of an individual's competence and effectiveness. It enhances one's sense of personal agency and builds the self-belief that one can successfully weather life's adversities.

It seems probable that people who are resilient, who demonstrate personal agency and self-efficacy also believe they can positively influence future outcomes through their own efforts, i.e., are optimists.

Optimism, the last of the four psychological capital constructs, will be explored in the next section.

### **Interpretation of Interviewee Optimism During Disruption**

The fourth and final pillar of psychological capital is optimism.

Optimism and its opposite, pessimism, are “broad, generalized versions of confidence and doubt; they are confidence and doubt pertaining to life, rather than just to a specific context” (Carver et al., 2010; p. 880).

Scheier & and Carver (1992) described this attribute of global expectancies of positive outcomes as dispositional optimism. This attribute was “relatively stable across time and context...forming the basis of an important characteristic of personality” (Scheier & Carver, 1992, p. 202).

So important is optimism in positive human development that Nobel prize-winning economist Daniel Kahneman suggested, “If you were allowed one wish for your child, seriously consider wishing him or her optimism” (Kahneman, 2011, p. 247).

### **Optimism Defined**

Optimism is typically defined as “a generalized positive outcome expectancy” (Scheier & Carver, 1985, p. 219). Optimistic people expect good things to happen to them, while pessimists expect bad things to happen to them (Carver et al., 2010).

Optimism is associated with various beneficial outcomes, such as greater physical and psychological well-being (Hanssen et al., 2015; Birkeland et al., 2017).

“Optimism and pessimism may be especially important personality traits because of their associations with mental health” (Plomin et al., 1992, p. 928). Pessimism predicts hostility and

cynicism, whereas optimism does not. Both optimism and pessimism add to the prediction of depression and life satisfaction (Plomin et al., 1992).

Multiple studies have also demonstrated associations between optimism and individual health, particularly concerning cardiovascular disease and cancer (Millstein et al., 2019). However, there are studies which have shown no association between optimism and improved health outcomes, for example, in lung cancer treatments (Schofield et al., 2004) and in male HIV patients (Tomakowsky, 1994).

Notwithstanding some contradictory evidence, it appears that individuals with greater dispositional optimism live longer than those with less, especially those described as pessimists, i.e., individuals who generally anticipate negative outcomes (Sharot, 2011).

### ***Optimism in Positive Human Development***

Consistent with the prior psychological capital constructs of hope, self-efficacy, and resilience, optimism for this study is conceptualized within the positive human development framework that emphasizes the plasticity of the relationships that promote an individual's progress across their lifespan (Lerner, 2006a).

This relational framework posits that “all levels of organization within the ecology of human development are integrated or fused. These levels range from biological and physiological to cultural and historical. Developmental regulation across ontogeny involves mutually influential individual  $\leftrightarrow$  context relations. As a consequence of the integration of levels, the regulation of development occurs through mutually influential connections among all levels of the developmental system, ranging from genes and cell physiology through individual

mental and behavioral functioning to society, culture, the designed and natural ecology and, ultimately, history” (Lerner, 2006b, p. 44).

In studying the disruptive effects of the COVID-19 pandemic on psychological capital, the levels involved include the interviewees’ individual genetic and epigenetic influences, environmental setting, social support network and various resources, including the relationship between study participants and their immediate manager-leader.

As with the previously discussed psychological capital constructs of hope, self-efficacy, and resilience, the typical understanding of optimism represents only the tip of the iceberg of a much more complex concept. Within psychological research, there are a variety of interpretations of optimism’s meaning based on different theoretical approaches.

### ***Theoretical Approaches to Optimism***

The expectancy and explanation approaches are two of the most utilized perspectives for conceptualizing optimism.

### ***Dispositional Optimism***

Optimism as a stable trait of personality wherein one has a generalized propensity to expect that things will turn out for the best is dispositional optimism (Gillham et al., 2001).

Although optimism is generally considered a trait, several studies have found it to be modifiable due to cognitive reappraisals and certain life transitions and, therefore, may be conceptualized as a state in certain circumstances (Millstein et al., 2019). State optimism has also been found to be a unique predictor of work performance (Kluemper et al., 2009).

The term “situational optimism” has been coined to describe the phenomenon where the particular circumstance experienced in a given context exerts an outsized influence on an individual’s perception of the future and its affect.

Multiple studies on crisis leadership have confirmed that “while executives’ dispositional optimism remained constant even during a crisis, their level of situational optimism decreased and experienced changes during key phases of handling the crisis from the onset to the end of the crisis” (Monehin & Diers-Lawson, 2022, p. 6).

Interestingly, this same study reported executives stating that even when their level of optimism decreased, ranging from moderately to severely during the crises, “all participants denied becoming pessimistic during or after the crisis” (Monehin & Diers-Lawson, 2022, p..6).

This suggests that dispositional optimism and situational optimism are not mutually exclusive and may co-exist simultaneously, depending on individual circumstances and context. Low optimism and pessimism may not be synonymous.

Carver’s definition of dispositional optimism as “broad, generalized versions of confidence... pertaining to life, rather than just to a specific context” (Carver et al., 2010; 880) suggests that dispositional optimism constitutes an individual’s overarching perspective on life. It does not preclude the possibility that one will experience situations that may, at least temporarily, diminish one’s optimism.

It seems logical and consistent with an understanding of human nature that even individuals described as optimistic will encounter periodic failures and disappointments that might severely shake their confidence in the future. Experiencing a reduction in one’s optimism due to job loss, divorce, illness, or the loss of a loved one seems an innately human response.

The key for the dispositionally optimistic is that, at some point, the reduction in optimism precipitated by an adverse situation will resolve, and the individual will return to their previous level of dispositional optimism, possibly aided by an individual's coping abilities and time.

### *Expectations and Explanations*

Consistent with the relational concept that emphasizes the mutual influence of the individual and their context, an individual's life experiences and responses to them play an important role in developing one's personality, including their level of optimism.

How individuals explain their experience to themselves, including their causal or influential role in producing a particular outcome, whether positive or negative, is affected by and affects their level of optimism.

The manner and extent to which individuals attribute and explain positive or negative outcomes might also influence their sense of self-efficacy, resilience and hope for future goal attainment.

Expectancy-value models of motivation are associated with optimism and pessimism because they focus on future expectations. Expectancy-value theories assume that an individual's behaviour reflects their expectation that they can achieve their desired goal, and the more valuable the goal, the more motivated an individual is to pursue it, even when difficult (Carver et al., 2010).

Optimists believe they will succeed at their goals and, therefore, expend more effort and demonstrate greater perseverance in their pursuit. Pessimists tend to be more hesitant and doubtful of their success, resulting in comparatively less perseverance in goal pursuit than optimists, especially when faced with adversity (Carver et al., 2010).

### *Attributional Optimism*

Explanation-based, or attributional optimism, describes how individuals construct the meaning of events to understand them (McLeod, 2023). The differences in individual attributional style affect the perception of one's locus of control, i.e., internal or external, where one chooses to focus their attention, and the valence one ascribes to an event. In this sense, optimism and pessimism may be considered patterns of attributions about the cause of events, which produce expectations.

Optimists tend to attribute negative outcomes of specific events to external causes that are temporary and restricted to a specific domain of their lives. In contrast, positive outcomes represent the natural order of affairs for optimists. Optimists perceive positive outcomes as being influenced by their efforts, durable over time, and more generally applicable, i.e., successes are not anomalies but typical and affect multiple domains of their lives.

Pessimists tend to hold the opposite view. Negative events are perceived as due to the individual's innate deficiencies, longer lasting, and having a wider impact on their life. When good things happen to pessimists, they attribute them to sources outside themselves, expecting the positive event to be temporary and restricted to a specific area of their lives.

### *“Trait” or “State,” again...*

Literature describing the dispositional theory of optimism defines it as a trait, and, therefore, largely fixed once an individual reaches adulthood (Carver et al., 2010).

Various studies have reported optimism to be quite stable over time, including years, with test-retest reliabilities ranging from 0.58 – 0.79 (Carver et al., 2010), while other research



suggests that optimism is more state-like and moderately changeable based on an individual's situation, context and affect (Millstein et al., 2019).

Studies on identical and fraternal twin pairs suggest that heritability accounts for approximately 25% of an individual's level of optimism (Plomin et al., 1992). While an important factor, genetics does not explain the remaining 75% of a person's optimism, which is where environment, nurturing, and experience emerge.

### *Plastic Optimism*

Attributional optimism appears to be subject to some degree of variability depending on whether an event is construed as positive or negative, based on an individual's attribution of the event's internal or external causality, duration, and pervasiveness (Houston, 2019).

A key concept within positive psychology, positive human development, and psychological capital theory, is the innate plasticity of people's developmental ability. Psychological capital considers the four first-order constructs of hope, self-efficacy, resilience, and optimism to be state-like conceptions that are changeable and, therefore, developable. The originator of the psychological capital construct, Fred Luthans, (Luthans et al., 2004), relied primarily on Martin Seligman's (1990) approach to understanding optimism with an attributional rather than dispositional perspective.

Through genetic, epigenetic, and early life experiences, individuals develop a baseline level of their general expectations of the future. This may include their disposition on how they attribute life's events, their role in producing outcomes, and the duration and pervasiveness of the associated consequences, whether desirable or unwelcome.

### *The Optimism Continuum*

While it is typical for people to be described in black-and-white terms as either an optimist or pessimist, they can present anywhere along the continuum, ranging from very optimistic to very pessimistic (Carver et al., 2010).

Optimism and pessimism testing scores as per instruments such as the Revised Life Orientation Test (Scheier & Carver, 1985) yield a continuous distribution of scores from low optimism, also described as high pessimism, to high optimism, described as low pessimism.

Optimism and pessimism are typically considered to occupy opposite ends of a bipolar, unidimensional construct (Carver et al., 2010), but this is not a universal belief. Various studies suggest that optimism and pessimism are separate constructs that may predict different outcomes in certain situations (Mroczek et al., 1993; Robinson-Whelen et al., 1997; Sherzberg et al., 2006).

Monehin & Diers-Lawson's (2022) study of executives identified optimism as a critical leadership trait vital for contingency planning and critical to the success or failure of crisis management. Optimism was instrumental in improving executives' ability to engage in collaborative decision-making during crises which led to higher-quality decisions.

Optimists are estimated to comprise most of the population, ranging from 60% (Seligman, 1990) to 80% (Segerstrom, 2006) of all people. This may be attributable to an evolutionary adaptation that conveys advantage to those who look on the bright side of life.

### *Evolutionary Optimists*

According to Sharot (2011), the emergence of conscious foresight in humans enabled the ability to imagine one's future. While bestowing many advantages, anticipating the future is not an unalloyed blessing, especially the ability to comprehend one's ultimate demise.

Sharot (2011) posited that humans developed the ability to form illusions of the future that were positively valenced to offset the potential for collective nihilism. The effect of this adaptation was to bias humans toward overestimating the likelihood of positive outcomes and underestimating the likelihood of negative ones.

The expectation of positive outcomes in life, the belief that one would achieve a desired goal, encouraged greater effort and perseverance in anticipation of ultimate success. Individuals who did not believe they would succeed tended to decrease their effort, resulting in reduced goal achievement.

In effect, believing one could achieve a desired goal inspired the effort to bring it about, which in turn increased the probability of a successful outcome (Sharot, 2011).

McKay and Dennett (2009) concluded that optimistic illusions were the only group of adaptive misbeliefs because they enabled positive action in the face of uncertainty.

Puri and Robinson (2007) found that optimistic individuals worked longer hours, saved more money, and were more likely to remarry after divorce (although the latter may better represent the triumph of hope over experience rather than optimism).

Nobel Prize-winning behavioural economist Daniel Kahneman's hypothesis on optimism is that "the people who have the greatest influence on the lives of others are likely to be

optimistic and overconfident, and to take more risks than they realize” (Kahneman, 2011, p. 248). This, of course, can be a double-edged sword.

Numerous studies provide evidence that being optimistic is desirable. However, as with many other attributes, one can have too much of a good thing. In the case of extreme optimism, this can promote potentially disastrous consequences.

Poor investment decisions and harmful health-related behaviours such as unhealthy eating habits, smoking, excessive alcohol consumption, problem gambling, and risky sexual behaviour are associated with individuals demonstrating extreme optimism (Sharot, 2011).

### ***Irrational Exuberance***

When experienced at the individual level, the serious negative consequences of extreme optimism can be heart-breaking; when occurring collectively, the societal impact can be calamitous.

Multiple examples exist of the role of extreme collective optimism in exacerbating the ruinous effect of events such as the collapse of the U.S. stock market in 1929, which was largely due to unbridled speculation that precipitated the decade-long Great Depression. Likewise, much of the energy fueling the financial crisis of 2008 was an unrealistic belief that house prices would continue to rise indefinitely, leading to a housing bubble in the United States that imploded with devastating global effects (Bondarenko, 2015).

### ***Mechanisms of Optimism***

Optimism beneficially affects physical health in two ways. Expecting positive outcomes reduces stress and anxiety, thereby reducing the negative effects of chronic stress associated with

persistent activation of the body's "fight or flight" response. Optimism also aids health-promoting behaviours such as proper nutrition and regular exercise (Sharot, 2011).

Whether an individual anticipates a positive versus a negative outcome is important because this belief is connected to the core processes of motivation that underlie behaviour. Individuals demonstrating hopelessness are at greater risk for depressive disorders, whereas those manifesting positive future expectations enjoy greater psychological and physiological well-being (Carver et al., 2010).

Optimism is strongly correlated with individuals' coping ability during adversity and, therefore, to their resilience (Hanssen et al., 2015). It is also connected to goal-directed behaviour, self-regulation abilities, and the will to strive to achieve desired outcomes despite difficulties (Nes & Segerstrom, 2006).

Optimists utilize approach-focused problem-solving skills when facing adversity rather than avoidance. Optimists resort to emotion-focused coping skills such as acceptance, humour and reframing only when problem-solving approaches do not work due to a lack of controllability of the situation (Conversano et al., 2010).

The inclination of optimists to use an approach orientation to coping rather than avoidance is helpful when confronting either problem-focused or emotion-focused stressors. The ability to employ different coping skills for addressing controllable versus uncontrollable circumstances enables optimistic individuals to provide the most adaptive response to the situation at hand (Nes & Segerstrom, 2006).

### ***Optimism in COVID-19***

In evaluating the psychological capital construct of optimism for the interviewees during the COVID-19 pandemic, three main criteria were identified to explicate the phenomenon. These were the observed affect of each participant during the interview, their expressed level of belief in a positive future outcome of their COVID-19 experience, and the level of personal influence they believed they possessed to facilitate the desired positive outcome.

The valances of the affect factor for each interviewee and the inferred scores based on their interviews are recorded in Appendices E - L.

This study focuses on the relative level of optimism observed between interviewees and intentionally avoids using the term “pessimism” when describing the lived experience of the interviewees. Pessimism has been associated with cynicism and hostility, neither of which were observed in the interviews.

Also, the inferred psychological scales measure the observed quantity of one construct from a minimum of 1 out of 10 to a maximum of 10 out of 10. For rating interviewees’ optimism, a score of 10 would indicate the maximum amount of optimism, and 1 would indicate the minimum amount of optimism rather than being indicative of pessimism.

The term “low optimism” describes interviewees exhibiting negative affect, comparatively lower expectations of future outcomes and a diminished belief in their ability to influence events in pursuit of their goals relative to the other interviewees.

Participant interviews were conducted over a five-month period from June 2021 – October 2021, approximately 15 – 20 months after the World Health Organization’s pandemic declaration (WHO, 2020).

### *Inferred Psychological Capital Scores for Optimism*

The inferred optimism score for the interviewees is derived from the average of Factor 7 (Positive Outcome Belief) and Factor 8 (Personal Influence Belief), as found in Appendices E - L.

Factor 7 is defined as “Positive Outcome Belief” and refers to the interviewees’ implied scores on a scale of 1 – 10 for their experience and expectation of positive outcomes associated with the COVID-19 pandemic.

It is similar to Scheier and Carver’s dispositional optimism in that it reflects the interviewees’ general belief, or gestalt, that despite the many difficulties and sacrifices experienced through the pandemic, they would survive and emerge stronger.

Factor 8 is defined as “Personal Influence Belief” and refers to the interviewees’ implied scores on a scale of 1 – 10 for their conviction in their own ability to positively affect the outcome of the pandemic as it pertains to them and their organizations.

This is similar to Seligman’s attributional optimism, where optimistic individuals explain the outcome of negative events such as the COVID-19 pandemic as due to environmental or situational factors that are temporary and restricted in their effect to specific domains in one’s life (Gillham et al., 2001).

Highly optimistic interviewees with combined Factor 7 & 8 scores of  $>$  or  $=$  17 out of 20, (#2, 5, 6, 11, 12, 14, 15, 19, 21, please refer to Appendix E) largely attributed the positive outcomes associated with the pandemic, such as personal growth, and organizational improvements in processes and services, to their own efforts, and those of others with whom they work. The pandemic, an event external to themselves, presented the opportunity. However,

the recognition of the pandemic as potentially offering exceptionally favourable circumstances for personal and organizational advancement was due to their own optimistic perspective and sense of agency.

Interviewees exhibiting the lowest inferred optimism scores  $< \text{or} = 10$  out of 20, (#3, 7, 9, 13, please refer to Appendix E ) tended to attribute their current adversities to circumstances associated with the pandemic itself and coincident external events such as a major organizational change initiative, and the negative effects of social isolation due to enforced work from home requirements.

All of these individuals were in follower roles, and three of the four were younger and more precariously employed than the highly optimistic group. Once again, the context and an individual's particular environment exert a powerful influence on one's ability to respond to adversity.

The remainder of the interviewees (#1, 4, 8, 10, 16, 17, 18 & 20, please refer to Appendix E) displayed positively valenced optimism with inferred scores ranging from 11 out of 20, to 16 out of 20.

These interviewees described pandemic-related experiences producing greater variability in their levels of optimism than did either the low-optimism or high-optimism groups, whose level of optimism remained more consistent, whether positively or negatively valenced.

This effect may be attributable to the manner in which the middle group experienced the ups and downs of the COVID-19 pandemic, i.e., some events influenced their optimism in a positive direction and events that influenced it negatively. Their optimism was neither very high



nor very low but varied within a moderately positively-valenced range depending on the nature of their particular circumstances and their reactions to them.

### *Connecting Optimism and Meaning*

Individuals scoring higher in the “Positive Outcome Belief” and “Personal Influence Belief” factors declared experiencing the effect of the pandemic on their sense of purpose and meaning as predominantly positive or neutral (please refer to Appendices F & G) versus individuals scoring lower in these two factors (please refer to Appendix H), who declared a predominantly negative effect on their sense of purpose and meaning attributable to the pandemic.

Interviewees declaring a predominantly positive or neutral pandemic-related effect still experienced hardship and disruption but generally chose to reframe these challenges as exploitable opportunities.

The differences between the positive and neutral effect on interviewee purpose and meaning scores were minimal. Scores for Factor 7 (Positive Outcome Belief) for the positive effect group were 7.4/10 versus 7.8/10 for the neutral effect group.

For Factor 8 (Personal Influence Belief), scores for the positive effect group were 8.5/10 versus 8.8/10 for the neutral effect group (please refer to Appendices F & G).

The group with a declared negative effect of the pandemic on their sense of purpose and meaning, however, scored much lower than either the positive or neutral groups, with 5.6/10 for Factor 7 (Positive Outcome Belief), and 5.4/10 for Factor 8 (Personal Influence Belief). Please refer to Appendix H.

The differential in Positive Outcome Belief scores for individuals with a declared positive effect of the pandemic on their sense of purpose and meaning versus those with a declared negative sense of purpose and meaning was 1.8 points (7.4 versus 5.6/10). Please refer to Appendices F & G for details.

The difference between the individuals with a declared neutral sense of purpose and meaning effect versus the negative group was 2.2 points (7.8/10 vs. 5.6/10). Please refer to Appendices G & H for details.

The differential for Personal Influence Belief scores for the same groups was much greater at 3.1 points (positive-effect group versus negative-effect group) and 3.4 points (neutral-effect group versus negative-effect group). These differences were among the largest of any of the inferred psychological capital scores in the study.

Each interviewee was asked if they perceived their lived experience of the COVID-19 pandemic as disruptive, and if so, did they perceive the disruption as having a positive, negative or neutral effect on their sense of purpose and meaning (please refer to Appendix E).

All interviewees disclosed that the pandemic had disrupted their lives to varying degrees. Interviewees who felt that the effect of the pandemic on their sense of purpose and meaning at work was positive, represented 13 of the 21 participants (Interviewees #1, 2, 6, 8, 10, 13, 14, 15, 16, 18, 19, 20, 21, please refer to Appendix F). Their average inferred optimism score was 8.0/10.

These individuals recounted feeling a stronger or renewed appreciation for the importance and value of their work and, therefore, its meaning to them. The extraordinary demands placed on the interviewees by the pandemic spurred a re-engagement for most. This

effect may have been amplified among these individuals due to their particular work environments, as 11 of 13 worked in educational or healthcare-related roles where the pandemic's disruption was particularly acute.

The five interviewees who disclosed that the pandemic harmed their sense of purpose and meaning had an average inferred optimism score of 5.5/10 (Interviewees # 3, 5, 7, 9, 17). Please refer to Appendix H for details.

Six interviewees (#3, 5, 7, 9, 13, 20) exhibited negative affect and anxiousness about what the future held for them.

The remaining three interviewees described the pandemic's effect on their sense of purpose and meaning as neutral (interviewees #4, 11, 12). Their inferred optimism score was 8.3/10, slightly higher than the group who described their experience as positive. Please refer to Appendix G for details.

All three of these interviewees presented as strongly future-focused and pragmatic. They displayed a high sense of agency, self-belief, and a growth mindset (please see Appendix G). These individuals were looking beyond the pandemic and were proactively working to position themselves for a transition from their then-current roles into more desirable positions, and had been even before the pandemic began. They remained committed to their advancement plans regardless of the effect of the pandemic and appeared undeterred by its effect.

The data suggest that individuals whose sense of meaning and purpose prior to the pandemic was high or who saw it increase as a result of the adversity experienced far less distress than individuals whose sense of purpose and meaning were negatively impacted by the COVID-19 pandemic.

### *Speculating on Differences Between Interviewees*

Amid an event considered almost universally disruptive and unwelcome, how is it possible that more than three-quarters of study participants had their sense of purpose and meaning unaffected, or strengthened through the COVID-19 pandemic? There are a number of possible explanations for this effect.

### *Prosocial Motivation and Meaning*

The majority of the study participants (19 of 21) worked in the public sector or not-for-profit organizations whose expressed missions are to serve the public. These included post-secondary education, healthcare services, community service, and wellness organizations. Only two of the 21 interviewees worked in the private sector, one in the oil and gas industry and the other in a major bank.

People drawn to work in more service-oriented roles and less focused on profit and shareholder value may be predisposed to place greater emphasis on their sense of purpose and meaning than individuals working in the private sector (Lyons et al., 2006).

A number of studies suggest that “non-profit employees are much like public-sector workers in having more prosocial motivations for doing their job” (Rotolo & Wilson, 2006, p. 24), and individuals working in the public sector are more inclined to donate their labour than individuals in private sector organizations (Gregg et al., 2011).

It often takes a crisis of the magnitude of the COVID-19 pandemic to stir individuals to reflect on why they do what they do. Many of the individuals in this study working in healthcare and community services witnessed firsthand the effects of their efforts. They expressed feelings

of reconnection with the prosocial motivation that initially brought them to the caring professions.

### ***Role Context***

Almost one-half of the interviewees (nine of 21) were in senior manager/executive roles, seven of the interviewees were in mid-manager roles, and five were in front-line support roles.

Of the senior managers/executives, five described their sense of purpose and meaning as being positively affected by the pandemic, while four described the pandemic's effect as neutral. The five positively oriented interviewees described activities reflecting high engagement with their staff, while those professing the pandemic's neutral effect on their sense of purpose and meaning related an emotional distancing from the people reporting to them.

### ***Optimism & Depression***

Individuals declaring previous experience of depression had considerably lower optimism scores than non-disclosing interviewees. They were also much more likely to display negative affect during the interview and to perceive the COVID-19 pandemic as negatively affecting their sense of purpose and meaning.

As with the previously examined psychological capital constructs of hope, self-efficacy, and optimism, individuals with stronger social connections, be they family, friends or co-workers, and access to resources such as employee assistance plans fared much better during the pandemic than those without access to these assets.

### ***Optimism, Psychological Capital, and the Resource Caravan***

Interviewees who scored the highest on optimism also scored highest on the other three HERO constructs, resulting in higher psychological capital scores overall. The reverse was true for individuals with the lowest optimism scores.

These results are consistent with Hobfoll's resource caravan and positive human development's hypothesis of mutually influential individual  $\leftrightarrow$  context relationships.

### **Conclusion**

While there may be some divergence on the nature of the optimism construct, there is no disputing its importance in influencing individual perception, interpretation, and action. A large amount of evidence suggests that humans have an evolutionary bias toward optimism and that there are multiple valuable benefits associated with this adaptation.

Manager-leaders may have limited sway over the development of individual trait-driven dispositional optimism. However, evidence suggests that there are significant benefits in working to strengthen individuals' attributional state-influenced optimism.

The benefits of doing so are significant and accrue to individuals, organizations, and, ultimately, society. Commitment to the organization, improved organizational citizenship behaviours, job satisfaction, and performance can be positively impacted by increasing individual state optimism (Kluemper et al., 2009).

Understanding how a person perceives and interprets what happens to them in their environment can provide a manager-leader with valuable insights into an individual's developmental roadblocks and opportunities.

At a minimum, manager-leaders should seek to identify and overcome learned helplessness in themselves and their followers and try to avoid pessimism's detrimental consequences of cynicism, hostility, and depression.

What is apparent is that while there are numerous advantages to being an optimist in multiple dimensions of life, it is even more important from a mental health perspective to avoid becoming a pessimist, or to take concrete steps to reduce one's pessimistic view of the world due to its connection with hostility, cynicism, and ultimately, impaired mental health. As Plomin et al. (1992, p. 929) state, "... individuals with a genetic propensity towards low optimism and high pessimism are also at genetic risk for mental health problems".

A vastly increased awareness of the importance of mental health in the workplace and life, generally due to the profound negative impact of the COVID-19 pandemic, has spurred organizations and governments to act on this critical societal issue.

### ***Enlightened Self-Interest***

Manager-leaders play an essential role in identifying and supporting their followers in maintaining and improving their personal well-being, including their optimism and psychological capital.

As with resilience, optimism's role in promoting adaptive coping ability may be its greatest attribute during adversity. The interviewees who have weathered the disruptive effects of the COVID-19 pandemic have coped much more effectively than those who have not.

The findings of this study confirm the importance of optimism in supporting human development. The mutual connection of optimism to the other three psychological capital

constructs of hope, self-efficacy, and resilience supports the principle of psychological capital as a resource caravan.

In summary, one is more likely to live a longer, healthier, and happier life with an optimistic outlook, even if one experiences similar travails to the pessimist. Optimism is about the interpretation and internalization of the events of one's life and, ultimately, how one chooses to behave in the world.

The accelerating volatility, uncertainty, complexity, and ambiguity of our world, coupled with increasing disruption, suggests an urgent organizational and societal imperative to help individuals become more adaptable and increase our individual and collective psychological capital.

### **Interpretation of Interviewee Psychological Capital - Summary**

Theme 2 provided an explication of the disruptive effects of the COVID-19 pandemic on each of the four psychological capital constructs of hope, self-efficacy, resilience, and optimism on the study's participants.

The following is a summary of the key findings for the combined constructs, i.e., for the participants' psychological capital during the pandemic.

### **Key Findings**

The most notable findings of this study on the effects of the pandemic on individuals' psychological capital are:

- 1) Interviewees with higher Inferred Psychological Capital scores consistently coped more effectively than those with the lowest scores, were better able to maintain goal congruence



through the first 18 months of the pandemic, experienced increases in their self-efficacy, and maintained, or increased their sense of personal influence and belief in positive outcomes.

2) While there was considerable variation in the Inferred Psychological Capital Average Scores amongst the interviewees, there was substantial intra-interviewee consistency among the four constructs of hope, self-efficacy, resilience, and optimism.

This may be partly explained by Hobfoll's (1998) theory of the "resource caravan", wherein resources do not exist individually but tend to aggregate and travel in packs.

3) Individuals who declared either a positive or neutral effect of the pandemic on their sense of purpose and meaning recorded higher Inferred Psychological Capital scores than those who declared a negative effect of the pandemic on their sense of purpose and meaning. The direction of causality is unclear, i.e., whether a strong sense of purpose and meaning produced high Inferred Psychological Capital scores or vice versa.

Consistent with positive human development and relational developmental systems theories, it is likely that the phenomena of sense of purpose and meaning, and psychological capital have a dynamic, mutually influencing bidirectional effect.

4) The vast majority of interviewees with either positive or neutral declared the effects of the pandemic on their sense of purpose and meaning, and with comparatively higher Inferred Psychological Capital scores, exhibited a predominantly positive affect during the interviews. Almost all interviewees with a declared negative effect on their sense of purpose and meaning due to the pandemic and who had comparatively lower Inferred Psychological Capital scores displayed a predominantly negative affect.

5) Interviewees who were more mature (approximately 50+ years or older), who had significant tenure in their organizational roles, often in senior management positions, and who had stable personal lives, had higher Inferred Psychological Capital scores than younger, more precariously employed individuals residing in junior organizational roles.

These younger workers tended to have less stable social connections, whether to friends, co-workers, or family. Four of these individuals disclosed having been previously diagnosed with anxiety or depression, which may have been exacerbated by the pandemic's effect, as suggested in the World Health Organization's 2022 report identifying a disproportionately negative impact of the COVID-19 pandemic on the mental health of younger people. (WHO, 2022).

The more established, middle-aged, and older interviewees with more stable work roles typically had greater access to personal and organizational resources, such as employee assistance plans, that they could draw upon when required.

## **Summary**

In summary, individuals with higher Inferred Psychological Capital scores appeared to fare much better during the COVID-19 pandemic than those with lower scores due to the abovementioned factors.

Genetic, epigenetic, and formative environmental influences and prior life experiences that were not readily discernible during the interviews undoubtedly play a role in developing each individual's psychological capital.

It is apparent that the interviewees in this study who expressed a strong sense of purpose and meaning in their lives, who demonstrated self-agency combined with directed effort, who

believed in their ability to master the challenges associated with the pandemic, and who coped effectively in the face of adversity while maintaining an optimistic view of their future, not only endured the disruption better than those who did not, but in more than a few cases, also excelled and grew.

The recognition of this phenomenon provides cause for cautious optimism about our collective future, for it is inevitable that humanity will have a greater need of these abilities in the volatile and disruptive future that lies before us. Organizations and society must, however, do more to help support, and strengthen the many individuals who have struggled through the pandemic.

This study suggests that it would be highly beneficial to take definitive, proactive steps to help all individuals build their hope, self-efficacy, resilience, and optimism to better prepare humanity for the inevitable disruptions we are sure to face. It's not a question of "if", but of "when?", "what kind?", "how often?" and "how many?".

Initiatives to develop individuals, including psychological capital, should primarily focus on younger individuals upon whose strength and abilities humanity will increasingly depend. Much evidence beyond this study supports the need to help our younger generations cope with and adapt to a world that is increasingly unpredictable and challenging to navigate. The future of humanity may depend on how well we prepare the next generations to face increasingly demanding and potentially existential disruption.

### ***Study Limitations***

This mixed-methods study included 21 participants, which while adequate for a qualitative study is insufficient for detailed quantitative analysis.

The participants were selected via a purposive and convenience sampling methodology. All were graduates of post-secondary education institutions, and 16 were resident in senior management roles within their organizations (Director-level, or above). All but two of the 21 participants worked in the public or not-for-profit sectors, predominantly in education and social services fields, which may have influenced their connection to their sense of purpose and meaning derived from their work. As such they may not be representative of the general working population.

According to Seidman (2006), the phenomenological method should involve three interviews to establish context, reconstruct experiences and allow the interviewee to reflect on the meaning of the interview data (Bevan, 2014). Due to organizational and logistical challenges, this study was restricted to a single 60-minute interview. Additional interviews would have allowed participants to describe their lived experience in greater detail, which may have enabled additional insight.

This was a concurrent study. The state-like nature of psychological capital constructs infers the ability to vary over time, therefore, the results obtained from this study could differ from a future study of the same sample.

### ***Delimitations of the Study***

This study utilized a mixed-methods' approach to researching the effects of the COVID-19 pandemic on manager-leaders as the event unfolded. The research questions sought to discover how the pandemic was affecting their hope, efficacy, resilience and optimism, as well as that of the individuals they oversee, and how this may have impacted individual and collective performance.

The scope of the study has been restricted to manager-leaders and their direct reports (subordinates/followers) within organizations experiencing the COVID-19 pandemic at the time of the interviews (June 15, 2021 – October 25, 2021).

While other themes emerged from the data, such as the effects of disruption on leadership, culture, perceived organizational support, personal well-being, context, and the perceived value of the interview process for the participants, these were beyond the scope of this study. These are interesting and important topics, the exploration of which could provide valuable insight for how individuals and organizations may better prepare for future disruptions.

### **Study Significance**

There are numerous potential implications for contributions of this study in the areas of scholarly research, theory and practice.

Eventually, the COVID-19 pandemic will pass. Effective vaccination development and distribution will accelerate this eventuality so that, hopefully, we will soon refer to COVID-19 in the past tense.

What we need to take forward is our recognition that disruption will remain. It may not come from COVID-24 or some other zoonotic disease, but through an environmental, economic, technological, or political upheaval. The point is we can learn from the lessons the COVID-19 pandemic offers and use these to our individual and collective advantage.

### ***Scholarly Research Implications***

Should this study be published, it will immediately help address the dearth of qualitative and mixed methods research that has plagued the conceptual development of psychological capital since its inception. It will also help provide context for the manifestation of psychological capital in real-world organizational settings; essentially, it will add qualitative flesh to psychological capital's quantitative skeleton.

The eight-factor model for evaluating Inferred Psychological Capital incorporates new dimensions to the existing psychological capital theory that should be explored more fully. These factors add value to the theory in terms of increasing the understanding the significance of individual sense of purpose and meaning, growth mindsets, in addition to the importance of executive functions, coping and competence, and displayed affect.

This study may increase the interest of organizational scholars concerning the role of the manager-leader as both coach and leader. The extant studies of psychological capital point firmly to the significant effect that managers have in developing and sustaining psychological capital, but there needs to be more detail on how this occurs at the micro-foundational level.

Only human beings can provide the interventions that will be required to face future disruptions, although we may be helped or possibly hindered by A.I. These interventions will, in significant part, rely on our individual and collective agency, confidence, resilience and optimism, i.e., the psychological capital resources we can bring to bear on the source of the disruption.

### ***Theoretical Implications***

This study can potentially contribute to psychological capital theory in multiple ways.

The study's qualitative/phenomenological approach provides contextualized examples of the effects of disruption on manager-leader and follower psychological capital, a context that has not yet been researched. Additionally, this study may provide insight into the variability of the interrelationships between the four first-order constructs resulting from disruption.

Examining the lived experience, attitudes and effective behaviours of individuals in this study who demonstrated personal growth and development despite the pandemic's adversity could be instructive in organizational development programs aimed at building a more adaptable and resilient workforce.

Finally, the study may help explicate the role of manager-leaders and their influence in developing and sustaining follower psychological capital through the micro-foundational social interactions with their followers.

### ***Practice Implications***

There are potential practice implications of this study, such as raising the awareness and importance of psychological capital for manager-leaders, human resource/organizational development professionals and senior management by demonstrating its application and effects in real-world organizational settings. The predominantly quantitative focus of psychological capital studies to date has provided practitioners with minimal context, background, circumstances and narrative of the participants in the research. Practitioners may find it valuable to relate the described experience of the research subjects to their own experience, thereby gaining a better understanding of psychological capital concepts and their practical applications.

Practitioners may find the study's analytical focus on the micro-foundational social interactions between manager-leaders and followers especially useful. The explication of the day-to-day "how to" of developing and sustaining psychological capital may provide a practical and valuable template for pursuing improved organizational capabilities in disruptive environments.

Many organizations struggle with the technological and human challenges of a dramatically increased number of remote workers. This trend will likely assume even greater importance as our society pursues accelerated adoption of disruptive technologies. This study may increase understanding of the challenges and opportunities for developing and sustaining psychological capital when dealing with individuals and teams working in remote environments.

### **Future Research**

Identified future possibilities for research include examining the effects of disruption on the leadership of manager-leaders. Additionally, the effects of disruption on organizational culture, perceived organizational support, and the personal well-being of individuals in organizational settings are of interest. In my professional role a consultant, coaching practitioner, and researcher I am interested in working with organizations that are implementing, or considering adopting disruptive technologies such as generative artificial intelligence.



### Study Conclusions

This study aimed to understand how the disruption experienced during the first 18 months of the COVID-19 pandemic affected the psychological capital of manager-leaders and their followers in organizational settings.

Psychological capital comprises the four first-order constructs of hope, self-efficacy, resilience, and optimism. By examining the lived experience of interviewees from various roles and organizations, collected data was analyzed and interpreted to determine how these phenomena were affected during the pandemic. Comparisons and contrasts of the information provided by the study participants allowed for an in-depth evaluation of these lived experiences. This included the common and differential impacts felt by each interviewee within the context of their particular circumstances.

I have drawn four main conclusions from the study. Undoubtedly, there are more that could be made. The richness of the information generously provided by the interviewees would support multiple papers on topics such as leadership communication in disruption, the effects of perceived organizational support on employee psychological capital and well-being, and the impact of disruption on organizational culture, but these are for future studies...

**Conclusion 1: A feeling of disruption associated with the pandemic was unanimous, but the effects were not.**

All 21 interviewees consistently felt a significant disruption in their professional and personal domains associated with the pandemic; however, the degree and quality of the disruptive effects varied substantially.

Both positive and negative effects of the pandemic were referred to. While all 21 related multiple negative effects, 17 of 21 were able to recall at least one positive effect, with many of the interviewees reciting multiple beneficial impacts they attributed to the pandemic.

Most notable among the effects of the pandemic was its impact on the interviewees' sense of purpose and meaning they experienced in their work. More than one-half (57%) described the pandemic's effect in this regard as positive, while 23% described it as negative, and 20% as having a neutral effect.

Most interviewees worked in helping-related professions in education, healthcare, and community service organizations. As such, they were more directly in touch with portions of the population experiencing the sharp end of the COVID-19 stick, which tended to make their important work even more meaningful to their clients and themselves.

Interviewees removed from the direct impact of their work, more precariously employed and socially isolated tended to relate a negative effect on their sense of purpose and meaning due to the pandemic.

While the feeling of significant disruption was unanimous amongst the study participants, the pandemic's impact and outcomes differed substantially, as evidenced by the variations in the interviewees' measured and inferred psychological capital scores.

**Conclusion 2: Study participants with higher levels of psychological capital fared better during the COVID-19 pandemic than those with lower levels of psychological capital.**

The lived experience of individuals in this study who exhibited higher levels of psychological capital during the first 15 – 20 months of the pandemic was qualitatively less

stressful, with fewer negative effects and consequences than the lived experience of interviewees with lower psychological capital.

The individuals with the six highest psychological capital scores, while still regarding the pandemic as highly disruptive, all perceived the pandemic experience as offering a unique, once-in-a-decade opportunity to advance their professional and organizational goals.

The six individuals with the lowest psychological capital scores viewed the pandemic as detrimental to both their personal and professional goals.

**Conclusion 3: Context counts: an individual's particular circumstances played a significant role in their experience of the pandemic and may have materially affected their level of psychological capital.**

The individual context and circumstances of each of the interviewees, both personally and professionally, had an appreciable effect on their lived experience during the COVID-19 pandemic. It may also have had a significant impact on their level of psychological capital.

The four first-order psychological capital constructs are considered plastic and, therefore, changeable. During disruption, significant changes to one's environmental and contextual homeostasis can exert extraordinary stresses on an individual, including their psychological capital.

The ability of an individual to maintain or return to one's prior homeostasis relies on the effective application of their executive functions, coping skills, and belief in their own self-efficacy and personal influence over events, i.e., their psychological capital resources.

Individuals with greater resources are better able to withstand the effects of stress and disruption and to be less negatively affected by them. Individuals with fewer assets to draw on, including psychological capital resources, tend to be more negatively impacted and experience greater distress. Those possessing fewer resources are particularly vulnerable to negative consequences associated with disruptions of longer duration since they do not possess the same wherewithal to withstand extended stress as do individuals with greater means.

In the context of the COVID-19 pandemic, individuals who possessed greater resources, such as higher levels of education, stable personal and professional relationships, more senior organizational roles and concomitant benefits, social supports, and greater life experience, were found to be less vulnerable to the negative impact of the pandemic than interviewees who possessed fewer of these at the start of the pandemic. The most well-resourced individuals in this study were able to identify disruption-driven opportunities and profited personally and professionally in terms of their growth.

Younger interviewees described less stable social relationships, were more affected by the social isolation imposed by mandated restrictions, were more precariously employed with shorter terms of employment, and had reduced access to organizational support resources. Most of these individuals also disclosed previous diagnoses of anxiety or depression that may have impacted their levels of psychological capital.

The lived experience of the interviewees in this study suggests that it is the combined effect of the individual's psychological capital and their environment, interacting in a mutually influential, bi-directional dynamic, that determined the effect of the COVID-19 pandemic on the individuals. Rather than one's environment being the cause of their psychological capital, or vice-versa, a bi-directional, mutually influential dynamic between them produced the effects

observed in this study. Each interviewee's circumstances and context affected their sense of hope, self-efficacy, resilience, and optimism, and these constructs reciprocally impacted the individual's circumstances and context.

The message here may be that efforts to simultaneously improve an individual's environment and build their psychological capital would result in the more capable, productive, and resilient workforce necessary to succeed in a volatile and disrupted world.

Basic interventions aimed at addressing identifiable knowledge and skills gaps such as a lack of effective goal planning, time management, and problem-solving, along with helping people discover and better connect with their sense of purpose and meaning in their work are valuable for improving psychological capital.

Helping an individual build self-efficacy can be promoted by having manager-leaders provide appropriate, supported developmental opportunities that involve stretching their capabilities without over extending these to the point of failure.

Resilience can be developed by utilizing adversities, such as the COVID-19 pandemic, as catalysts for improving coping skills in real time, while helping people understand and shift their perspective of their personal level of influence over future events can build optimism.

Short-term training and development initiatives may be helpful in building psychological capital but only if supported on a continuing basis by the organization as a whole, and especially by an individual's manager-leader.

Every manager-leader has multiple, frequent developmental opportunities to build worker psychological capital within daily organizational activity, but only if they are capable of recognizing these opportunities and acting on them with developmental intention.

Ultimately the vast majority of employee development happens “at the coalface”, not in classrooms or in on-line training sessions, valuable as these are. The coalface is where the developmental focus and mindset need to be if organizations are going to cultivate a workforce of individuals with the psychological capital resources necessary to thrive in a disrupted, VUCA world.

**Conclusion 4: This mixed methods study contributes to Psychological Capital theory’s body of knowledge by providing much-needed qualitative research, supported by quantitative data, on individuals’ lived experience in organizational settings during a highly disruptive event.**

The vast majority of psychological capital studies have been quantitative in design. They are almost entirely reliant on statistical analysis of the Psychological Capital Questionnaire PCQ-12 or PCQ-24 for their findings.

This study differs by providing an in-depth examination of the psychological capital of individuals in organizational settings while experiencing the COVID-19 pandemic. This allowed for a real-time examination of participant levels of hope, self-efficacy, resilience, and optimism while undergoing a highly disruptive event.

Employing a qualitative design via phenomenological interviews, supplemented by quantitative methods, the PCQ-24 Questionnaire, and the Inferred Psychological Capital Score, permitted this study to provide a more holistic evaluation of the participants’ lived experience of the disruptive event.

This included the identification of factors that, while not explicit theoretical components of psychological capital, are important elements in its development. An individual’s sense of

purpose and meaning in their work, possessing a growth mindset, executive functions during adversity, and an individual's affect, while not expressly identified as psychological capital antecedents, are critical factors in an individual's commitment to their goals (hope), the pursuit of self-mastery opportunities (self-efficacy), perseverance (optimism) and resistance to burnout (resilience).

The deconstruction of the four first-order constructs of hope, self-efficacy, resilience, and optimism into more readily identifiable behavioural factors enabled a granular examination of the real-life manifestations of these four constructs. The supplementation of the additional factors of growth mindset, executive functions, competence, and affect enabled quantification and comparison of intra-interviewee and inter-interviewee scores, permitting a more extensive analysis and interpretation.

Providing easily identifiable behavioural aspects of psychological capital's first-order constructs may assist practitioners and manager-leaders when attempting to identify, measure, and develop workers' psychological capital.

Finally, the findings and interpretations of this study's data may prove valuable to individuals and organizations seeking to better understand how workers are likely to respond when experiencing future disruptive events, such as introducing artificial intelligence technologies or responding to environmental or economic crises.

Knowing which workers responded well in the face of prior adversity versus those who did not, what differentiated their responses, and the reasons for the differences could be instructive in developing effective interventions that build the psychological capital of all workers.

A workforce of individuals with greater hope, self-efficacy, resilience, and optimism is critical for organizational survival for the disruptions that await us, but organizations and society must take definitive action to make this happen.

“Knowing is not enough; we must apply. Willing is not enough; we must do.”

Johann Wolfgang von Goethe



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## Appendices

### Appendix A: Athabasca University Research Ethics Approvals



#### CERTIFICATION OF ETHICAL APPROVAL

The Athabasca University Research Ethics Board (REB) has reviewed and approved the research project noted below. The REB is constituted and operates in accordance with the current version of the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2) and Athabasca University Policy and Procedures.

**Ethics File No.:** 24317

**Principal Investigator:**

Mr. Bryan Pett, Graduate Student  
Faculty of Business\Doctor of Business Administration (DBA)

**Supervisor:**

Dr. Deborah Hurst (Supervisor)

**Project Title:**

The Effects of Disruption on Manager-Leader Psychological Capital during the COVID-19 Pandemic

**Effective Date:** May 13, 2021

**Expiry Date:** May 12, 2022

**Restrictions:**

Any modification or amendment to the approved research must be submitted to the AUREB for approval.

Ethical approval is valid *for a period of one year*. An annual request for renewal must be submitted and approved by the above expiry date if a project is ongoing beyond one year.

A Project Completion (Final) Report must be submitted when the research is complete (*i.e. all participant contact and data collection is concluded, no follow-up with participants is anticipated and findings have been made available/provided to participants (if applicable)*) or the research is terminated.

**Approved by:**

**Date: May 13, 2021**

Weiming Liu, Chair  
Faculty of Business, Departmental Ethics Review Committee



## CERTIFICATION OF ETHICAL APPROVAL

The Athabasca University Research Ethics Board (REB) has reviewed and approved the research project noted below. The REB is constituted and operates in accordance with the current version of the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2) and Athabasca University Policy and Procedures.

**Ethics File No.: 24317**

**Principal Investigator:**

Mr. Bryan Pett, Graduate Student  
Faculty of Business\Doctor of Business Administration (DBA)

**Supervisor:**

Dr. Deborah Hurst (Supervisor)

**Project Title:**

The Effects of Disruption on Manager-Leader Psychological Capital during the COVID-19 Pandemic

**Effective Date:** April 25, 2022

**Expiry Date:** May 12, 2023

**Restrictions:**

Any modification or amendment to the approved research must be submitted to the AUREB for approval.

Ethical approval is valid *for a period of one year*. An annual request for renewal must be submitted and approved by the above expiry date if a project is ongoing beyond one year.

A Project Completion (Final) Report must be submitted when the research is complete (*i.e. all participant contact and data collection is concluded, no follow-up with participants is anticipated and findings have been made available/provided to participants (if applicable)*) or the research is terminated.

**Approved by:**

**Date: April 25, 2022**

Carolyn Greene, Chair  
Athabasca University Research Ethics Board

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Athabasca University Research Ethics Board  
University Research Services, Research Centre  
1 University Drive, Athabasca AB Canada T9S 3A3  
E-mail rebsec@athabascau.ca  
Telephone: 780.213.2033

## Appendix B: Informed Consent Form

**LETTER OF INFORMATION / INFORMED CONSENT FORM**

## The Effects of Disruption on Manager-Leader Psychological Capital During the COVID-19 Pandemic

February 5, 2021

**Principal Investigator (Researcher):**

Bryan Pett, 647-233-7870,

[bpett@athabascau.ca](mailto:bpett@athabascau.ca)**Supervisor:**

Dr. Deborah Hurst, 780-509-7566,

[deborahh@athabascau.ca](mailto:deborahh@athabascau.ca)

You are invited to take part in a research project entitled 'The Effects of Disruption on Manager-Leader Psychological Capital During the COVID-19 Pandemic'.

This form is part of the process of informed consent. The information presented should give you the basic idea of what this research is about and what your participation will involve, should you choose to participate. It also describes your right to withdraw from the project. In order to decide whether you wish to participate in this research project, you should understand enough about its risks, benefits and what it requires of you to be able to make an informed decision. This is the informed consent process. Take time to read this carefully as it is important that you understand the information given to you. Please contact the principal investigator, Bryan Pett, if you have any questions about the project or would like more information before you consent to participate.

It is entirely up to you whether or not you take part in this research. If you choose not to take part, or if you decide to withdraw from the research once it has started, there will be no negative consequences for you now, or in the future.

**Introduction**

My name is Bryan Pett and I am a Doctor of Business Administration student at Athabasca University. As a requirement to complete my degree, I am conducting a research project about how the COVID-19 pandemic may be affecting the hope, self-confidence, resilience and optimism (psychological capital) of manager-leaders in organizations. I am conducting this project under the supervision of Dr. Deborah Hurst.

**Why are you being asked to take part in this research project?**

You are being invited to participate in this project because you have been identified as a manager-leader in your organization who has been supervising at least two other individuals during the COVID-19 pandemic.

**What is the purpose of this research project?**

This research intends to improve our understanding of how disruptive events such as the COVID-19 pandemic affect people's levels of hope, efficacy (self-belief or confidence),

resilience and optimism, otherwise known as psychological capital. Having a better understanding of these effects will allow for potential development of improved ways to help people deal with future disruptive events.

### **What will you be asked to do?**

Your participation involves completion of a short (eight-question) on-line survey and a remote video interview lasting 60 – 90 minutes. The interview will involve the researcher asking you a limited number of questions about your lived work experience just prior to and during the COVID-19 outbreak. The main purpose of the interview is to give you the opportunity to relate your experience in your own words.

The interview will be conducted over Zoom, or MSTeams and will be arranged for a date and time that works for you. The interview will be recorded and later transcribed for data analysis. You will receive a copy of the transcript if you would like to review it to check it for accuracy or to clarify your comments.

In addition, you are requested to engage two individuals who have reported to you prior to COVID-19 commencing and are still doing so, for their participation in a 30 – 45-minute remote interview that will provide the “follower” perspective on the COVID-19 event. This also includes completing the eight-question survey. A separate Invitation Letter and Consent form will be emailed to these individuals.

### **What are the risks and benefits?**

The risks associated with this interview are expected to be minimal, about the same you might encounter when discussing your lived work experience with anyone else.

The potential benefits to you include being able to relate your lived experienced of COVID-19 in a supportive environment and potentially gain understanding and insights that might help you in future.

### **Do you have to take part in this project?**

As stated earlier in this letter, involvement in this project is entirely voluntary. You can discontinue your involvement in the study at any point. All information collected via the survey and interview can be deleted up to the time the final report is completed, with no negative consequences for your withdrawal.

### **How will your privacy and confidentiality be protected?**

The ethical duty of confidentiality includes safeguarding participants' identities, personal information, and data from unauthorized access, use or disclosure. All data collected will be stored on the researcher's password protected computer. Video interview recordings will be deleted after transcription of the interviews. All information will be held confidential, except when legislation or a professional code of conduct requires that it be reported.

### **How will my anonymity be protected?**

Anonymity refers to protecting participants' identifying characteristics, such as name or description of physical appearance. Your anonymity during the remote interview will be assured, with your identity being known only to the researcher. False names or initials will be used in the

study. Your name, initials, and the name of your organization will not appear in the study report. Potential identifiers will be removed.

### **How will the data collected be stored?**

Data will be stored on the researcher's password protected computer with a copy of the data on a secure cloud-based server. Video recording of the interview will be deleted after the interview has been transcribed. Transcriptions and survey data will be retained for five years as per Athabasca University policy, after which time they will be destroyed. Hard copy documentation will be stored in a locked filing cabinet.

Access to the data will be limited to the researcher, the research supervisor (Dr. Deborah Hurst) and authorized representatives of Athabasca University.

The anonymized data from this study might be used in future research, subject to Research Ethics Board approval.

The on-line survey company Mindgarden, Inc. hosting this survey is located in the United States. The US Patriot Act allows authorities to access the records of internet service providers. Therefore, anonymity and confidentiality cannot be guaranteed. If you choose to participate in this survey, you understand that your responses to the survey questions will be stored for a time (i.e., until it is transferred from that company's server to the principal researcher's computer) and may be accessed in the US during that time. The security and privacy policy for the web survey company can be found at the following link: <https://www.mindgarden.com/content/22-privacy>.

### **Who will receive the results of the research project?**

The final report for this research will be provided to Athabasca University. The existence of the research will be listed in an abstract posted online at the Athabasca University Library's Digital Thesis and Project Room and the final research paper will be publicly available.

No direct quotations or personally identifying information will be reported.

Should you so desire a copy of the report or executive summary will be made available to you after the project is complete, by contacting the principal investigator.

### **Who can you contact for more information or to indicate your interest in participating in the research project?**

Thank you for considering this invitation. If you have any questions or would like more information, please contact me, (the principal investigator) by e-mail at [bpett@athabascau.ca](mailto:bpett@athabascau.ca) or at 647-233-7870, or my supervisor Dr. Deborah Hurst at [deborahh@athabascau.ca](mailto:deborahh@athabascau.ca). If you are ready to participate in this project, please complete and sign the attached Consent Form and email it to [bpett@athabascau.ca](mailto:bpett@athabascau.ca) by March 15, 2021 please proceed to review the following consent and complete the survey.

Thank you,

Bryan Pett



**Informed Consent:**

**Your signature on this form means that:**

- You have read the information about the research project.
- You have been able to ask questions you may have about this project.
- You are satisfied with the answers to any questions you may have had.
- You understand what the research project is about and what you will be asked to do.
- You understand that you are free to withdraw your participation in the research project without having to give a reason, and that doing so will not affect you now, or in the future.
- You understand that if you choose to withdraw **after** data collection has ended, your data can be removed from the project at your request, up to time at which the final report is prepared.

	YES	NO
I agree to be audio-recorded	<input type="radio"/>	<input type="radio"/>
I agree to be video-recorded	<input type="radio"/>	<input type="radio"/>
I am willing to be contacted following the interview to verify that my comments are accurately reflected in the transcript.	<input type="radio"/>	<input type="radio"/>

**Your signature confirms:**

- You have read what this research project is about and understood the risks and benefits. You have had time to think about participating in the project and had the opportunity to ask questions and have those questions answered to your satisfaction.
- You understand that participating in the project is entirely voluntary and that you may end your participation at any time without any penalty or negative consequences.
- You have been given a copy of this Informed Consent form for your records; and
- You agree to participate in this research project.

\_\_\_\_\_  
Signature of Participant

\_\_\_\_\_  
Date

**Principal Investigator’s Signature:**

I have explained this project to the best of my ability. I invited questions and responded to any that were asked. I believe that the participant fully understands what is involved in participating in the research project, any potential risks and that he or she has freely chosen to participate.

\_\_\_\_\_  
Signature of Principal Investigator

\_\_\_\_\_  
Date

## Appendix C: PCQ-24 Psychological Capital Questionnaire Questions

## Questions for “Hope”

**If I should find myself in a jam at work, I could think of many ways to get out of it.**

**At the present time, I am energetically pursuing my work goals.**

**There are lots of ways around any problem.**

**Right now I see myself as being pretty successful at work.**

**I can think of many ways to reach my current work goals.**

**At this time, I am meeting the work goals that I have set for myself.**

Questions for Efficacy

**I feel confident analyzing a long-term problem to find a solution.**

**I feel confident in representing my work area in meetings with management.**

**I feel confident contributing to discussions about the organization's strategy.**

**I feel confident helping to set targets/goals in my work areas.**

**I feel confident contacting people outside the organization (e.g., suppliers, customers) to discuss problems.**

**I feel confident presenting information to a group of colleagues.**

### Questions for Resilience

**When I have a setback at work, I have trouble recovering from it, moving on. (Reverse of Resiliency)\***

**I usually manage difficulties one way or another at work.**

**I can be "on my own," so to speak, at work if I have to.**

**I usually take stressful things at work in stride.**

**I can get through difficult times at work because I've experienced difficulty before.**

**I feel I can handle many things at a time at this job.**

### Questions for Optimism

**When things are uncertain for me at work, I usually expect the best.**

**If something can go wrong for me work-wise, it will. (Reverse of Optimism)\***

**I always look on the bright side of things regarding my job.**

**I'm optimistic about what will happen to me in the future as it pertains to work.**

**In this job, things never work out the way I want them to. (Reverse of Optimism)\***

**I approach this job as if "every cloud has a silver lining."**

## Appendix D: Data Codes &amp; Themes

- 1) Maximum number of files is 21 (One file/interviewee)
- 2) Themes are indicated by large capital letters in bold type
- 3) Sub-themes are indicated in lower-case bold type
- 4) Codes associated with Themes and Sub-themes are indicated in lower-case non-bold type

Name	Description	Files	References
<b>Theme 1</b>			
<b>DISRUPTION DURING THE COVID-19 PANDEMIC</b>	The various disturbances presenting problems and/or opportunities interrupting the interviewee's pre-COVID-19-pandemic status quo	21	108
<b>Theme 2</b>			
<b>DISRUPTIVE EFFECTS ON PSYCHOLOGICAL CAPITAL</b>	The specific effects of the COVID-19 pandemic on interviewees' levels of Hope, Self-Efficacy, Resilience, & Optimism	21	857
<b>Hope</b>	Psychological construct of Hope as perceived by the interviewee	21	189
Achievements	Notable achievements of interviewees during COVID-19, or successes of which they profess to be 'proud'	15	41
Burnout Effects	The experiences of interviewees with reduced commitment and feelings of burnout during COVID-19	17	33
Commitment Effect	The effect on the commitment level of interviewees during COVID-19	11	20
Sense of Agency & Goals	The effect of COVID-19 on the sense of agency, drive, goal, and pathways development,	15	22

Name	Description	Files	References
Pathways & Waypower	The PsyCap construct demonstrating an individual's ability to anticipate potential issues to goal achievement and develop alternative ways to achieve their goals when they encounter obstacles	9	16
Sense of Purpose & Meaning at Work	The change (or not) in an interviewee's sense of purpose and meaning in their work attributed to COVID-19	21	57
<b>Self-Efficacy</b>	Psychological capital construct of Self-efficacy, the belief in one's ability to succeed at a given task for taking on increasingly challenging goals	21	337
Self-belief	Perceived increase in confidence of an interviewee's ability to succeed in future challenges	17	38
Growth Mindset	Demonstration of behaviours indicative of the interviewee's tendencies toward personal growth opportunities and to perceive challenges as beneficial rather than problematic	13	40
Lessons Learned - Mastery Opportunities	Lessons interviewees have learned from their involvement in COVID-19, including self-mastery events, increased self-belief, and increased confidence re future opportunities	15	48
<b>Resilience</b>	Psychological capital construct of Resilience denoting personal robustness, ability to cope effectively, maintain competence in adversity and rebound when faced with significant challenges	21	173
Coping Ability & Maintenance of Competence	Demonstrations of effective personal, team and organization-level flexibility and responsiveness to challenges and potential opportunities experienced during COVID-	20	54

Name	Description	Files	References
	19, including examples of bouncing back after adversity		
Technological Adoption	Adoption of new or different technologies during COVID-19 to address operational issues, as well as accelerated introduction of novel technologies to leverage potential strategic opportunities manifested by COVID-19	17	62
Demonstration of Executive Functions	Examples of innovative thinking and creativity displayed by interviewees and their organizations in response to demands of COVID-19	16	33
Setbacks During COVID-19	Specific setbacks or reversal experiences suffered by interviewees attributed to the COVID-19 pandemic	15	24
<b>Optimism</b>	Psychological capital construct of Optimism as perceived by the interviewee regarding their ability to positively influence current & future events and produce desirable outcomes	21	158
Belief in Positive Outcomes from the COVID-19 Pandemic	Interviewee's perceptions of the beneficial impact of the COVID-19 disruption	15	37
Belief in Positive Personal Influence on Events	Perceived potential of the interviewee to positively influence events	19	44
Sense of Gratitude	The sense of gratefulness of interviewees for particular lived experiences during COVID-19	10	18
<b>Theme 3</b>			

Name	Description	Files	References
<b>LEADERSHIP</b>	Aspects of leadership demonstrated during COVID-19 including the ability to maximize the efforts of others in pursuit of desirable outcomes through social influence	21	402
Manager-Leader Style	The effect of COVID-19 on the Manager-Leaders approach to and practice of management and leadership	16	91
Manager-Leader as Coach	Interviewee's perception of their Manager-Leader's inclination toward coaching behaviours during COVID-19, as opposed to more traditional, top-down, command-and-control behaviours	13	32
Employee Staffing Issues	Interviewee's perception of the effects of COVID-19 on organizational hiring, onboarding, indoctrination & termination processes	10	21
Manager-Leader & Follower Relationship	The effects of COVID-19 on the relationship between the Manager-Leader and their Followers. Also includes the relationship of Manager-Leader and their manager	21	183
Empathy effects	The experience of Manager-Leaders to feel heightened empathy, concern, and increased consideration for their Followers as a result of COVID-19 effects at work and home	17	52
Oversharing Overload	The phenomenon of Followers providing too much detail on their personal/home lives to their Manager-Leaders and the effect of this sharing on the Manager-Leaders	5	5
Trust between Manager-Leader & Follower	The nature and level of trust between the Manager-Leader & Follower, as well as with the organization	9	18

Name	Description	Files	References
<b>Theme 4</b>			
<b>PERCEIVED ORGANIZATIONAL SUPPORT</b>	Interviewee's perception of the amount and quality of support received from the organization during COVID-19	21	142
Communication	Perceived level of the frequency, value, and transparency of communication from management to workers during COVID-19	19	83
Support for Manager-Leaders	The level of perceived support for individual Manager--Leaders received from their immediate supervisor	8	24
Access to Support Services	Level of technological, emotional, human resource supports services, etc., provided by the organization during COVID-19	16	35
<b>Theme 5</b>			
<b>PERSONAL WELL-BEING</b>	Interviewee's perception of their well-being during COVID-19 and any changes to their mental, emotional, physical, and social health	21	202
Disorientation Effects	The effect of seeming to be thrown off balance, or losing one's sense of direction during COVID-19	17	48
Emotional Health Effects	Effects on interviewee's management and expression of their emotions during COVID-19	15	35
Physical Health Effects	Effects on interviewee's physical condition, exercise, substance abuse issues, etc. during COVID-19.	11	17
Social Health Effects	Effects on meaningful interpersonal relationships during COVID-19	12	20



Name	Description	Files	References
Mental Health effects	Effects of COVID-19 on interviewee's cognitive abilities	17	42
Sense of Loss	The sense of having experienced a significant loss during COVID-19	16	40
<b>Theme 6</b>			
<b>CONTEXT</b>	Description of the interviewee's contextual circumstances as experienced during COVID-19	21	125
Return to Work Status	The situation regarding the interviewee's status re the conditions under which they might return to work	6	12
Roles & Responsibilities Changes	Interviewee's role and/or responsibilities changes occurring during COVID-19	14	25
VUCA Issues	The effect of the Volatile, Uncertain, Complex, and Ambiguous environment during COVID-19 on the interviewees and their organizations	7	19
Work Status	Interviewee's status with their employer re the nature of the employment relationship, i.e. permanent full-time, part-time or contract, etc.	8	12
Working From Home	The nature of and effects of working from home during the COVID-19 pandemic	19	57
<b>Theme 7</b>			
<b>CULTURE</b>	The positive and negative effects of COVID-19 on organizational culture and its	18	77

Name	Description	Files	References
	role in promoting organizational change in values and predispositional behaviours		
Opportunity Catalyst	Interviewees perceptions of COVID-19 affordances for accelerating constructive change in organizational culture	18	61
<b>Theme 8</b>			
<b>RESEARCH INTERVIEW VALUE</b>	Interviewee's expressions of the value of this research interview for heightening their self-reflection and self-understanding of their COVID-19 lived experience	11	14

## EFFECTS OF DISRUPTION ON MANAGER-LEADER PSYCHOLOGICAL CAPITAL DURING THE COVID-19 PANDEMIC

## Appendix E: Inferred Psychological Capital Score, Declared COVID-19 Disruption on Sense of Meaning and Purpose and Observed Affect

APPENDIX E													May-23
INFERRED PSYCHOLOGICAL CAPITAL SCORE (IPC), DECLARED COVID-19 DISRUPTION EFFECT ON SENSE OF PURPOSE AND MEANING (SoP/M) and OBSERVED AFFECT													
Participant	Role	FACTORS								TOTAL IPC	IPC Average	SoP/M	Observed Affect
		1	2	3	4	5	6	7	8				
1	M-L/Dean	10	8	9	9	7	8	6	8	65	8.1	Positive	Neutral
2	F/Asst. Dean	10	8	10	10	8	7	8	10	71	8.9	Positive	Positive
3	F/Mgr	6	4	7	5	4	5	3	3	37	4.6	Negative	Negative
4	M-L/Gen. Mgr	10	8	9	10	7	8	7	8	67	8.4	Neutral	Positive
5	M-L/CEO	9	8	8	9	6	7	8	9	64	8	Negative	Neutral
6	M-L/CEO	10	8	10	9	9	9	8	10	73	9.1	Positive	Positive
7	F/Contract	7	6	6	7	3	5	5	5	44	5.5	Negative	Negative
8	F/Sr. Mgr	8	8	9	6	7	8	8	8	62	7.8	Positive	Neutral
9	F/Contract	7	6	6	8	4	5	5	4	45	5.6	Negative	Negative
10	F/Director	10	8	8	10	6	7	7	8	64	8	Positive	Neutral
11	M-L/Dean	10	8	9	10	7	8	8	9	69	8.6	Neutral	Neutral
12	F/Director	10	8	9	10	7	7	8	9	68	8.6	Neutral	Neutral
13	F/Admin.	7	4	7	6	3	4	5	4	40	5	Positive	Negative
14	M-L/V.P.	10	9	9	9	8	8	8	9	70	8.8	Positive	Positive
15	M-L/CEO	9	8	8	9	8	8	8	9	67	8.4	Positive	Positive
16	M-L/Sr. V.P.	10	8	9	10	7	7	7	9	67	8.4	Positive	Neutral
17	M-L/Director	8	6	7	8	6	5	7	6	53	6.6	Negative	Negative
18	M-L/Co-CEO	10	9	9	7	6	7	7	9	64	8	Positive	Neutral
19	M-L/Pastor	10	10	10	10	9	10	9	10	78	9.8	Positive	Positive
20	F/Team Leader	7	7	6	9	5	5	7	8	54	6.8	Positive	Negative
21	M-L/V.P.	8	9	8	7	7	8	9	9	65	8.1	Positive	Positive
	<b>Average Score</b>	<b>8.9</b>	<b>7.5</b>	<b>8.2</b>	<b>8.5</b>	<b>6.4</b>	<b>7</b>	<b>7.1</b>	<b>7.8</b>		<b>7.7</b>		
	M-L = Manager-Leader												
	F= Follower												
SoP/M= Sense of Purpose and Meaning Declared Orientation													
<b>Factor</b>	<b>Description</b>	<b>Construct</b>	<b>Average</b>	<b>HERO Avg.</b>									
1	Sense of Agency	Hope	8.9	8.6									
2	Pathway Finding	Hope	7.5										
3	Self-belief	Self-Efficacy	8.2	8.4									
4	Growth Mindset	Self-Efficacy	8.5										
5	Executive Function	Resilience	6.4	6.7									
6	Coping-Competence	Resilience	7										
7	Positive Outcome Belief	Optimism	7.1	7.5									
8	Personal Influence Belief	Optimism	7.8										
	<b>Overall PsyCap Average</b>			<b>7.8</b>									Variance form IPC Average Score (Column L) above due to rounding.
Individual Factor score maximum is 10													
Maximum score for all 8 factors is 80													
IPC Average score is TOTAL IPC/8													

## EFFECTS OF DISRUPTION ON MANAGER-LEADER PSYCHOLOGICAL CAPITAL DURING THE COVID-19 PANDEMIC

## Appendix F: Inferred Psychological Capital Score – Interviewees with Declared Positive Effect of COVID-19 on Sense of Purpose and Meaning

APPENDIX F												May-23
INFERRED PSYCHOLOGICAL CAPITAL SCORE - INTERVIEWEES WITH DECLARED POSITIVE EFFECT of COVID-19 on SoP/M												
Participant	Role	1	2	3	4	5	6	7	8	TOTAL	IPC Average	OBSERVED AFFECT
1	M-L/Dean	10	8	9	9	7	8	6	8	65	8.1	Neutral
2	F/Asst. Dean	10	8	10	10	8	7	8	10	71	8.9	Positive
6	M-L/CEO	10	8	10	9	9	9	8	10	73	9.1	Positive
8	F/Sr. Mgr	8	8	9	6	7	8	8	8	62	7.8	Neutral
10	F/Director	10	8	8	10	6	7	7	8	64	8	Neutral
13	F/Admin.	7	4	7	6	3	4	5	4	40	5	Negative
14	M-L/V.P.	10	9	9	9	8	8	8	9	70	8.8	Positive
15	M-L/CEO	9	8	8	9	8	8	8	9	67	8.4	Positive
16	M-L/Sr. V.P.	10	8	9	10	7	7	7	9	67	8.4	Neutral
18	M-L/Co-CEO	10	9	9	7	6	7	7	9	64	8	Neutral
19	M-L/Pastor	10	10	10	10	9	10	9	10	78	9.8	Positive
20	F/Team Leader	7	7	6	9	5	5	7	8	54	6.8	Negative
21	M-L/V.P.	8	9	8	7	7	8	9	9	65	8.1	Positive
	<b>Average Score</b>	<b>9.2</b>	<b>8</b>	<b>8.6</b>	<b>8.5</b>	<b>6.9</b>	<b>7.4</b>	<b>7.5</b>	<b>8.5</b>		<b>8.1</b>	
	M-L = Manager-Leader											
	F = Follower											
SoP/M = Sense of Purpose and Meaning Declared Orientation												
Factor	Description	Construct	Average	HERO Avg.								
1	Sense of Agency	Hope	9.2	8.6								
2	Pathway Finding	Hope	8									
3	Self-belief	Self-Efficacy	8.6	8.6								
4	Growth Mindset	Self-Efficacy	8.5									
5	Executive Functions	Resilience	6.9	7.2								
6	Coping-Competence	Resilience	7.4									
7	Positive Outcome Belief	Optimism	7.4	8								
8	Personal Influence Belief	Optimism	8.5									
<b>Positive Effect on SoP/M PsyCap Average</b>				<b>8.1</b>	Variance form IPC Average Score (Column L) above due to rounding.							
Individual Factor score maximum is 10												
Maximum score for all 8 factors is 80												
IPC Average score is Total IPC Factor score/8												

## EFFECTS OF DISRUPTION ON MANAGER-LEADER PSYCHOLOGICAL CAPITAL DURING THE COVID-19 PANDEMIC

## Appendix G: Inferred Psychological Capital Score – Interviewees with Declared Neutral Effect of COVID-19 on Sense of Purpose and Meaning

APPENDIX G												May-23
INFERRED PSYCHOLOGICAL CAPITAL SCORE - INTERVIEWEES WITH DECLARED NEUTRAL EFFECT of COVID-19 on SoP/M												
FACTORS												
Participant	Role	1	2	3	4	5	6	7	8	TOTAL IPC	IPC Average	OBSERVED AFFECT
4	M-L/Gen. Mgr	10	8	9	10	7	8	7	8	67	8.4	Positive
11	M-L/Dean	10	8	9	10	7	8	8	9	69	8.6	Neutral
12	F/Director	10	8	9	10	8	7	8	9	69	8.6	Neutral
	<b>Average Score</b>	<b>10</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>7.3</b>	<b>7.7</b>	<b>7.7</b>	<b>8.7</b>		<b>8.5</b>	
	M-L = Manager-Leader											
	F = Follower											
SoP/M = Sense of Purpose and Meaning Declared Orientation												
Factor	Description	Construct	Average	HERO Avg.								
1	Sense of Agency	Hope	10	9								
2	Pathway Finding	Hope	8									
3	Self-belief	Self-Efficacy	9	9.5								
4	Growth Mindset	Self-Efficacy	10									
5	Executive Functions	Resilience	7.5	7.7								
6	Coping-Competence	Resilience	7.8									
7	Positive Outcome Belief	Optimism	7.8	8.3								
8	Personal Influence Belief	Optimism	8.8									
<b>Neutral Effect on SoP/M Average</b>				<b>8.6</b>	Variance form IPC Average Score (Column L) above due to rounding.							
Individual Factor score maximum is 10												
Maximum score for all 8 factors is 80												
IPC Average Score is TOTAL IPC/8												

## EFFECTS OF DISRUPTION ON MANAGER-LEADER PSYCHOLOGICAL CAPITAL DURING THE COVID-19 PANDEMIC

## Appendix H: Inferred Psychological Capital Score – Interviewee with Declared Negative Effect of COVID-19 on Sense of Purpose and Meaning

APPENDIX H											May-23	
INFERRED PSYCHOLOGICAL CAPITAL SCORE - INTERVIEWEES WITH DECLARED NEGATIVE EFFECT of COVID-19 on SoP/M												
FACTORS												
Participant	Role	1	2	3	4	5	6	7	8	TOTAL IPC	IPC Score	OBSERVED AFFECT
3	F/Mgr	6	4	7	5	4	5	3	3	37	4.6	Negative
5	M-L/CEO	9	8	8	9	6	7	8	9	64	8	Neutral
7	F/Contract	7	6	6	7	3	5	5	5	44	5.5	Negative
9	F/Contract	7	6	6	8	4	6	5	4	46	5.8	Negative
17	M-L/Director	8	6	7	8	6	7	7	6	55	6.9	Negative
<b>Average Score</b>		<b>7.4</b>	<b>6</b>	<b>6.6</b>	<b>7.4</b>	<b>4.6</b>	<b>6</b>	<b>5.6</b>	<b>5.4</b>		<b>6.2</b>	
M-L= Manager-Leader												
F= Follower												
SoP/M= Sense of Purpose and Meaning Declared Orientation												
Factor	Description	Construct	Average	HERO Avg.								
1	Sense of Agency	Hope	7.4	6.7								
2	Pathway Finding	Hope	6									
3	Self-belief	Self-Efficacy	6.6	7								
4	Growth Mindset	Self-Efficacy	7.4									
5	Executive Functions	Resilience	4.6	5.3								
6	Coping-Competence	Resilience	6									
7	Positive Outcome Belief	Optimism	5.6	5.5								
8	Personal Influence Belief	Optimism	5.4									
<b>Negative Effect on SoP/M Average</b>				<b>6.1</b>	Variance from IPC Average Score (Column L) above due to rounding.							
Individual Factor score maximum is 10												
Maximum score for all 8 factors is 80												
IPC Average score is Total IPC Factor score/8												

## EFFECTS OF DISRUPTION ON MANAGER-LEADER PSYCHOLOGICAL CAPITAL DURING THE COVID-19 PANDEMIC

## Appendix I: Inferred Psychological Capital Score – Male/Female Difference

APPENDIX I														May-23
INFERRED PSYCHOLOGICAL CAPITAL SCORE - MALE/FEMALE DIFFERENCE														
FEMALE SCORES														
FACTORS														
Participant	Role	1	2	3	4	5	6	7	8	TOTAL IPC	IPC Average	SoP/M	OBSERVED AFFECT	
1	M-L/Dean	10	8	9	9	7	8	6	8	65	8.1	Positive	Neutral	
2	F/Asst. Dean	10	8	10	10	8	7	8	10	71	8.9	Positive	Positive	
3	F/Mgr	6	4	7	5	4	5	3	3	37	4.6	Negative	Negative	
5	M-L/CEO	9	8	8	9	6	7	8	9	64	8	Negative	Neutral	
7	F/Contract	7	6	6	7	3	5	5	5	44	5.5	Negative	Negative	
10	F/Director	10	8	8	10	6	7	7	8	64	8	Positive	Neutral	
11	M-L/Dean	10	8	9	10	7	8	8	9	69	8.6	Neutral	Neutral	
12	F/Director	10	8	9	10	8	7	8	9	69	8.6	Neutral	Neutral	
20	F/Team Leader	7	7	6	9	5	5	7	8	54	6.8	Positive	Negative	
21	M-L/V.P.	8	9	8	7	7	8	9	9	65	8.1	Positive	Positive	
		8.7	7.4	8	8.6	6.1	6.7	6.9	7.8		7.5			
MALE SCORES														
Participant	Role	1	2	3	4	5	6	7	8	TOTAL IPC	IPC Average	SoP/M	OBSERVED AFFECT	
4	M-L/Gen. Mgr	10	8	9	10	7	8	7	8	67	9	Neutral	Positive	
6	M-L/CEO	10	8	10	9	9	9	8	10	73	9	Positive	Positive	
8	F/Sr. Mgr	8	8	9	6	7	7	8	8	61	7.8	Positive	Neutral	
9	F/Contract	7	6	6	8	4	5	5	4	45	5.9	Negative	Negative	
13	F/Admin.	7	4	7	6	3	4	5	4	40	5.1	Positive	Negative	
14	M-L/V.P.	10	9	9	9	8	8	8	9	70	8.9	Neutral	Positive	
15	M-L/CEO	9	8	8	9	8	8	8	9	67	8.4	Positive	Positive	
16	M-L/Sr. V.P.	10	8	9	10	7	7	7	9	67	8.8	Positive	Neutral	
17	M-L/Director	8	6	7	8	6	5	7	6	53	7	Negative	Negative	
18	M-L/Co-CEO	10	9	9	7	6	7	7	9	64	8.4	Positive	Neutral	
19	M-L/Pastor	10	10	10	10	9	10	9	10	78	9.8	Positive	Positive	
		9	7.6	8.5	8.4	6.7	7.1	7.2	7.8		8			
	M-L = Manager-Leader													
	F = Follower													
SoP/M = Sense of Purpose and Meaning Declared Orientation														
Factor	Description	Construct	Female Average	Female HERO Avg.	Male Average	Male HERO Avg.								
1	Sense of Agency	Hope	8.7	8.1	9	8.7								
2	Pathway Finding	Hope	7.4		8.4									
3	Self-belief	Self-Efficacy	8	8.3	9.3	8.9								
4	Growth Mindset	Self-Efficacy	8.6		8.4									
5	Executive Functions	Resilience	6.1	6.4	6.7	6.9								
6	Coping-Competence	Resilience	6.7		7.1									
7	Positive Outcome Belief	Optimism	6.9	7.4	7.2	7.5								
8	Personal Influence Belief	Optimism	7.8		7.8									
	<b>Overall PsyCap Average</b>			7.6		8	Variance from IPC Average Score (Column L) above due to rounding							
	<b>PsyCap Difference</b>	0.4												
Individual factor score maximum is 10														
Maximum score for all 8 factors is 80														
IPC Average score is TOTAL IPC/8														

## EFFECTS OF DISRUPTION ON MANAGER-LEADER PSYCHOLOGICAL CAPITAL DURING THE COVID-19 PANDEMIC

## Appendix J: Inferred Psychological Capital Score – Difference between Manager-Leaders and Followers

APPENDIX J													Aug-23
INFERRED PSYCHOLOGICAL CAPITAL SCORE DIFFERENCE BETWEEN MANAGER-LEADERS & FOLLOWERS													
MANAGER-LEADER IPC													
FACTORS													
Participant	Role	1	2	3	4	5	6	7	8	TOTAL	IPC Average	SoP/M	OBSERVED AFFECT
1	M-L/Dean	10	8	9	9	7	8	6	8	65	8.1	Positive	Neutral
4	M-L/Gen. Mgr	10	8	9	10	7	8	7	8	67	8.4	Neutral	Positive
5	M-L/CEO	9	8	8	9	6	7	8	9	64	7	Negative	Neutral
6	M-L/CEO	10	8	10	9	9	9	8	10	73	9.1	Positive	Positive
11	M-L/Dean	10	8	9	10	8	7	8	9	69	8.6	Neutral	Neutral
12	F/Director	10	8	9	10	8	7	8	9	69	8.6	Neutral	Neutral
14	M-L/V.P.	10	9	9	9	9	8	8	9	71	8.9	Neutral	Positive
15	M-L/CEO	9	8	8	9	8	8	8	9	67	8.4	Positive	Positive
16	M-L/Sr. V.P.	10	8	9	10	9	7	7	9	69	8.6	Positive	Neutral
17	M-L/Director	8	6	7	8	6	5	7	6	53	6.6	Negative	Negative
18	M-L/Co-CEO	10	9	9	7	6	7	7	9	64	8	Positive	Neutral
19	M-L/Pastor	10	10	10	10	9	10	9	10	78	9.8	Positive	Positive
21	M-L/V.P.	8	9	8	7	7	7	9	9	64	8	Positive	Positive
		9.5	8.2	8.8	9	7.6	7.5	7.7	8.8		8.4		
FOLLOWER IPC													
FACTORS													
Participant	Role	1	2	3	4	5	6	7	8	TOTAL	IPC Average	SoP/M	OBSERVED AFFECT
2	F/Asst. Dean	10	8	10	10	8	7	8	10	71	8.9	Positive	Positive
3	F/Mgr	6	4	7	5	5	5	3	3	38	4.8	Negative	Negative
7	F/Contract	7	6	6	7	3	5	5	5	44	5.5	Negative	Negative
8	F/Sr. Mgr	8	8	9	6	7	8	8	8	62	7.8	Positive	Neutral
9	F/Contract	7	6	6	8	4	5	5	4	45	5.6	Negative	Negative
10	F/Director	10	8	8	10	6	7	7	8	64	8	Positive	Neutral
13	F/Admin.	7	4	7	6	3	4	5	4	40	5	Positive	Negative
20	F/Team Leader	7	7	6	9	5	5	7	8	54	6.8	Positive	Negative
		7.8	6.4	7.4	7.6	5.1	5.8	6	6.3		6.6		
	M-L = Manager-Leader												
	F= Follower												
SoP/M= Sense of Purpose and Meaning Declared Orientation													
Factor	Description	Construct	Mgr-Ldr Average	Mgr-Ldr HERO Avg.	Follower Average	Follower HERO Avg.							
1	Sense of Agency	Hope	9.5	8.9	8	7.1							
2	Pathway Finding	Hope	8.2		6.6								
3	Self-belief	Self-Efficacy	8.8	8.9	7.6	7.8							
4	Growth Mindset	Self-Efficacy	9		7.9								
5	Executive Functions	Resilience	7.6	7.6	5.4	5.6							
6	Coping-Competence	Resilience	7.5		5.9								
7	Positive Outcome Belief	Optimism	7.7	8.3	6.2	6.1							
8	Personal Influence Belief	Optimism	8.8										
	Overall PsyCap Average			8.4		6.6							
	Overall PsyCap Avg. Difference				1.8								
Individual Factor score maximum is 10													
Maximum score for all 8 factors is 80													
IPC Average Score is TOTAL IPC/8													





## EFFECTS OF DISRUPTION ON MANAGER-LEADER PSYCHOLOGICAL CAPITAL DURING THE COVID-19 PANDEMIC

## Appendix L: Inferred Psychological Capital Score – Interviewees Disclosing Depression versus Non-Disclosing Interviewees

APPENDIX L													Sept. 2023	
Inferred Psychological Capital Scores of Interviewees Disclosing Depression versus Non-Disclosing Interviewees														
DISCLOSING FACTORS														
Participant	Role	1	2	3	4	5	6	7	8	TOTAL IPC	IPC Average	SoP/M	OBSERVED AFFECT	
9	F/Contract	7	6	6	8	4	5	5	4	45	5.6	Negative	Negative	
10	F/Director	10	8	8	10	7	6	7	8	64	8	Positive	Neutral	
13	F/Admin	7	4	7	6	3	4	5	4	40	5	Positive	Negative	
20	F/Team Leader	7	7	6	9	5	5	7	8	54	6.8	Positive	Negative	
	<b>Average Score</b>	<b>7.8</b>	<b>6.3</b>	<b>6.8</b>	<b>8.3</b>	<b>4.8</b>	<b>5</b>	<b>6</b>	<b>6</b>		<b>6.3</b>			
NON-DISCLOSING FACTORS														
1	M-L/Dean	10	8	9	9	7	8	6	8	65	8.1	Positive	Neutral	
2	F/Asst. Dean	10	8	10	10	8	7	8	10	71	8.9	Positive	Positive	
3	F/Mgr	6	4	7	5	4	5	3	3	37	4.6	Negative	Negative	
4	M-L/Gen. Mgr	10	8	9	10	7	8	7	8	67	8.4	Neutral	Positive	
5	M-L/CEO	9	8	8	9	6	7	8	9	64	8	Negative	Neutral	
6	M-L/CEO	10	8	10	9	9	9	8	10	73	9.1	Positive	Positive	
7	F/Contract	7	6	6	7	3	5	5	5	44	5.5	Negative	Negative	
8	F/Sr. Mgr	8	8	9	6	7	8	8	8	62	7.8	Positive	Neutral	
11	M-L/Dean	10	8	9	10	7	8	8	9	69	8.6	Neutral	Neutral	
12	F/Director	10	8	9	10	8	7	8	9	69	8.6	Neutral	Neutral	
14	M-L/V.P.	10	9	9	9	8	8	8	9	70	8.8	Neutral	Neutral	
15	M-L/CEO	9	8	8	9	8	8	8	9	67	8.4	Positive	Positive	
16	M-L/Sr. V.P.	10	8	9	10	7	7	7	9	67	8.4	Positive	Neutral	
17	M-L/Director	8	6	7	8	6	5	7	6	53	6.6	Negative	Negative	
18	M-L/Co-CEO	10	9	9	7	6	7	7	9	64	8	Positive	Neutral	
19	M-L/Pastor	10	10	10	10	9	10	9	10	78	9.8	Positive	Positive	
21	M-L/V.P.	8	9	8	7	7	8	9	9	65	8.1	Positive	Positive	
	<b>Average Score</b>	<b>9.1</b>	<b>7.8</b>	<b>8.6</b>	<b>8.5</b>	<b>6.9</b>	<b>7.4</b>	<b>7.3</b>	<b>8.2</b>		<b>8</b>			
	M-L = Manager-Leader													
	F = Follower													
SoP/M = Sense of Purpose and Meaning Declared Orientation														
Factor	Description	Construct	Disclosing Avg.	HERO Avg.	Non-Disclosing Avg.	HERO Avg.								
1	Sense of Agency	Hope	7.8	7.1	9.3	8.6								
2	Pathway Finding	Hope	6.3		7.9									
3	Self-belief	Self-Efficacy	6.8	7.6	8.8	8.5								
4	Growth Mindset	Self-Efficacy	8.3		8.6									
5	Executive Functions	Resilience	4.8	4.9	7.1	7.3								
6	Coping-Competence	Resilience	5		7.5									
7	Positive Outcome Belief	Optimism	6	6	7.4	7.9								
8	Personal Influence Belief	Optimism	6		8.4									
	<b>Overall PsyCap Average</b>		<b>6.4</b>	<b>6.4</b>	<b>8.1</b>	<b>8.1</b>								
	<b>IPC Depressive Avg.</b>	<b>6.4</b>	Variance form IPC Average Score (Column L) above due to rounding.											
	<b>IPC Non-Depressive Avg.</b>	<b>8.1</b>												
	<b>Difference</b>	<b>-1.7</b>												
Individual Factor score maximum is 10														
Maximum score for all 8 factors is 80														
IPC Average score is TOTAL IPC/8														

## Appendix M: Inferred Psychological Capital Score Versus Self-rated PCQ-24 Score

APPENDIX M					
INFERRED PSYCHOLOGICAL CAPITAL SCORE vs. SELF-RATED PCQ-24 SCORE					May-23
Participant	Role	IPC Average	Converted IPC Score	Self-Rated Score	Variance
1	M-L/Dean	8.1	4.9	5.4	-0.5
2	F/Asst. Dean	9.4	5.6	n/a	n/a
3	F/Mgr	4.8	2.8	n/a	n/a
4	M-L/Gen. Mgr	8.5	5.1	4.9	0.2
5	M-L/CEO	8.1	4.9	5.6	-0.7
6	M-L/CEO	9	5.4	n/a	n/a
7	F/Contract	5.8	3.4	n/a	n/a
8	F/Sr. Mgr	7.8	4.8	n/a	n/a
9	F/Contract	5.9	3.6	n/a	n/a
10	F/Director	8.3	5	n/a	n/a
11	M-L/Dean	8.8	5.3	5.1	0.2
12	F/Director	8.8	5.3	5.2	0.1
13	F/Admin.	5.1	3	n/a	n/a
14	M-L/V.P.	8.9	5.3	5.3	0
15	M-L/CEO	8.4	5.1	5.6	-0.5
16	M-L/Sr. V.P.	8.8	5.3	4.9	0.4
17	M-L/Director	7	4.2	4.9	-0.7
18	M-L/Co-CEO	8.4	5.1	5.3	-0.2
19	M-L/Pastor	9.8	5.9	5.3	0.6
20	F/Team Leader	7	4.1	n/a	n/a
21	M-L/V.P.	8.3	4.8	5.1	-0.3
		<b>7.9</b>	<b>4.7</b>	<b>5.2</b>	<b>-0.5</b>
M/L = Manager-Leader; F = Follower					
Converted IPC scores are the IPC Average Scores divided by 1.67					
n/a - PCQ-24 Self-Rated Questionnaire not completed by interviewee					
Converted IPC scores and Self-rated scores are on a scale of 1 - 6					
Revised July 23, 2023					

## Appendix N: Methodology – The Inferred Psychological Capital Score

The Inferred Psychological Capital (IPC) Score is a quantizing device that allows for the conversion of the qualitative data contained within participant interviews into quantitative data.

Quantizing is a longstanding methodological intervention which involves “assigning numerical (nominal or ordinal) values to data conceived as not numerical” (Sandelowski, Volis & Knafl, 2009, p.209) and “has become a staple of mixed methods research” (Sandelowski et al., p.208).

Quantizing has been described as a “sensible and therefore defensible ‘simplifying device’” (Mol & Law, 2002, p.4) that, when used “creatively and reflexively, can show the complexity of qualitative data” (Tufte, 2006, p. 129).

Quantizing of qualitative data assists researchers through the:

- recognizing patterns within the data
- extracting meaning from the data
- accounting for all data
- documenting analytical moves
- verifying interpretations

(Sandelowski et al., 2009)

Luthar, Cicchetti & Becker (2000) postulate that the psychological construct of resilience cannot, by its nature, be measured directly. Resilience can only be measured indirectly through the inference of its key components, namely “exposure to adversity” and “evidence of good

functioning.” The “specific way in which resilience is operationally measured in any given study depends on the risk exposure of interest and on the way in which ‘positive adaptation’ is defined” (Kim-Cohen & Turkewitz, 2012, p.1297). The combined values of the inferred resilience components produce a measure of “differential susceptibility to environmental influences that relate to resilience” (Kim-Cohen & Turkewitz, 2012, p.1297), thereby allowing for the comparison of relative resilience among study participants.

According to Hobfoll et al. (2018, p. 107), “resources do not exist individually but travel in packs, or caravans, for both individuals and organizations. Because resources tend to be the consequence of nurturance and learned adaptation, they are likely to appear as co-travellers”. In the case of Psychological Capital Theory, these co-travellers, i.e., the first-order constructs of Hope, Self-efficacy, Resilience, and Optimism, have many similarities, one of which is their inability to be measured directly.

### The Method

The Inferred Psychological Capital Score involves assigning a numerical value to the study’s qualitative data on the basis of the evidence presented in the non-numerical data segments (interviewee statements). Values ranging from 1 (minimum presence) to 10 (maximum presence) were inferred via a combination of reasoning and comparison.

Data analysis for this study was initiated by entering interview transcripts into the NVivo™ qualitative data analysis software program. The analysis of these transcripts allowed for the production of multiple codes and subsequent themes based on the theoretical foundation of Psychological Capital Theory (Youssef-Morgan & Luthans, 2013), Mindset Theory (Dweck & Legget, 1988) and Emotional Regulation Theory (Gross & Thompson, 2007).

A codebook containing identified themes and their derivative code descriptions was compiled from this data (see Appendix D). An 8-factor model comprised of these codes and/or combinations of multiple codes enabled the determination of appropriate numerical values to quantify the qualitative data contained in the interview transcripts.

### PsyCap for Manager-Leaders

The eight factors in the Inferred Psychological Capital model describe aspects of the first-order Psychological Capital HERO constructs of Hope, Self-efficacy, Resilience, and Optimism, along with closely related factors that are of particular relevance to manager-leaders during disruption.

Five of these factors are longstanding descriptors of the first-order constructs included in Psychological Capital Theory literature. They are:

- sense of agency (Hope)
- pathways finding (Hope)
- self-belief (Self-efficacy)
- positive outcome belief (Optimism)
- personal influence belief (Optimism)

The additional three factors developed for Inferred Psychological Capital are part of the PsyCap “resource caravan” of attributes critical for personal and organizational success. They are:

- growth mindset (Self-efficacy)

- executive function (Resilience)

- coping/competence (Resilience)

These three factors were selected due to their affinity for the other HERO constructs. They also provide facets of meaningful potential differentiation between manager-leaders, and between manager-leaders and those in follower roles.

There are two factors for each of the PsyCap first-order HERO constructs of Hope, Self-efficacy, Resilience, and Optimism. This maintains the equally weighted structure employed in the Psychological Capital Questionnaire-24 (PCQ-24) and assists in the comparison of their respective results as detailed in Appendix M (Inferred Psychological Capital Score versus Self-Rated PCQ-24 Score). Appendix M also serves as a triangulation instrument.

#### Data Collection -IPC Model

A maximum inferred value for each of the eight factors was established by reviewing each interview transcript for segments of text that exemplified each particular factor. This was supported by supplemental interview notes and replaying of video interviews to compare and contrast interview responses relevant to each of the eight factors.

Interviewees who demonstrated the greatest amount of each of the eight individual factors were assigned a value of up to 10. Comparisons were made with all other interviewees against the maximum possible score of 10, and numerical values reflecting the amount of variation from this potential maximum standard were then assigned. Please refer to Appendix E for Inferred Psychological Capital factor descriptions and factor values for each of the 21 interviewees.

### Data Collection – Psychological Capital Questionnaire PCQ-24

Of the 21 interviewees in the study, 12 were identified as Manager-Leaders. These individuals were requested to complete the “Self-Rater” PCQ-24 questionnaire. The nine individuals identified as Followers were asked to complete the “Rater” questionnaire, evaluating only their direct supervisor and not themselves.

Data from the Self-Rater questionnaire were obtained from 11 of the 12 Manager-Leaders. One of the 11 identified Manager-Leaders did not complete the PCQ-24, while one Follower inadvertently completed the “Self-Rater” questionnaire intended for Manager-Leaders rather than the “Rater” questionnaire.

Data from the completed PCQ-24 questionnaires were compiled by the website of the developer of the PCQ-24 questionnaire (Mindgarden, Inc.). Raw data results were tabulated in an Excel spreadsheet for both the 12 Manager-Leader questionnaires completed (Self-Rater) and the five Follower questionnaires completed (Rater) and subsequently analyzed.

### Analysis

The IPC scores for each of the eight factors for all 21 interviewees were compiled in tables which are located in Appendices E – L. These appendices contain data segmented into various analytical categories which enabled deeper analyses of the text-based data segments and assisted in identifying points of comparison and differentiation and their relative magnitudes.



Appendix	Description
E	IPC Scores & Declared Sense of Purpose/Meaning (SoP/M)
F	IPC Scores – Declared Positive SoP/M
G	IPC Scores – Declared Neutral SoP/M
H	IPC Scores – Declared Negative SoP/M
I	IPC Scores – Male/Female Difference
J	IPC Scores – Difference between Manager-Leaders & Followers
K	IPC Scores – Difference between Manager-leader & Followers – Reallocated Roles Calculation
L	IPC Scores – Interviewees Disclosing Depression
M	IPC Scores vs. PCQ-24 Self-Rater Scores (Triangulation)

### Results of the Inferred PsyCap Scores vs. PCQ-24 Scores (Triangulation)

The IPC Score serves as an instrument of triangulation between the PCQ-24 results and for the qualitative data analysis.

A comparison of the Inferred PsyCap scores with the PCQ-24 Self-Rater scores for the 12 interviewees who completed the PCQ-24 survey is provided in Appendix M.

Nine of the 12 scores indicate a maximum variance of less than or equal to +/- 0.5 points between the researcher-assigned IPC scores and the interviewees' self-rated PCQ-24 questionnaire scores. The minimum variance noted between the individual IPC scores and the PCQ-24 questionnaire scores is 0.0., and the maximum noted variance is -0.7 points. This is based on a six-point scale structure with a minimum score of 1 and a maximum score of 6.