

**INDIVIDUAL RESILIENCE IN A GLOBAL CRISIS: AN  
INVESTIGATION OF THE SERVICE SECTOR IN EGYPT DURING  
COVID-19 PANDEMIC**

A Thesis Submitted for the Degree of Doctor of Philosophy

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### Abstract

This study sets out to explore the critical factors that facilitate or hinder the development of individual resilience in Egyptian organisations. It attempts to address the lack of empirical data regarding the elements that foster individual resilience in the workplace and challenges the limited perspective that acknowledges only personality traits as antecedents to individual resilience. Despite the progress in resilience literature, the research is significantly limited and requires further exploration of the mechanisms that nurture individual resilience. To respond to this limitation, this investigation addresses individual resilience as a process continuously affected by the surrounding internal and external environment. This research investigates the impact of perceived support (internal environment) represented by organisations, supervisors, and co-workers, psychological safety (internal environment), and fear of COVID-19 (external environment) on individual resilience. In addition, the research investigates the moderating and mediating impact of psychological safety, and fear of COVID-19 on the relationship between perceived support and individual resilience to assess boundary conditions, facilitating or hindering factors and understand how resilience can develop as a function of the context they operate. The governing cultural context of this research is Egypt, an emerging economy in North Africa that has been largely neglected in terms of workplace resilience research, with the study participants recruited from the Egyptian services sector. This research adopted quantitative methodology using online surveys to assess the research variables. The results of this research suggest that individual resilience develops as a result of the mutual exchange of benefits between employees and different organisational stakeholders, confirming the social exchange theoretical view rooted back in motivational theories as a key contributor to the development of individual resilience. The results also indicate significant contributions from the surrounding environment and highlights important demographic, cultural and societal implications to the development of resilience. This confirms that viewing resilience as solely a product of individual traits in contemporary literature is a naïve view. Theoretical and practical implications are discussed in depth.

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### Glossary of Key Acronyms and Terminologies

<b>Acronym</b>	<b>Terminology</b>	<b>Definition</b>
<b>IR</b>	Individual Resilience	Individual's positive adaptability, or the capacity to preserve or reclaim mental health and bounce back in the face of crisis
<b>MTIR</b>	Multidimensional Taxonomy of Individual Resilience	A model that aims to combine existing theoretical work on IR in order to further broaden and deepen its conceptual elaboration, as well as to create a framework inside which resilience theory can progress
<b>POS</b>	Perceived Organisational Support	The degree to which employees believe that the organisation supports and cares about their well-being, own individual goals, and values their contribution to the organisation's success
<b>SET</b>	Social Exchange Theory	The voluntary actions of individuals that are motivated by the returns they are expected to bring to and from others
<b>PSS</b>	Perceived Supervisor Support	The extent to which employees perceive their supervisor's interventions and actions as supportive and fall in line with their goals, needs and well-being
<b>PCS</b>	Perceived Co-worker Support	The degree to which employees believe that their co-workers provide the level of work-related and emotional support required to carry out organisational activities
<b>Psysafe</b>	Psychological Safety	A shared belief held by members of a team that the team is safe for interpersonal risk taking
<b>COR Theory</b>	Conservation of Resource Theory	The idea that people are driven to both conserve their current resources and seek out new ones
<b>FCOVID-19</b>	Fear of COVID-19	Fear is an adaptive reaction that allows people to be aware of the existence of threat or danger
<b>PDI</b>	Power Distance Index	A society's tendency to accept power distribution unequally
<b>IDV</b>	Individualism vs Collectivism Index	A society's tendency to care about themselves versus surroundings
<b>MAS</b>	Masculinity vs Femininity Index	A society's tendency to place importance on values more than others
<b>UAI</b>	Uncertainty avoidance Index	A society's tendency to accept ambiguous situations and accept uncertain circumstances
<b>LTO</b>	Long-term orientation vs Short-term orientation Index	A society's decision-making attitude with respect to time
<b>IVR</b>	Indulgence vs Restraint Index	A society's tendency to establish control over their natural instincts

## 1. Chapter One: Introduction

The first chapter outlines the research background and problem of this study. The goal of this investigation is to provide a theoretical basis for explaining how individual resilience develops as a desirable organisational outcome considering all the internal and external factors in the socio-economic and cultural context of Egypt within the framework of COVID-19 pandemic. This chapter is structured as follows: Section 1.1. provides an overall explanation of the research background and gap and how I aim to address these gaps. Section 1.2 explains the research aims and objectives. Section 1.3 discusses the significance of the research. This chapter concludes with section 1.4 outlining the organisation of this thesis.

### 1.1. Research Background and Addressing the Gap

SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus 2) or COVID-19 initially surfaced in Wuhan, China, in December 2019 and was announced as a pandemic by February 2020, requiring special precautions across all sections of civic life (Ho, 2020). Response practices were tailored to accommodate cultural, societal, and industry specific requirements, the number of cases, and the response rate and capabilities of medical teams. Examples of such differences include the duration of lockdowns or the implementation of work from home procedures (Fischhoff, 2020). However, global emergency measures, particularly during the first and second waves, including lockdowns, halts to flights and social distancing requirements, remained similar across many countries (Donthu & Gustafsson, 2020; Fischhoff, 2020; Meyer et al., 2022). Regardless of the control system, COVID-19 measures imposed serious restrictions on organisations that immobilised performance and complicated people management processes (Bailey & Breslin, 2021; Pedrosa et al., 2020). The issues that surfaced could all be traced back to the individual and collective capacity to achieve preparedness before the crises occurred, response during a crisis, and recovery from the crisis aftermath (Mokline & Ben Abdallah, 2021). The three phases of preparedness, response, and recovery are called crisis management. The overall phenomenon of bouncing back from the setbacks of adversity or crisis is called resilience. As will be explained in depth in the following sections, resilience is a phenomenon that occurs at individual, team, and

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organisational levels. The current study is concerned with the responsive capacity of individual employees in the workplace. Since the world is still collectively dealing with COVID-19 and the data for this investigation was collected in 2021, the current study is addressing the crisis response phase.

Scholars often discuss resilience in the context of addressing workplace adversities. Individual resilience – successful adaptation in the face of challenges – is a critical factor for individuals to survive a crisis (Fleming & Ledogar, 2008a; Miller-Graff, 2022). Resilience is unlike other coping techniques such as emotional intelligence that describe how people go about their daily lives (Fleming & Ledogar, 2008b; Miller-Graff, 2022; Ungar et al., 2021). Instead, resilience is a response to critical alterations to the status quo (Fisher et al., 2019; Hillmann, 2021; Mokline & Ben Abdallah, 2021). Understanding the process by which employees recover from and rise to the challenges and setbacks brought on by crises with enhanced performance has been a major test that COVID-19 has placed on academics, practitioners, and employees alike. An ongoing challenge in resilience research is the lack of a solid theoretical framework that explains why and how people recover or bounce back from catastrophes or adversities. While some scholars link resilience development to personality traits, there is a need to explore additional factors that contribute to the development of resilience. Another challenge is that the presence of a crisis is a prerequisite for people to demonstrate resilience, as employees must take unconventional measures, such as exposing their flaws at work, in order to overcome challenges (Fisher et al., 2019; Fleming & Ledogar, 2008a; Herrman et al., 2011). Due to the lack of potential crises within the last decade, the phenomenon has been heavily understudied. In addition, individual capacity to anticipate and respond to organisational challenges and demands varies and is constrained during a crisis by different factors, including limited availability of resources, increased demands, and societal, cultural, environmental, individual, and upbringing differences (Miller-Graff, 2022; Mokline & Ben Abdallah, 2021). As a result of all these limitations, the scholarly approach of using personality traits as the only explanation for why people develop resilience has left a knowledge gap in understanding how other contextual aspects affect the construct.

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Organisational capacity to adapt and respond to crises depends in part on the adaptability of the individuals who make up the organisation (Miller-Graff, 2022). Organisations are often as successful as their employees (Miller-Graff, 2022). As mentioned previously, resilience is a phenomenon that occurs at individual, team, and organisational levels. Individual resilience does not automatically translate to teams and organisations. As will be explained in the literature review, team resilience for example, refers to collective rather than the sum of individual capacity to bounce back (Fisher et al., 2019; Herrman et al., 2011). Transfer of the construct to its optimal level is thus noticeably caused by factors other than personality features. Promoting and understanding the mechanisms by which individual resilience develops is therefore essential if people, teams, and organisations are to adequately respond to existing challenges, considering all the societal, cultural and upbringing differences, in addition to heightened organisational demands and limited resources that governs the development of the construct in the workplace (Miller-Graff, 2022). Despite the importance of understanding how resilience develops at an individual capacity, there is a lack of empirical data regarding elements that foster individual resilience in the workplace, and a lack of a strong theoretical foundation to explain the mechanisms through which the construct develops (Raetze et al., 2021). Little work has been put into creating, implementing, and evaluating human resource interventions that promote individual resilience in organisations (Macchi Silva & Ribeiro, 2022).

Individual resilience has frequently been defined as a list of skills or traits, including intellectual capacity, that help people get through difficult times (Herrman et al., 2011). According to this theory, individuals are either resilient or not, depending on the skills they possess. Although individual traits are crucial for resilience, I argue that a sole trait focus offers a limited perspective as it ignores additional internal, external, and other individual influencing factors. While some researchers have offered other dynamics to approach resilience like viewing it as a process, or an outcome (Fleming & Ledogar, 2008a), these approaches still provide limited understanding of how resilience develops due to the lack of theoretical justification. Whilst there are some empirical studies on resilience, most of them focus on organisational resilience or investigate individual resilience in the healthcare industry, which was particularly important during the height of the pandemic. This

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limited sector focus fails to explain how other industries achieve resilience. Moreover, the focus of the studies is primarily on outcomes of resilience, rather than how resilience develops. Resilience is a multi-facet phenomenon that occurs on individual, team, and organisational levels, and there is no doubt that resilience results in many desirable work outputs on the three levels (Aburn et al., 2016; Breda, 2001; Gittell et al., 2005; Hoegl & Hartmann, 2021; Masten & Monn, 2015; Shiri et al., 2022; Ungar, 2008). Nonetheless, understanding the mechanisms and theoretical foundations through which resilience develops and impacts work outputs on an individual level is crucial. Without this understanding, it is difficult to comprehend how it transfers to teams and eventually organisations, creating a dilemma for scholars and practitioners to comprehend how people, teams, and organisations endure a crisis.

### ***1.1.1. Addressing the Gap***

My primary focus is on individual resilience as the main factor in workplace performance, and I aim to provide both theoretical and empirical justifications for its development during crises. Specifically, I am to explore the various internal and external elements that contributed to resilience within the context of COVID-19 pandemic.

As previously highlighted, my main concern is that the current stance on resilience, which ignores internal, external, and individual factors influencing resilience, offers an overly simplistic view of a more complex phenomena and limits understanding of why and how resilience develops. To address this fundamental limitation, I assess the perception of internal and external factors that influence resilience during crisis in the workplace. I provide psychological, social, internal, external, and cultural justifications to how resilience develops, taking a holistic approach to understanding resilience as a process, delivering a solid theoretical foundation, and rationalising why personality traits approach to resilience as a standalone antecedent is obsolete. The key research question is: “How and why does individual resilience develop during crisis in the workplace beyond personality traits, considering all contextual elements?”

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In this study, three main research variables, namely perceived support, psychological safety, and fear of COVID-19, are empirically analysed to examine individual resilience. To provide a more organised conceptual framework, these elements are categorised as either "Perception of Internal factors" or "Perception of External Factors" within the context of the organisation. Perceived support and psychological safety are classified as " Perception of Internal factors " as they arise from interactions and perceptions within the organisational framework. These variables capture individuals' subjective interpretations and beliefs about the support they receive from the organisation, supervisors, and co-workers, as well as their sense of psychological safety in expressing themselves and taking interpersonal risks at work. They reflect individuals' internal experiences and perceptions of the organisational context. On the other hand, fear of COVID-19 is categorised as "Perception of External Factors" as it originates from occurrences outside the organisational framework. This represents the broader environmental context in which individuals operate, specifically the impact of the COVID-19 pandemic. It encompasses individuals' concerns, anxieties, and uncertainties related to the pandemic, including potential health risks, job security, and the overall uncertainty surrounding the future. By recategorizing as "Perception of External Factors" and "Perception of External Factors", the study acknowledges that perceived support and psychological safety are influenced by internal dynamics within the organisation, while fear of COVID-19 is influenced by the external environmental context. This recategorization accurately reflects the perceptual nature of these factors and provides a clearer understanding of how they contribute to individual resilience within the organisational context. For sentence structure purposes throughout the research, perceptions of internal and external factors might be in some cases referred to as simply internal and external factors. However, they still refer to perception of both elements.

This model is the first to draw upon social exchange theory to explain individual resilience as a behavioural outcome. The social exchange theories are in essence motivational theories that explain why employees act in certain ways (Blau, 2007). They are based on the concept of reciprocity and mutual exchange of benefits between two parties that meet each one's current needs. To address the first Internal factor and resilience as explained by the social exchange theory, I measure the

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impact of perceived support from the perspective of an organisation, supervisor, and co-workers on individual resilience. In other words, the degree to which the employee perceives that the mentioned stakeholders' cares about their own personal needs. Perception is influenced by cognitive expectations that are given to a context and is considered a psychological construct that focuses on how an individual subjectively views the surrounding environment (McDonald, 2012). Assessing perceived support from the three facets allows to have an all-inclusive view of how all relationships work as well as assess the degree of impact and importance of each factor on resilience. In addition, it allows for assigning psychological justification to why resilience develops. I argue that organisations' stakeholders must reciprocate and exchange benefits as a form of reward or motivation with employees in times of crisis if employees are to take interpersonal risks, reveal and overcome their weaknesses to face the work challenges.

To address the second Internal Factor, I integrate psychological safety or employees' understanding that it is safe to take interpersonal risks at work (Gong et al., 2020). Psychological safety is a crucial performance metric as interpersonal risk-taking lies at the core of resilience. If the environment is regarded as psychologically safe for interpersonal risk-taking, employees will embark upon resilience and revealing their weaknesses without fears of ramifications. It is also a concept built based on the collecting mutual support and understanding between all members of the organisation, hence the social factor. I provide a unique approach to psychological safety using conservation of resource theory to explain the mechanism by which psychological safety as a resource impacts resilience development. I assess the direct impact of psychological safety on individual resilience, as well as the moderating and mediating impact of psychological safety on the relationship between perceived support and individual resilience. The reason for that is to not only assess how internal elements impact resilience but also assess any boundary conditions in relation to the development of individual resilience that might appear.

To address the External Factor, I tackle COVID-19 and incorporate fear of COVID-19 as a variable. In the face of COVID-19, fear serves as an incentive for behavioural change (Broche-Pérez et al., 2022). Fear can heighten risk perception and strengthen protective habits and that includes hindering interpersonal risk-taking

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(Harper et al., 2021) . Anxiety over COVID-19 significantly influenced how often people adhered to rules and regulations (Broche-Pérez et al., 2022; Harper et al., 2021). When heightened, fear also significantly impacts mental health and work performance (Elemo et al., 2020). I integrate fear of COVID-19 to assess the external environment and how the presence of COVID-19 as an external threat which elevates stress, anxiety, and fear impacts individual's ability to take interpersonal risks and exhibit resilience. I achieve this by assessing the direct impact of fear of COVID-19 on individual resilience as well as the moderating and mediating impact of fear of COVID-19 on the relationship between perceived support and individual resilience. The reason for that is to not only assess how external elements impact resilience but also assess any boundary conditions in relation to the development of individual resilience that might appear.

Finally, while the study has been empirically investigated, it also subjectively addresses the cultural aspect by utilising previous cultural research. I examine the national culture governing this research, which is Egypt, with all the study participants recruited from the Egyptian services sector. In Chapter 3, I will provide detailed reasons for choosing Egypt and explain its significance to the literature. As the largest developing country in the North Africa region, Egypt serves as a “role model” for other developing countries in term of economic development. Investigating Egyptian organisations will be valuable for those developing countries in North Africa as they can draw insights from cultural and societal similarities. The research on the impact of national culture on resilience is limited (Fleming & Ledogar, 2008a). Recently, researchers used Hofstede's model of national culture in NAFTA region, representing Canada, United States of America, and Mexico, to draw parallels between each dimension of national culture and resilience (Fietz et al., 2021). This approach assumes that researchers can use historical data to offer important insights for current research if the work is based on private/specific/original data from several years ago but for which the phenomenon researched is still of current interest (Zimmerman, 2008). The findings indicated that national culture affects resilience, and that resilience is context-specific in this particular region (Fietz et al., 2021). The authors suggested that companies that operate internationally should be aware of the cultural characteristics that influence the mechanisms of resilience in order to reinforce the competencies, procedures,

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and resources that result in resilience. However, they also suggested that their approach might not adequately represent multi-ethnic nations like those in the Arab world, or Africa. Accordingly, I plan to replicate this approach and subjectively compare between resilience results between Egypt and NAFTA, which are considered polarised nations, to determine how and if cultural differences affect resilience.

To summarise, I aim to address the lack of empirical data regarding the elements that foster individual resilience in the workplace and the limited perspective of addressing the construct as a list of traits by accounting for internal and external factors surrounding resilience development in the context of this research, measuring the impact of perceived support, psychological safety and fear of COVID-19 on individual resilience, and assigning psychological, social, cultural, external and motivational justification to how the construct is developed. To account for the issues and solutions presented in this section, the aims and objectives are articulated in the following section.

### **1.2. Research Aims and Objectives**

With Individual resilience being the main performance connotation in this investigation, the primary aim of this research is to develop a theoretical foundation and empirical justification for research on workplace resilience in order to understand the specific mechanisms through which Individual resilience develops and influences job outcomes, and the boundary conditions that govern these interactions considering all internal and external influences within the cultural framework of Egypt and the contextual framework of COVID-19 pandemic.

More specifically, in support for the research aims, the research objectives are stated as follows:

- To develop theoretical underpinnings for research on workplace individual resilience.

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- To place a major emphasis on internal and external elements and processes that influences workplace individual resilience.
- To account for sociocultural factors that influence workplace individual resilience.
- To understand how individual resilience could be a function of the context in which they take place.
- To provide a more comprehensive theoretical advancement outside the western region.

### **1.3. Significance of Research**

The basic assumption of this study is that individual resilience is a behavioural outcome resulting from the mutual exchange of benefits between organisational members and different organisational stakeholders indicating that resilience as a variable is explain through the social exchange theories derived from motivational theories. For long, researchers struggled to understand the theoretical underpinning of resilience in workplace assigning personality attributes to the development of the phenomena. To my best knowledge, this is the first research to utilise motivational theories and social exchange theories to explain how individual resilience develops in the workplace.

Recently, corporations have been aiming to achieve resilience at an organisation level due to the emergence of COVID-19 pandemic and the need for swift responses and actions. While the latter is a worthy goal, it is theoretically and practically challenging to implement resilience at an organisational level without underpinning the mechanisms through which resilience develops at an individual level. Resilience is a multi-facet phenomenon that occurs on individual, team, and organisational levels. It will be extremely perplexing for scholars and practitioners to understand how resilience develops and impacts work outputs on an individual level, let alone how it transfers to teams and eventually organisations without building a solid theoretical foundation at the bottom. Failing to achieve this creates a conundrum for understanding how people, teams, and organisations endure a crisis. Thus, this investigation provides a gateway and a pioneer approach for researchers to build on motivational theories as a theoretical justification for how and why resilience

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develops and practitioners to understand the mechanisms through which resilience develops in the workplace and how to motivate employees during crises.

A holistic analysis of individual resilience is required for incorporating all internal and external influences surrounding the development of resilience and to understand how individual resilience could be a function of the context in which they take place and understand why and how individual resilience develops as a construct. In a step to place a major emphasis on the socio-cultural, internal, and external elements that influences resilience, this study attempts to understand how individual resilience enablers or inhibitors can support or hinder the acquisition and creation of effective resilience practices by assessing Perception of Internal elements of perceived support and psychological safety and external element of fear of COVID-19. To my best knowledge, these variables have never been assessed empirically in relation to individual resilience in the workplace beyond the healthcare industry. Therefore, the research is significant to both academic researchers and practitioners in resilience theory, epistemology, and practice.

The context of this empirical study is unique as it combines different elements. As crises are a prerequisite for the development of resilience, the study investigates how the COVID-19 pandemic and the resulting fear and stress impacts resilience. Accordingly, placing a major emphasis on adversities. Additionally, the study provides insights in the Egyptian cultural context, which is a severely understudied region with regards to resilience. The findings have the potential to contradict the conventional wisdom established in the western world and thus advance the literature, serving as a gateway for future investigations in the region.

Many organisations potentially aim to acquire resilience within their employees, teams, and organisation as a whole in order to successfully adapt and respond to catastrophes. However, as practitioners and academics struggle to understand how and why resilience develops, they find it difficult to suggest practical implications for organisations to replicate in order to survive and thrive during a crisis. In response, a conceptual and practical framework is designed integrating potential resilience enablers and inhibitors in order to provide an understanding for how organisations can develop resilience considering internal and external elements in order to sustain

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their performance, providing imperative practical implications. By indicating the relationship among perceived support, psychological safety, fear of COVID-19 and individual resilience, this study may provide an understanding for how enterprises can adjust their practices to help employees endure performance and become resilient. This study empowers managers to find which enablers are critical to resilience development and which inhibitors are crucial to avoid or control delivering a first step to implementing and evaluating HR interventions that promote individual resilience in organisations. The conceptual model created in this research will assist managers in strategic decision making. In a world where crises are now inevitable, this study can provide deeper understanding and useful suggestions for effective resilience strategies. Most importantly, it offers a fresh theoretical defence to address the why and how of resilience development.

### **1.4. Organisation of Research**

This thesis comprises nine chapters which are organised as follows:

The first and introductory chapter of this study introduced the research background, outlined the topic to identify the needs of the investigation and explain the research issues that will be presented. Chapter 2 reviews the relevant concepts and focal theories in the literature to improve the understanding of the research variables. The reviewed materials in this chapter helped to inform the theoretical and conceptual framework and methodology guided in this investigation. Chapter 3 builds on Chapter 2 by describing the socio-economic and cultural setting in which this study takes place: Egypt. The overriding argument of this study is that resilience is a function of the context in which they take place. The primary idea is that cultural norms affect and impact this study framework. Chapter 4 concludes the review of the literature and summarises the main findings of chapters 2 and 3, emphasising the research aims, hypothesis, objectives, theoretical and conceptual frameworks.

Chapter 5 discusses the research design and methodology directing the study. This study approaches the main variables through quantitative techniques adopting surveys that are already designed and validated while utilising old data to further elaborate on national culture. The results will strengthen the conceptual framework

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designed from the literature. This chapter concludes with discussing the data analysis procedures. Chapter 6 critically analyses and evaluates the research results using statistical models in SPSS. According to the statistical analysis, the research model is accepted with some boundary conditions. Chapter 7 provides theoretical understandings, implications, and discussions of the findings. Chapter 8 demonstrates a brief revisit of the literature review and theoretical framework based on the discussion. The thesis concludes with chapter 9 by summarising the research findings, presenting the theoretical and practical contributions, research limitations and recommendations for future research directions.

A major direction of this research is dividing the hypothesis into study chapters. Since the main aim is to investigate how perception of internal factors (psychological and social) and external (fear of COVID-19) elements affect individual resilience, I found it easier to navigate if the internal and external elements are divided into smaller sections that delves into the bigger picture of the research in the end. Study chapter 1 focuses on the first internal variable and the main theoretical underpinning of this research and emphases on the impact of perceived support on individual resilience assessing individual resilience as a behavioural outcome influenced by the social exchange theory. Study chapter 2 focuses on the second internal variable and defining the influence of psychological safety on individual resilience and the relationship between perceived support and individual resilience acknowledging the construct as a boundary condition. Study chapter 3 focuses on the external variable and defining the influence of fear of COVID-19 on individual resilience and the impact of perceived support on individual resilience. Throughout this study, the hypothesis testing, and the discussion will be divided in to the three study chapters. The final section of the discussion chapter includes overlapping the results of all the separate study chapter into one ultimate study. As the national cultural of Egypt does not include testing hypothesis, the subjective analysis will be included in the final discussion section. The following chapter discusses the literature review.

## 2. Chapter Two: Literature Review

Chapter two presents significant ideas and key theories from the literature to help readers better comprehend the theoretical background pertaining to the research variables. The material covered in this chapter serves to build the theoretical framework that underlies this investigation. The literature from prior studies of the crisis management model which establishes the contextual foundation of this study is reviewed in Section 2.1. The theoretical groundworks for individual resilience, perceived support, psychological safety, and fear of COVID-19 are respectively presented in Sections 2.2., 2.3, 2.4 and 2.5. Where applicable, each of these sections includes a subsection explaining how to advance the theoretical foundation of the variable with hypotheses. The chapter concludes with section 2.6 which provides a summary of the main objectives of the research and study chapters.

### 2.1. Crisis Management

No organisation is immune to the danger posed by crisis (Radovic et al., 2018). Contrary to popular belief, crises occur frequently in the contemporary corporate world (Lalonde, 2007). The frequency and types of crises have increased significantly (Robert & Lajtha, 2003), and their occurrence times and locations have changed (Kunreuther et al., 2004). Organisations regularly adjust their operations to meet the diverse needs of stakeholders and the external environment. Although dealing with crisis is inevitable, organisations cannot always predict or be fully ready for them (Tej et al., 2014).

#### 2.1.1. *What is Crisis Management?*

Continuous crisis management is necessary in the modern business environment. Managers now strive to effectively address a potential crisis with little loss or, in the best-case scenario, to avert the potential disaster (Vasickova, 2020). The Greek term crisis, which is often written as "Krisis" in Latin, is translated as "crisis." When a huge shift is about to occur, there is an unstable condition known as a crisis, and there is a good chance that it will have a highly unfavourable consequence (Fink, 1986).

Academics have long been interested in the phenomenon of crisis management. Early approaches to crisis management took three distinctive approaches to theorising the concept. Either researchers focused on incident crisis (Shrivastava, 1993) or the social, technological, and political factors affecting a crisis (Turner, 1976) or the psychological impact of crisis on individuals and corporations (Pearson & Clair, 1998). It is evident from the literature that early approaches although having three different routes to defining crisis all looped around a main ideology: the process of identifying, preventing, controlling, and minimising the effects of crisis on individuals and corporations (Pearson & Clair, 1998; Shrivastava, 1993; Turner, 1976). Despite various approaches to defining crisis management, early researchers have stressed on the importance of emergency planning. The early research on crisis also paved the way to investigating the psychological and cognitive impact of crisis while shedding the light on the importance of interpersonal skills (Hall, 1992; Pearson & Clair, 1998; Quarantelli, 1996). Early research on crises also paved the way for studies into how crises affect people's minds and behaviour, emphasising the value of interpersonal skills.

Contemporary definitions of crisis management had clear objectives. Some authors defined a crisis situation as a circumstance where organisations must make hasty decisions on the spot with little notice (I. Mitroff et al., 2004). According to some authors, the term "crisis management" is used to describe the various activities and behavioural situations that organisations follow better position themselves to respond to various types of catastrophic events that may occur locally or worldwide (Lockwood et al., 2005). Similar to this, other authors define crisis as a stage during which occurrences are characterised as catastrophes, business disruptions, or urgent unforeseen problems that transpire with little to no warning (Herbane, 2010). Scholars have recently employed a comprehensive approach in which a crisis is defined as including all actions conducted before, during, and after the crisis to manage and assess the situation (Vargo & Seville, 2011; Wang & Ritchie, 2010). Most crucially, modern literature has begun to emphasise the significance of human differences in defining crises, arguing that a situation qualifies as a crisis when people perceive it as causing disturbances from the ideal state of affairs (Denis & McConnell, 2003; Drennan & McConnell, 2012).

In general, crisis management is seen as a process that directs an organisation's actions with the goal of identifying and assessing the warning signs of a possible crisis (I. Mitroff et al., 2004; I. Mitroff & Alpaslan, 2003; I. I. Mitroff, 1994). In today's modern approach to crisis management, a proactive management style is often necessary, with managers tasked with regularly identifying warning signs to prevent potential crises and developing strategies to safeguard the organisation from a future crisis.

### ***2.1.2. Crisis Classification***

Scholars generally agree that crises can be classified into different categories including disasters, accidents, and deliberate organisational crises. Disasters are unexpected and can be caused by natural or human factors and can have lasting psychological effects on the people who experience them. Disasters can also lead to political, economic, and organisational changes. Natural catastrophes can also include pandemics, earthquakes, fires, and storms, while human-made disasters may include acts of terrorism, revolutions, and uprisings (Lerbinger, 2014; I. Mitroff et al., 2004; I. Mitroff & Alpaslan, 2003; Siomkos & Kurzbard, 1992).

Accidents are the second type and include spills, explosions, defective products, and technical blunders. Accidents can often place some blame on the organisation and necessitate prompt action from management (Elliott, 1994). These accidents can result from various factors, such as human error, equipment malfunction, or a failure to follow safety standards, and may cause injuries, deaths, and legal claims for compensation.

The third type, known as deliberate crises, is characterised by situations where an organisation or stakeholder intends to interfere with regular business operations. This type of crisis may include hostile takeovers, workplace violence, product tampering, corruption, and unethical leadership, among others (Blyth, 2009; Coombs, 2007; Momani, 2010).

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The three categories can be distinguished by the aims of organisations during crises. Organisations are not typically held responsible for natural since they are beyond their control. However, it is their responsibility to ensure that both the company and the personnel bounce back. Accidents are not purposefully caused by organisations, although administrative incompetence is often to blame. In such cases, organisations are responsible for both the incident and the rehabilitation. On the other hand, organisations are responsible for deliberate crises, and they are also responsible for the healing process. Table 1 provides a summary of the crises management classifications by different authors in literature.

**Table 1: Crisis Management Classification**

Classification/ Author	(Siom kos & Kurzb ard, 1992)	(Elliott , 1994)	(I. Mitroff & Alpasl an, 2003)	(I. Mitroff et al., 2004)	(Polla rd & Hoth o, 2006)	(Coombs, 2007)	(Blyth, 2009)	(Momani , 2010)	(Lerbinger , 2014)
Natural Disaster	✓	✓	✓	✓		✓		✓	✓
Global Issues {Global warming}	✓	✓							
Financial/Economic	✓			✓	✓		✓		
Technological			✓					✓	✓
Reputational				✓	✓	✓	✓		✓
Physical {loss of equipment}				✓	✓		✓		
Informational				✓	✓				
Biological									✓
Accidents								✓	
Managerial						✓			
Incompetence									✓
Criminal acts {Psychological/War}			✓	✓	✓				
HR {Workplace violence/Mergers/Ac quisitions}				✓	✓	✓			

### 2.1.3. Phases of Crisis Management

Several authors have broken down crisis management into different stages (Vargo & Seville, 2011; Wang & Ritchie, 2010). Scholars concur that despite the crisis management model's multiple classifications, they are all identical in nature

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and definition, with some models just varying in terminology. Pre-crisis, crisis, and post-crisis are the three main phases that I reorganised the literature into after adopting the definition that crisis and inclusive of all the activities undertaken before, during, and after the crisis in order to manage and evaluate the situation.

The pre-crisis period involves identifying the warning signs of a crisis. This stage is regarded difficult because, despite the fact that warning signs might be there right now, they might not necessarily be seen as indicators of a crisis happening. Only if the indicators are detected early enough to be handled and monitored is it possible for the management team to take any action prior to the initial pre-crisis phase (Coombs, 2007; Sarriegi et al., 2009). Actions that need to be performed to decrease recognised risks that could lead to a crisis are all included in the pre-crisis stage. They involve signal detection, crisis prevention, and crisis readiness (Sarriegi et al., 2009).

Managers must carry out processes during the crisis phase, also known as the response phase, until it is believed to be over. It is the responsibility of managers to respond to crises quickly, precisely, and consistently. Accepting the calamity and responding to it are the main goals of this stage (Coombs, 2007; Sarriegi et al., 2009).

The post-crisis phase, which includes the recovery period, an evaluation of crisis management, and preparation for the next disaster, is characterised by quick recovery.

Table 2 demonstrates how I managed to reorganise all the classification of previous authors into Coomb's three level classification of pre-crises, crises, and post-crisises.

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**Table 2: The Three Phases of Crisis Management**

Model/Coomb's classification	Pre-crisis	Crisis	Post-Crisis
(Petak, 1985)	<ul style="list-style-type: none"> <li>• Mitigation</li> <li>• Preparedness</li> </ul>	<ul style="list-style-type: none"> <li>• Response</li> </ul>	<ul style="list-style-type: none"> <li>• Recovery</li> </ul>
(Fink, 1986)	<ul style="list-style-type: none"> <li>• Prodromal</li> </ul>	<ul style="list-style-type: none"> <li>• Crisis Breakout</li> </ul>	<ul style="list-style-type: none"> <li>• Chronic</li> <li>• Resolution</li> </ul>
(I. I. Mitroff, 1994)	<ul style="list-style-type: none"> <li>• Signal Detection</li> <li>• Probing and Prevention</li> </ul>	<ul style="list-style-type: none"> <li>• Damage Containment</li> </ul>	<ul style="list-style-type: none"> <li>• Recovery</li> <li>• Learning</li> </ul>
(Augustine, 1995)	<ul style="list-style-type: none"> <li>• Avoiding the crisis</li> <li>• Preparing to manage the Crisis</li> </ul>	<ul style="list-style-type: none"> <li>• Recognising the Crisis</li> <li>• Containing the crisis</li> </ul>	<ul style="list-style-type: none"> <li>• Resolving the Crisis</li> <li>• Profiting from the Crisis</li> </ul>
(Burnett, 1998)	<ul style="list-style-type: none"> <li>• Birth</li> </ul>	<ul style="list-style-type: none"> <li>• Growth</li> <li>• Maturity</li> </ul>	<ul style="list-style-type: none"> <li>• Decline</li> </ul>
(Burnett, 1998) (Lakha & Moore, 2002)	<ul style="list-style-type: none"> <li>• Identification</li> <li>• Situation Monitoring</li> </ul>	<ul style="list-style-type: none"> <li>• Confrontation</li> <li>• Crisis detection</li> <li>• Crisis Containment</li> <li>• Crisis response</li> </ul>	<ul style="list-style-type: none"> <li>• Reconfiguration</li> <li>• De-escalation</li> <li>• Recovery</li> </ul>
(Boin et al., 2013)	<ul style="list-style-type: none"> <li>• Incubation</li> </ul>	<ul style="list-style-type: none"> <li>• Onset</li> </ul>	<ul style="list-style-type: none"> <li>• Aftermath</li> </ul>

### 2.1.4. COVID-19 Pandemic

The global crisis investigated in this research is COVID-19 pandemic. SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus 2) or COVID-19 is a novel coronavirus strain that initially surfaced in Wuhan, China, in December 2019. COVID-19 had become a pandemic by February 2020, requiring widespread emergency measures (Ho, 2020). Global emergency measures, particularly during the first and second wave, including lockdowns, halts on flights, work from home, and social seclusion remained the same across countries even though different pandemic response techniques were used in each region tailored to cultural and societal differences, the number of cases, and the response rate of medical teams (Fischhoff, 2020; Ho, 2020). The COVID-19 pandemic outbreak has forced many businesses to close their doors and has caused an unprecedented disruption of business operations across numerous sectors. Organisations had to deal with

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disruptions like restructuring, layoffs, compensation reductions, higher job expectations, mergers, and acquisitions in order to survive. In addition to adhering to government regulations, businesses also faced immediate challenges with regard to worker health and safety, the supply chain, human resources, cash flow, consumer demand, sales, and marketing (Donthu & Gustafsson, 2020). At this stage of the outbreak, predicting the pandemic's long-term effects is quite difficult. Although civilisations have faced numerous pandemics in the past and because these issues have not received much attention in the past, it is difficult to foresee the long-term economic, behavioural, or societal implications. As the pandemic spread over the world, it produced fear and terror, which raised the possibility of mental health problems (Elemo et al., 2020). Globally, there have been an increasing number of confirmed coronavirus cases, which have resulted in hundreds of thousands of fatalities.

### ***2.1.5. Research Approach to Crisis***

This investigation looks at COVID-19 pandemic impact in organisational context. The COVID-19 pandemic is categorised as a natural disaster/global concern as a result of its widespread global and health characteristics. For this study, information was gathered from organisations starting in January 2021 and continuing through March 2021. In 2020, COVID-19 was declared a pandemic, and its effects are still being felt today. This categorises the research as having taken place during the pandemic's period of global response. Organisations and nations worldwide have failed to achieve readiness and prepare for the rapid widespread and impact of COVID-19 on the world. Despite the fact that the COVID-19 pandemic was not their fault, organisations must take responsibility for the harsh actions that had negative effects on employees' financial, physical, and mental health. The key performance connotation in this investigation is resilience, which is introduced in the following section and is thought to be essential to surviving a catastrophe.

### 2.2. Individual Resilience

#### 2.2.1. *Resilience: An Overview*

The term resilience is frequently used by academics to describe how to survive a crisis. Resilience is most frequently defined as successful adversity-adjustment (Herrman et al., 2011). Early studies on resilience emphasised the special traits of resilient children or adolescents. The resilient teenager was referred to as impenetrable. As researchers gradually realised that these words are inaccurate, they broadened or improved the concept of resilience (Fleming & Ledogar, 2008b). Some practitioners continue to view resilience as solely an individual trait despite the increased attention to the social dimensions of resilience that has resulted from more than three decades of research. Psychologists began to realise that many factors that appear to promote resilience originate from sources other than the individual. As a result, efforts have been made to find components that promote resilience at the individual, family, community, and, most recently, cultural levels. Along with the influences that culture has on an individual's resilience, there is growing interest in resilience as a quality shared by entire communities and cultural groups.

Resilience has attracted a lot of scholarly attention over the last 20 years (Aburn et al., 2016; Breda, 2001; Britt et al., 2016; Fleming & Ledogar, 2008a, 2008b; Herrman et al., 2011; Miller-Graff, 2022; Ungar et al., 2021). However, the majority of the study in this area has been done by psychologists who work with populations of children and adolescents (Aburn et al., 2016). In order to ensure adequate coverage of the pertinent literature and avoid bias in the selection and reporting of studies, systematic reviews are becoming more and more necessary. Additionally, it is becoming more and more clear that it is crucial to comprehend how resilience develops in the workplace as organisations encounter more challenges. Despite researchers stressing on the importance of investigating resilience beyond personality traits, the literature is still stuck in that loop offering only limited explanation of the mechanism through which individual resilience develops.

### ***2.2.2. Resilience: A Definition***

A conclusion of the literature review was that resilience does not have a generally universally acknowledged definition, particularly resilience in the workplace context. There are many definitions of the construct, but none of them is universally accepted by scholars (Hegney et al., 2007). The reason is a failure to reach an agreement on what resilience is and what constitutes a crisis in organisational setting. In reality, academics have pushed for a clearer definition (Ungar, 2008). In the following paragraphs, I will outline the key controversies in resilience definition. I continue to urge the need for a new resilience definition that responds to the controversies.

Although resilience has no universally accepted definition, there are certain common themes that scholars employ to describe resilience in the context of their research. As the population in this thesis involves individuals who work for organisations, I will proceed to evaluate the literature from an organisational perspective. Resilience generally refers to peoples', teams', or organisations' positive adaptability, or the capacity to preserve or reclaim mental health and bounce back in the face of crisis (Herrman et al., 2011). Several common themes arise from this definition that researchers use to characterise resilience.

One of the most overarching themes in resilience is adaptation. A fundamental question that arises from the concept of adaption is whether or not someone must develop or undergo positive changes as a result of a traumatic experience in order to qualify as resilient or merely maintain status quo (P. Frazier et al., 2009). Although some definitions demand growth, the majority only call for effective adaptation. In the literature, this topic has generated a great deal of debate. Therefore, even while researchers do not support integrating positive growth as a condition for resilience, they do make recommendations for how growth should be incorporated into the study of resilience. I disagree with both points of view since there is no one-size-fits-all solution. While both options are viable, they must be dependent on the capabilities of both the organisation and its personnel. It should be built on a spectrum of organisational demands, resources, and personnel skills. As a result, while both techniques are appropriate, the solution should be contextual based.

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As part of the theme of adaptation, the act of overcoming adversity represents the second theme. Even though the presence of adversity is necessary to distinguish resilience from other successful coping mechanisms, researchers have repeatedly noted that similar to resilience, there is no universally accepted definition of adversity, which is generally refers to circumstances that threaten to status quo or progress (Masten, 2014). With such a statement, a few issues emerge. Everybody faces obstacles. When adversity is defined too broadly (e.g., as the existence of any stressor in life), the literature is effectively equating resilience with other theoretical models of positive development (Miller-Graff, 2022). On the other hand, a narrow view of adversity runs the risk of ignoring other forms of challenges that are "hidden" but no less harmful, such as unemployment. Additionally, significant difficulties can arise from climactic incidents that occur on the job. Also, long-term exposure to high stressors like sexual harassment, abusive supervision, or physical stresses like crowded conditions or extreme temperatures probably also causes a lot of disadvantages (Gilboa et al., 2013). Many of the conventional workplace stresses addressed by organisational psychologists, such as job ambiguity, work overload, and organisational restrictions do not constitute considerable adversity, particularly if these stresses are considered to not have been present at all or for a very short time. This is not to say that typical workplace stresses do not have health and performance effects, but rather that resilience assessments may not consider exposure to traditional workplace stressors to be adversity. To put it another way, not all affective reactions to demanding situations show perseverance. Additionally, the level of adversity in the resilience context can affect the level of adaptation that is required (Miller-Graff, 2022). This finding supports the goal of modifying definitions in light of context (I.e., workplace) considering how difficulties affect organisations differently from daily workplace activities. I argue that in order to properly understand employee resilience, researchers must distinguish between workplace stressors and events that constitute significant adversity to properly understand employee resilience.

The third theme is "bouncing back" which refers to when a person improves their performance and/or level of well-being (Britt et al., 2016; Masten, 2001). Given the dangers that adversities pose to people and the performance and emotional setbacks they cause, I argue that it is unreasonable to expect employees to quickly

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recover and surpass their previous level of performance and wellbeing. Building on this idea, I maintain that telling staff members to "bounce back to a stronger performance" is unclear and will only make them feel more stressed. I also acknowledge that it's unclear whether the employer or the employee should decide what constitutes "an increased level" or what it means. Employee performance requirements that are unclear run the risk of undermining exceptional performance, which is crucial during times of crisis (Fischhoff, 2020).

In conclusion, while the research generally agrees on what resilience entails, in-depth assessments of the mechanisms and terminology are still ambiguous. Although regular coping strategies are important for managing everyday stressors, resilience is distinct from coping strategies in that it involves a positive adaptation to significant adversities. Researchers need to clarify what constitutes a positive adaptation, what it means to face significant adversities at work, and how managers and employees decided what constitutes overcoming adversity and bouncing back. The imprecise approach to actual resilience applications raises risks to practitioners and should be addressed conceptually to assist managers strategically. Table 3 provides a chronological overview of some influential definitions of individual resilience and the associated authors.

**Table 3: Influential Definitions of Individual Resilience**

Author	Definition	Contribution
(Garmezy, 1974)	"Individual resilience is the capacity of a person to adapt successfully to significant adversity, trauma, or stress."	Norman Garmezy, a pioneering psychologist, conducted research on resilience in children and highlighted the importance of protective factors in promoting positive adaptation.
(Werner, 1989)	"Individual resilience is the process of positive adaptation despite experiencing significant adversity or risk factors."	Emmy Werner conducted a landmark longitudinal study on resilience in children, identifying protective factors and highlighting the long-term outcomes of resilient individuals.
(Masten, 2001)	"Individual resilience is the capacity of a person to navigate through adversity, adapt positively, and maintain competence despite significant life challenges."	Ann Masten is a renowned psychologist who has extensively researched resilience in children and adolescents, emphasizing the role of competence and positive adaptation.
(Benard, 2004)	"Individual resilience is the capacity of a person to navigate through adversity, adapt positively, and thrive despite significant challenges."	Bonnie Benard is a leading researcher in resilience, particularly in the context of education. She emphasizes the importance of social support,

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		relationships, and community connections in fostering individual resilience.
(Rutter, 2006)	"Individual resilience is the ability to display positive adaptation and maintain psychological well-being in the face of adversity or risk."	Michael Rutter, a prominent developmental psychologist, has contributed significantly to the study of resilience in child development, focusing on protective factors and the role of social support.
(Duckworth et al., 2016)	"Individual resilience is the ability to persevere, remain focused, and maintain effort and optimism in the pursuit of long-term goals, even in the face of setbacks, obstacles, and failures."	Angela Duckworth is a psychologist known for her research on grit and its association with resilience. She highlights the role of determination and resilience in achieving long-term success.

Resilience can also be viewed as a form of performance, where individuals engage in adaptive behaviours and demonstrate their ability to effectively navigate and respond to challenges (Bonanno et al., 2004; Coutu, 2002; Maddi, 2004). This perspective emphasises that resilience is not just an inherent trait but also an active process that individuals engage in. For example, here are a few definitions that encompass resilience as a form of performance:

- "Resilience is the ability to maintain healthy levels of psychological and physical functioning despite experiencing significant adversity, and it involves an active process of adaptation and performance." (Bonanno et al., 2004).
- "Resilience is a process of performing effectively in the face of adversity, stress, or uncertainty, using one's internal and external resources to adapt and succeed." (Maddi, 2004).
- "Resilience is a performance characterized by the ability to bounce back, recover, and even grow stronger after facing setbacks, challenges, or traumatic events."(Coutu, 2002).

These definitions highlight that resilience involves actively engaging in adaptive behaviours, utilising internal and external resources, and performing effectively despite adversity. Resilience as a performance emphasises the dynamic nature of resilience, where individuals demonstrate their ability to adapt, recover, and thrive in challenging circumstances. From this perspective, resilience can be seen as a skill

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that can be developed and enhanced through intentional effort and practice. It involves the active utilisation of coping strategies, problem-solving skills, social support, and personal strengths to effectively navigate and overcome obstacles. It's important to note that while resilience can be viewed as a performance, it should not be equated with a constant state of strength or invincibility. Resilience involves both the ability to bounce back from setbacks and the recognition of the need for self-care, seeking support, and practicing self-compassion during challenging times.

### ***2.2.3. The Multi-Level Construct of Resilience***

The multi-level construct of resilience occurs simultaneously at the individual, team, and organisational levels. The essence of resilience is the same in all three conceptions, suggesting that it determines how people, teams, or organisations recover from crises and function at a higher level (Miller-Graff, 2022). On an individual level, resilience has received formal recognition as a set of characteristics learnable or inherent, a process, or an outcome. Previously widely held beliefs that resilience is a trait have altered to emphasise that resilience is also a process. This suggests that a person's response to difficulties may vary based on their current stage of life and past experiences. Academics' statements that resilience is a dynamic condition that changes are supported by the concept of resilience as a process (Borg et al., 2022; Miller-Graff, 2022). Despite literature's attempts to support the idea that resilience is caused by elements other than merely personality qualities, the literature still lacks a clear theory on how these aspects affect resilience's growth and development.

Resilience is now being discussed widely by academics as a team phenomenon that is conceptually different from individual resilience. There isn't currently consensus on how to conceptualise team resilience because it is a novel idea (Hartmann et al., 2020). Team resilience is a social unit's collective quality rather than the sum of each team member's individual resilience. Resilient teams are characterised by four characteristics: a shared understanding of how they will work together; a feeling of psychological safety and trust among team members; the conviction that they can carry out their assigned tasks successfully as a team; and the ability to change and grow as a unit when necessary (Borg et al., 2022; Hartmann et al., 2020). The cycle's conclusion is organisational resilience, which is

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the ability of a company to get ready for, react to, and adapt to gradual change as well as unplanned interruptions (Akkermans et al., 2021; Borg et al., 2022; K. M. Sutcliffe, 2007). It is achieved through constructive change in the face of adversity, followed by a demonstrable increase in resourcefulness geared at encouraging resilience. Additionally, a company must acknowledge the limitations of its employees and organisational procedures.

In a world where change is constant, it is crucial to understand what fosters resilience. The division of individual, team, and organisational resilience must be seen to be complimentary rather than opposed. In other words, an organisation's capacity for change is mostly determined by the teams that comprise it, and a team's capacity for change is largely determined by the people that comprise it. However, during a crisis, each person's ability to foresee and respond to organisational events and demand is unique, constrained, and dependent on a number of characteristics (Mokline & Ben Abdallah, 2021). If people, teams, and organisations are to be able to handle the present problems, understanding and fostering resilience at an individual level is crucial. Researchers' inability to clearly conceptualise resilience at the organisational and team levels is not surprising given how little is known about theorising resilience on an individual level. Due to the interdependence of the three levels, it is essential to understand experimentally and conceptually how and why resilience develops at the individual level in order to know how resilience spreads to teams and organisations.

There is a scarcity of theory-driven empirical resilience research, according to the thorough literature assessment on individual resilience, which will be described in the following sections. Existing empirical investigations have only provided a fragmentary understanding of the specific mechanisms by which resilience develops and influences both good and negative work outcomes, or the boundary conditions that affect these interactions. I will examine resilience at an individual level moving forward and throughout this investigation to better understand the fundamental development of resilience at the individual level and to assist other researchers in carrying out the line of inquiry into teams and organisational level.

#### ***2.2.4. Conceptualising Resilience at the Individual Level***

Academics have defined individual resilience (IR) as a constant personality trait, a state-like developable ability, a process, or a result (Kossek & Perrigino, 2016; Richardson, 2002). According to the characteristic perspective, resilience can be seen as a combination of several personal qualities or as a unique and constant human quality (Wanberg & Banas, 2000). This conceptualisation states that resilient individuals are often more prepared than non-resilient individuals to handle adversity and disappointment (Shin et al., 2012). In other words, possessing certain personality traits automatically indicates that the individual is resilient. According to the capacity perspective, resilience is a state-like feature that, while stable temporarily, can change over time. So, from this perspective, developing resilience is something that can be learned (Luthans, 2002). Consideration of developmental and temporal elements that are important for resilience research is made possible by conceptualising resilience as a process (Fisher et al., 2019). Additionally, a process-based conceptualization of resilience can account for eventualities by specifying the workplace context or permitting domain specificity (K. Sutcliffe & Vogus, 2003). This is relevant since recent research suggests that resilience may be context-specific, like other psychological categories (Kossek & Perrigino, 2016). Not to mention, this process view of resilience is in line with recent theorising which claims that a combination of actions, flexible capacities, and fixed, trait-like qualities influence the outcome. The process perspective provides a thorough and integrated approach to researching resilience as a result (Hartmann et al., 2020). According to some authors, organisational interactions between particular features lead to resilience as an outcome (Herrman et al., 2011).

#### ***2.2.5. Antecedents of Individual resilience in the Workplace***

Personality traits and cultural value orientations, personal resources, individual attitudes, mindsets, and emotions, and work needs, and resources can all be categorised as antecedents of IR in the workplace (Hartmann et al., 2020).

Numerous personality traits have positive associations with resilience, according to empirical research (Fürster & Duchek, 2017). Personality traits such as optimism,

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self-efficacy, emotional stability, and conscientiousness have been found to contribute to resilience in the workplace. These traits influence how individuals perceive and respond to challenges, setbacks, and stressors. Researchers have found that openness to experience, emotional stability, and future orientation are all positively connected with career resilience and general workplace resilience (Lyons et al., 2015; Wei & Taormina, 2014).

Cultural value orientations, such as collectivism, adaptability, perseverance, and problem-solving, also play a role in shaping individuals' resilience in the workplace (Hofstede, 2001). Cultural values can influence employees' attitudes, behaviours, and coping strategies. Moreover, researchers have found a positive correlation between personal resources, such as work-related experience or the ability to handle workload pressures, and resilience (F. Cameron & Brownie, 2010).

Personal resources encompass a wide range of internal and external assets that individuals possess. These can include social support networks, coping skills, self-esteem, self-efficacy, and access to resources that help individuals navigate and cope with workplace challenges (Hobfoll, 2001). Personal resources also include educational background, skills, knowledge, and experiences that individuals bring to the workplace, enabling them to effectively adapt and overcome difficulties.

Attitudes, mindsets, and emotional states play a significant role in shaping resilience in the workplace. Having a positive attitude, a growth mindset, emotional intelligence, and the ability to regulate emotions can contribute to higher levels of resilience. Resilient individuals often demonstrate adaptive thinking patterns, such as seeing setbacks as opportunities for growth, maintaining optimism, and displaying a proactive approach to problem-solving. Researchers from several fields are beginning to examine how emotions impact resilience. They view resilience as a learnable skill that develops when there are positive feelings present at work, much like a state (Hartmann et al., 2020).

Academics have also emphasised the link between an employee's work environment and resilience, which goes beyond personality attributes and interpersonal interactions (Aburn et al., 2016; Britt et al., 2016). According to

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research, social support, and positive feedback from co-workers at work have a beneficial association with resilience (Förster & Duchek, 2017). Employees profited from task delegation and responsibility sharing because it lessened the strain during challenging times (Burns et al., 2013). Additionally, social support enabled them to talk about and overcome difficult circumstances (Lamb & Cogan, 2015).

Resilience was positively correlated with the transformational leadership qualities of attributed charisma, idealised influence, intellectual stimulation, and individualised consideration as well as the transactional leadership factor of contingent remuneration, according to scholars who linked the two personality traits (Sommer et al., 2015). The alignment of employees' work needs, and available resources can influence their resilience in the workplace. Factors such as job satisfaction, autonomy, clear goals, supportive leadership, and access to resources like training and development opportunities contribute to individuals' ability to be resilient. Adequate resources, including time, materials, and information, can enhance an employee's ability to cope with workplace challenges and demands. Finally, scholars have connected resilience to the favourable sense of organisational context (P. Malik & Garg, 2017; Meneghel et al., 2016). They argued that exposure to supportive organisational environments fosters positive emotions, which fosters the development of resilience.

### ***2.2.6. Outcomes of Individual resilience in the Workplace***

Performance, physical and mental health, attitudes toward work, and attitudes toward change are the four categories under which resilience at the individual level manifests itself. Previous research has shown a link between an employee's resilience and their particular job performance (Luthans et al., 2005). Organisational citizenship behaviour was more likely to be displayed by people with higher degrees of resilience (Jung & Yoon, 2015). These studies define resilience as a trait or skill akin to a state of being that aids employee in maintaining high levels of motivation and exerting greater effort at work (Hartmann et al., 2020). Resilience has also been found to have a positive association with how successful a person considers their own work (Wei & Taormina, 2014). The correlation between resilience and several measures of physical and mental health has also been studied by researchers. This

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research suggests that resilience should be seen as a personality trait or a state-like capacity (Hartmann et al., 2020). Studies have found a connection between an employee's mental health and resilience, as well as a connection between post-traumatic growth and symptoms of emotional exhaustion and burnout (Kinman & Grant, 2010). There is growing proof that a worker's resilience is positively connected with their pleasure at work and in their career (Lyons et al., 2015; Youssef-Morgan & Luthans, 2007). Additionally, resilience has been linked to increased commitment within an organisation, lower workplace pessimism, and higher job satisfaction (Youssef-Morgan & Luthans, 2007). The psychological contract that an employee has with their employer benefits from resilience (Cho et al., 2017). Additionally, there is a positive association between employee openness to organisational change and productivity (Wanberg & Banas, 2000).

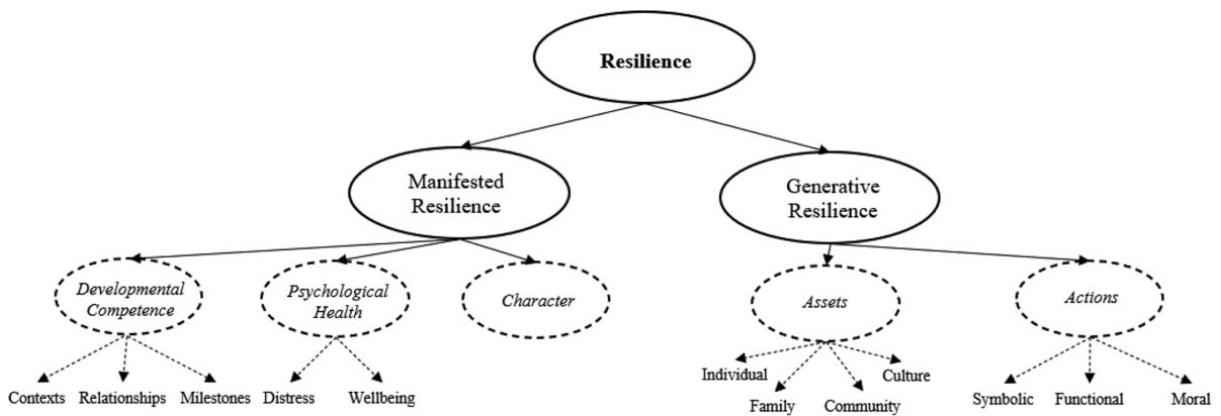
### ***2.2.7. The Multidimensional Taxonomy of Individual Resilience (MTIR)***

The multidimensional taxonomy of individual resilience (MTIR), which was recently presented in IR literature, intends to incorporate previous theoretical work on IR in order to further widen and deepen its conceptual development as well as to build a framework within which resilience theory can advance (Miller-Graff, 2022). Resilience is tricky in terms of interpretation because it can relate to both a process and an outcome (Ungar et al., 2021). The MTIR upholds the distinction between resilience-as-outcome and resilience-as-process, which is well-established and acknowledged in the field of resilience science (Miller-Graff, 2022). Manifested resilience, which is defined as evident success in reacting to adversity, is how resilient outcomes are portrayed. The MTIR suggests using the phrase "generative resilience" to reflect the transactional, dynamic, and multisystemic nature of resilience as a process. Although current theoretical models of resilience typically frame manifested and generative resilience as linked in mutual reinforcement, scholars have noted the critical need for better conceptual specification in order to more precisely identify how these two aspects of resilience are interrelated (Ungar et al., 2021). This is in part because improving expressed resilience may be far more challenging when faced with ongoing hardship (Miller-Graff, 2022). Given that this link could fail owing to just external constraints, generating resilience should be seen

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as a distinct category of resilience rather than just a precursor to expressed resilience.

**Figure 1:** The Multidimensional Taxonomy of Individual Resilience (MTIR)



The MTIR intends to integrate the theoretical work that has already been done on IR while also widening its definition and possibilities for domain-to-domain interactions. This model also tries to include resilience-related traits that have been emphasised in empirical psychology and other disciplinary research but have mostly been overlooked in more recent theoretical models of resilience in psychology. Resilience comes in different forms, such as manifested resilience and generative resilience, and it is not required for two phenomena to be related to be considered resilient in order for one to exist (Miller-Graff, 2022). It's not necessary for resilience to be "produced" through generative resilience in order for it to be manifested in the face of adversity. In contrast, there is convincing evidence to show that there are multiple reasons why generative resilience does not "result" in manifested resilience. The end result of the MTIR is a taxonomy that prioritises sociocultural aspects and processes, whose absence from past review work has been lamented, while still emphasising the individual as the unit of study (van Breda & Theron, 2018). Table 4 provides definitions for the main terminologies in the model. Figure 1 provides the conceptual diagram of the MTIR.

**Table 4:** The Multidimensional Taxonomy of Individual Resilience (MTIR) definitions

Concept	Definition
<b>Manifested Resilience</b>	"Observable success in adapting to challenges" (Masten, 2016).

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Development Competences	The effective development of capabilities across a variety of domains. In addition to the attainment of personal, developmental milestones, this subdomain would be anticipated to include competence in both contexts (e.g., school, employment) and relationships (e.g., interpersonal skills) (Masten, 2001; Masten & Monn, 2015).
Psychological Health	The MTIR views psychological health as having two distinct but linked characteristics, including the absence of distress and disorder as well as the existence of well-being(Antaramian et al., 2010).
Character	According to MTIR, character is a state of being that is created by natural, ingrained, and ecological influences and symbolises a tendency for "correct behaviour" in relation to a specific situation or setting. The focus is on personality traits (Gellera & Thompson, 2017).
<b>Generative Resilience</b>	The distinctive combination of resources a person has access to across their social ecology, as well as the steps they take to address the negative impacts of adversity on the self, other relationships, or the general welfare (Miller-Graff, 2022).
Assets	The multisystemic resources and opportunity structures that are accessible to and used by a person at various levels of the person's social ecological surroundings The MTIR includes individual, family, neighbourhood/community, and culture/context, respectively, as levels of analysis (Miller-Graff, 2022).
Actions	Actions are deliberate, agentic choices made by people to address the negative impacts of adversity on themselves, their relationships, or the general welfare (Miller-Graff, 2022).

### **2.2.8. Linking Theories to Individual Resilience**

Although the researchers did not use these theories to explain their findings, linking IR to personality traits and personal resources is consistent with concepts like the job demands-resources theory and the high-quality connection theory (Hobfoll & Lerman, 1989). According to the high-quality connection theory (Stephens et al., 2013), relationships at work are crucial for employees' health and wellbeing. This theory has been used to explain the close connection between employee social

qualities like emotional intelligence or empathy and resilience (Förster & Duchek, 2017). Researchers have also found that when workers' competency criteria are met, they frequently exhibit higher levels of resilience, which is consistent with the self-determination theory (Ryan & Deci, 2000).

Broaden-and-build theory, which claims that experiencing happy emotions expands people's momentary thought-action repertoire, resulting in more positive affect and emotional well-being, is frequently used by researchers to explain the connection between resilience and positive emotions (Fredrickson, 2001). Conservation of resources theory has also been used by scholars to explain the link between resilience and work resources (Hobfoll & Lerman, 1989), viewing resilience as a personal resource that can be influenced by social resources in the environment. Finally, researchers have used the resource-based theory to clarify how resilience and organisational context are related to each other (P. Malik & Garg, 2017; Meneghel et al., 2016). According to this theory, the presence of contextual resources in the social environment promotes the development of personal resources such as resilience.

### ***2.2.9. Advancing Resilience Theory***

It has been found that there is a dearth of theory-driven empirical resilience research, as previously highlighted. Existing empirical research does not have a good understanding of the specific mechanisms by which resilience develops and influences both positive and negative job outcomes, or the border conditions that govern these interactions. In reality, academics have urged the need for theoretical foundations for workplace resilience research (Hartmann et al., 2020). Critical and conceptual understanding should exist even while discussing the MTIR in order to comprehend how manifested and generative resilience are related (Miller-Graff, 2022). The way resilience has been conceptualised in management research still has a lot of significant limitations. Future empirical studies on workplace resilience must consider temporal challenges and the significance of adversity (Fisher et al., 2019; Hartmann et al., 2020). Researchers are advised by academics to view resilience as a process and consider all internal and external factors that affect the process. The MTIR understands that systemic power dynamics may temper the

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impact of generative resilience on manifested resilience. As a result, rather than being a consequence of the underlying characteristics of those behaviours, the failure of creating resilience to yield manifested resilience is more likely due to the context in which it occurs. Researchers should continue integrating and extending their theoretical understanding of the links between manifested and generative resilience, according to the authors of the MTIR model. Finally, they agree that the emphasis and predominance of those statistics have made it difficult to include and fully explain some quantitative data gathered outside of the western world, and they underline the necessity for a more thorough theoretical advance outside of that region (Miller-Graff, 2022). Table 5 summarises the key findings on resilience theory and the future direction suggested by previous researchers.

**Table 5: Key Findings and Future Direction for Resilience Theory**

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### **What are the key findings on resilience?**

- No universally acknowledged definition for resilience.
- The most common definition of resilience is successful adaptation in the face of adversity.
- The common themes around resilience are overcoming adversity, bouncing back, adaptation and adjustment, good mental health.
- No universally acknowledged definition for adversity.
- "Bouncing back to a greater performance" is confusing and would aggravate employees' stress. Ambiguous performance standards for employees run the danger of compromising excellent performance. It is unclear in literature who sets the performance standards.
- IR has been described by academics as a consistent personality attribute, a state-like developable ability, a process, or an outcome.
- Antecedents of IR in the workplace can be classified as personality traits and cultural value orientations, personal resources, personal attitudes and mindsets, personal emotions, and work demands and resources.
- Scholars have used the job demands-resources theory, the conservation of resources theory, the high-quality connection theory, the self-determination theory, and the broaden-and-build theory to explain the relationship between IR and various outcomes.
- Outcomes of resilience at the individual level into four categories: performance, mental and physical health, work-related attitudes, and change-related attitudes.

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### **How should the findings be used to influence resilience research?**

- Theoretical underpinnings for research on workplace resilience.
- It is crucial for future empirical research on resilience in the workplace to acknowledge temporal difficulties and the role of adversity.
- Placing a major emphasis on sociocultural elements and processes, whose absence from earlier review work has been bemoaned.
- Approach resilience as a process and account for all internal and environmental factors that influence the process.

- Scholars have urged researchers to provide cohesive definition for resilience and adversity.
  - The criteria for performance standards of bouncing back and who sets them should be guided.
  - Scholars have noted the critical need for better conceptual specification in order to identify how generative and manifested aspects of resilience more precisely are interrelated.
  - Understand how resilience could be a function of the context in which they take place.
  - The need for a more comprehensive theoretical advancement outside the western region.
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### **2.2.10. Research Approach to Resilience**

I propose to take an individualised strategy to resilience going forward and throughout this study. Instead of focusing on individual traits, capacities, I choose to study resilience as a process. This will allow me to analyse many internal and external elements that have an impact on the resilience process due to the nature and contextual framework of the research. With this strategy, I will also be able to concentrate on sociocultural aspects and comprehend the theoretical connection between generative and manifested resilience. Most importantly, I aspire to develop new theoretical techniques to explain how and why resilience develops. In order to comprehend the mechanism by which resilience develops, I will achieve this by approaching resilience as a dependent variable as opposed to an independent variable that leads to desired organisational outcomes. During this process, I aim to provide a new argument that explains how resilience works as all conceptualisations of process, outcome, traits, and capabilities simultaneously. The second variable in this analysis, perceived support, is introduced in the following section.

## **2.3. Perceived Support**

### **2.3.1. Perception: An overview**

Perception refers to the process of representing and understanding the information or environment that is present which involves the organisation, identification, and interpretation of sensory data (Efron, 1969). There are many different kinds of perception in psychology, including people perception, which is the ability to recognise and use social clues about people and interpersonal interactions,

and social perception, which includes judgements about groups and social situations as well as assumptions and generalisations (McDonald, 2012). Perception allows people to become more conscious of their surroundings and better able to navigate them. In communication, people use perception to infer the feelings and attitudes of others. Through behaviour and perception, they make judgements about individuals and organisations. People's perceptions are more likely to be based on their beliefs than on what they actually observe.

Awareness of organisational behaviour requires an understanding of individual characteristics because each person has a unique perspective (Abou Elnaga & Al, 2012). Every person has a unique understanding of the environment, as well as different goals and demands. People with different perceptions have different qualities, requirements, perspectives on their surroundings, and interactions with managers, co-workers, and organisations. Individual and organisational performance are affected by individual perceptions' effects on organisational behaviour.

### ***2.3.2. Reciprocity and Social Exchange Theories (SET)***

Well-known theories examining employee attitudes have benefited from the development of social exchange theory (SET) (J. DeConinck, 2010). SET is regarded as a motivational theory that clarifies the fundamentals of human relationships and the reasons why employees behave in particular ways (Bukhari & Kamal, 2017; Rhoades & Eisenberger, 2002). SET is referred to as voluntary activities of individuals motivated by the returns they are expected to bring to and from others (Blau, 2007). The core notion of perceived support is based on the idea of reciprocity, which is established by a situation in which both parties to a trade profit from it (Bukhari & Kamal, 2017; Rhoades & Eisenberger, 2002). The beneficiary is required by reciprocity to pay back the other party's contribution (Lodwick, 2008). SET and reciprocity are based mostly on fairness and trust. The reciprocity standard requires a member of the interaction to express their appreciations and help others fulfil their wants when they feel their needs have been met. The trade may be social or commercial (Blau, 2007). SET denotes the existence of a partnership that goes beyond formal agreements. It's critical to

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emphasise that the idea of reciprocity heavily depends on perception because both parties must believe that the advantages, they have received are worthwhile.

### ***2.3.3. Perceived Organisational Support (POS)***

Employee perceptions of their employer's support and concern for their well-being, personal aspirations, and value for their contribution to the organisation's performance are measured by perceived organisational support (POS) (Eisenberger et al., 1986). Employees attribute human qualities to their workplace (Levinson, 1965). Employees can evaluate behaviours as favourable or unfavourable and offer likeable or unlikeable reactions by personalising the organisation (Lynch et al., 2000). People must perceive the organisations' actions as voluntary rather than as being compelled to take them by outside forces like governments (Shore et al., 1995). Organisations have moral and legal obligations for their employees and wield more control and power over them than do employees. This implies that organisations have the authority to establish policies that complement their needs for specific outputs from personnel (Islam et al., 2015). Other studies have tried to define POS, and they all come to the same basic understanding of reciprocity (Bukhari & Kamal, 2017; J. DeConinck, 2010; J. B. DeConinck & Johnson, 2009; Eisenberger et al., 1986; Islam et al., 2015; Kurtessis et al., 2017; Rhoades & Eisenberger, 2002).

The COVID-19 outbreak prevented businesses from operating normally (Fairlie & Fossen, 2022; Meyer et al., 2022). The COVID-19 has had a significant impact on employment, economic activity, and operational methods. Significant harm was done to the employees' psychological, mental, and physical health as a result of all of these disturbances. Employees were always worried about losing their jobs and financial stability. All of this led to a distrust between workers and companies' ability to behave in their own best interests. Throughout the pandemic, employers have pushed workers to go above and beyond, overcome obstacles, and perform over and beyond without providing any security in exchange.

Returning to the literature on IR, it has been noted that theoretical understanding of the specific mechanism by which IR develops and influences both positive and

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negative results is lacking (Fisher et al., 2019). In fact, it has been proposed that the context in question may be to blame for this lack of understanding (Miller-Graff, 2022). I argue that since the presence of adversity or a crisis is a prerequisite to employees exhibiting resilience and since IR is not a normal day-to-day job responsibility that employees strive, Employees won't try to comprehend and overcome their deficiencies unless their fears are addressed. In other words, employees must perceive that trust governs their relationship with organisation representatives and that organisation representatives care about their well-being and addressing their fears if they are to go above and beyond.

I believe that IR is a result of the reciprocity between employees and organisations as a result of following this line of reasoning. When each party has possessions that the other parties value, the social exchange hypothesis is in play. Both parties' priorities shift to survivability during crises. The foundation of social exchange theory is mutual trust. Employees perform a cost-benefit analysis to see whether organisations provide things they deem valuable, such job or financial stability. Employees will, then, respond by displaying resilience and outperforming themselves if they believe that the benefits organisations offer during a crisis are viewed as meeting their demands. In the first study chapter, this approach presents the first hypothesis, which sees IR as a behavioural dynamic driven by the social exchange theory. To explain the connection between IR and diverse outcomes, researchers frequently employ the job demands-resources theory, the conservation of resources theory, the self-determination theory, and the broaden-and-build theory. This approach offers a fresh perspective on how resilience is addressed as a result of reciprocal exchange and motivational theories. In other words, resilience is a result of responding to employees' demands and fears. Hence, I hypothesise the following:

**H1: Perceived organisational support is positively related to individual resilience.**

### **2.3.4. Perceived Supervisor Support (PSS)**

Employee attitudes, behaviours, and emotions are influenced by their perceptions of the workplace (Boyer & Edmondson, 2015). These perspectives incorporate both the specific help they got from their superiors and the collective support of their organisations. However, staff can tell the difference between assistance from their immediate manager and that of the business (Kotiske & Sharafinski, 1988). Literature frequently conflates organisational assistance and supervision (J. DeConinck, 2010). Supervisor support relates to the direct supervisors to employees, whereas organisational support is about organisational and strategic leaders. Organisational support is the larger term that includes the entire organisational jurisdiction, whereas supervisor support is frequently used to refer to the everyday activities that direct supervisors carry out to support their subordinates' emotional and work-related needs (Bass, 1990). Employees view their managers as representatives of the company and a means of communication with higher-ups. Employees are aware that, despite the fact that they see their superiors as representing their organisations, there are still situations that are outside of their control and situations that fall inside their purview. This shows that employees may have a favourable opinion of their managers but not of their companies, and vice versa.

The concept of perceived supervisor support (PSS) is a result of social interactions between people and their direct supervisors (Kotiske & Sharafinski, 1988). Employee perception of their supervisor's interventions and actions as helpful and in line with their goals, needs, and well-being is referred to as PSS (Boyer & Edmondson, 2015; Kotiske & Sharafinski, 1988). When workers examine how their superiors recognise and applaud their efforts, the perception is formed from their contacts with them on a daily basis (Kotiske & Sharafinski, 1988). This perception is supported by pay increases, benefits, compensation, autonomy, training development, and work distribution. Alternatively put, routine human resources practise (Shore et al., 1995). There is not much study on PSS. However, it is linked to desirable organisational outcomes, like job satisfaction, organisational citizenship behaviour, absenteeism, well-being, turnover, and performance (Boyer & Edmondson, 2015; Kalidass & Bahron, 2015; Zaitouni & Nassar, 2015).

I draw attention to the differences in the perceived assistance from organisations and supervisors as a result of both parties' varied job descriptions. Organisations establish their strategies, such as their mission and vision, then cascade them down to unit managers, who in turn cascade them down to their direct reports. After then, it is up to the supervisor's administrative and leadership approaches to inspire staff to strive toward reaching these objectives. This shows that while organisations can implement the proper procedures to produce the desired results, employees are not motivated to follow through on them because of the supervisors' poor leadership and management techniques and thus the reciprocity exchange can still fail. According to the reciprocity principle, employees will feel obligated to reciprocate when they see their supervisors' actions and feedback as encouraging, delivered out of respect, and caring, and this will result in improved performance and behaviour (Kurtessis et al., 2017; Rhoades & Eisenberger, 2002). Like POS, employees won't go above and beyond to develop high resilience unless they believe that supervisors are doing voluntarily and in accordance with their social, emotional, and financial demands. Employees who see their supervisors' behaviour favourably will respond by completing their daily obligations, which in turn promotes IR and the achievement of organisational goals. Hence, I hypothesise the following:

### **H2: Perceived supervisor support is positively related to individual resilience.**

#### **2.3.5. *Perceived Co-worker Support (PCS)***

Despite conventional research emphasising how colleagues form and affect co-workers' perceptions and attitudes, most studies looking at the impact of perceived support, approach the idea from a psychological perspective distinct from the social environment (Zagenczyk et al., 2010). In order to clarify complex events and add context to their workplace environments, employees turn to their close-knit networks of co-workers. The degree to which employees believe their co-workers give them the level of work-related and emotional support necessary to carry out organisational duties is known as perceived co-worker support, or PCS (Skinner & Belmont, 1993). According to the reciprocity principle, if employees feel that their co-workers are supportive, they will return the favour through a variety of activities, such as

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knowledge sharing, encouraging others, and offering emotional support to help them do their tasks. When the environment gives people the chance to meet their requirements effectively, socially, and emotionally, it makes it possible for people to become more competent. The degree of support from co-workers and its impact on engagement, output, and attitude toward work are positively correlated (Malecki & Demaray, 2003). Their intents to stay with the company, performance, and engagement at work all increase as respectful relationships between co-workers grow (Susskind et al., 2007).

At work, perceptions are affected by daily contact with organisations, managers, and co-workers. Co-workers provide a difficult situation in this case. Their interactions, attitudes, and behaviours influence each other's perspectives on the workplace. Co-workers' cues to their peers, which cause altered attitudes and behaviours, influence many viewpoints. Co-workers who get along well with one another at work have a better knowledge of the company culture, which helps the company achieve its objectives. The constructive relationship between co-workers' results in affiliations like empathy, emotional support, improved social interactions, knowledge sharing, and assistance with task completion. Focusing on SET and the role perception plays in attaining goals, employees will feel obligated to return the favour by offering the same degree of encouragement and knowledge-sharing if they perceive that their co-workers are supportive of their social, emotional, and competence needs. The degree of co-worker support and its direct impact on performance indicate a positive link. This suggests that better performance and the accomplishment of organisational goals, i.e., IR, will result from the reciprocal exchange between co-workers if it is successful. Consequently, I hypothesise the following:

### **H3: Perceived co-workers support is positively related to individual resilience.**

Positioning individual resilience as a motivational form of reciprocity exchange, derived from the social exchange theory, delves into the intricacies of human relationships and the underlying motivations for our actions. According to the social exchange theory, individuals engage in relationships and interactions based on a desire for fairness and mutual benefit (Blau, 2007; Cook & Rice, 2006; Cropanzano

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& Mitchell, 2005). This theory posits that people seek to maximise rewards and minimize costs in their interactions, and they evaluate the outcomes of these exchanges to determine the perceived equity and satisfaction (Blau, 2007). Applying this theory to resilience, we can understand that when individuals cultivate and demonstrate resilience, they create a reciprocal exchange dynamic rooted in the principles of social exchange theory. By investing in their own resilience, individuals prioritise their well-being, mental strength, and emotional stability. This self-investment allows them to better navigate challenges, adapt to adversity, and thrive in the face of setbacks. However, the reciprocal nature of this exchange becomes evident when individuals extend their resilience to others. By sharing their experiences, offering support, and serving as role models, resilient individuals inspire and motivate those around them to develop their own resilience and face their own challenges with renewed determination. In this exchange of resilience resources, both parties' benefit. The individuals who cultivate and demonstrate resilience experience personal growth, enhanced well-being, and a sense of accomplishment. Simultaneously, those who are inspired by their resilience gain valuable insights, encouragement, and the belief that they too can overcome obstacles. In summary, positioning individual resilience as a motivational form of reciprocity exchange derived from the social exchange theory acknowledges that resilience is not only a personal attribute but also a resource that can be shared and exchanged. By investing in their own resilience, individuals create a foundation from which they can inspire and support others, creating a positive feedback loop of motivation and empowerment. This reciprocal exchange aligns with the principles of the social exchange theory, as it is driven by the desire for fairness, mutual benefit, and the maximisation of rewards in human interactions.

**H4: The direct effect of perceived supervisor support on individual resilience will be stronger than the direct effect of perceived co-worker's support and perceived organisational support on individual resilience.**

Existence (E), relatedness (R), and growth (G) are the three categories of fundamental requirements identified by Alderfer's ERG theory (Alderfer, 1969). Maslow's stages of physiological, social, and self-actualisation needs are reflected in these categories (Yang et al., 2011). I utilise the ERG theory to forecast the extent of

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the three-reciprocity links' influence, albeit it will be further discussed in the theoretical model. According to the theory, people's priority for needs will change dependent on their circumstances, and they may be better able to satisfy a lower-level need if a higher-level need becomes less urgent.

Considering that people's goals change to survival during a crisis, I predict that PSS will have a greater impact on IR than PCS and POS. Employees are aware that the evaluations of their subordinates by their supervisors, which influences their future in their organisations, are routinely shared with management. Employees see their supervisor's favourable or unfavourable attitude toward them as a sign of the organisation's support and, as a result, remain in the organisation during a crisis. This is because supervisors serve as the organisation's agents. Employees are also aware that the most important assessment about their performance comes from their direct supervisors. The nature of COVID-19 has limited the interactions between members of organisations to online interactions. The nature of COVID-19 has also led to organisational leaders being less frequently available due to their focus on survivability. As a result, employees usually dealt more with their immediate superiors and co-workers than with the organization's leaders. Following PSS, I anticipate that PCS will have a greater impact on individual resilience POS because to the less frequent encounters and their critical role in fostering trust.

The hypothesis development highlights the influence of various independent variables on different elements of resilience. Firstly, POS is hypothesised to have a positive relationship with individual resilience. When employees perceive that their organisation values and supports them during times of crises, they are more likely to experience a sense of security and stability. This perception of support fosters a reciprocal exchange based on the SET, where employees respond by displaying resilience and outperforming themselves. This suggests that POS influences the emotional and cognitive elements of resilience, as employees feel valued and motivated by the organisation's provision of job and financial stability during challenging times. Secondly, PSS is hypothesised to be positively related to individual resilience. The behaviour and actions of supervisors play a crucial role in influencing employees' motivation and engagement. When supervisors provide encouragement, respect, and care to their subordinates, employees feel a sense of

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obligation to reciprocate. This reciprocity principle, rooted in SET, leads to improved performance and behaviour. By perceiving their supervisors' support favourably, employees are more likely to fulfil their daily obligations, thereby enhancing their resilience. PSS directly impacts the cognitive and behavioural elements of resilience, as employees respond positively to supportive supervisors and strive towards achieving organisational goals. Lastly, PCS is hypothesised to have a positive relationship with individual resilience. The interactions and relationships among co-workers significantly influence employees' perceptions of the workplace. When co-workers display supportive attitudes, empathy, and assist each other with tasks, it fosters a positive work environment. This positive environment promotes knowledge sharing, emotional support, and improved social interactions. Drawing upon the principles of SET, employees feel obligated to reciprocate such support by offering the same level of encouragement and knowledge-sharing to their peers. This reciprocal exchange of support among co-workers contributes to better performance and the achievement of organisational goals, thereby enhancing individual resilience. PCS influences the social and interpersonal elements of resilience, as employees benefit from the constructive relationships and affiliations formed with their co-workers. In summary, the provision of support from the organisation, supervisors, and co-workers creates a reciprocal exchange that motivates employees to display resilience and outperform themselves during crises. These relationships have implications for the emotional, cognitive, behavioural, and interpersonal aspects of individual resilience in the workplace.

### **Study Chapter 1: Individual Resilience as a Behavioural Outcome Influenced by the Social Exchange Theory**

This section concludes the first section of this research project which I will refer to as "study chapter" as previously noted. As the study chapters progress, it will conclude into one final storyline, theoretical and conceptual model. This study chapter explores IR as a behavioural outcome influenced by the social exchange and reciprocity theories. The main premise is to introduce a new theoretical approach to resilience as the dependent variable rather than a phenomena that leads to desirable performances. Researchers have often used job demands-

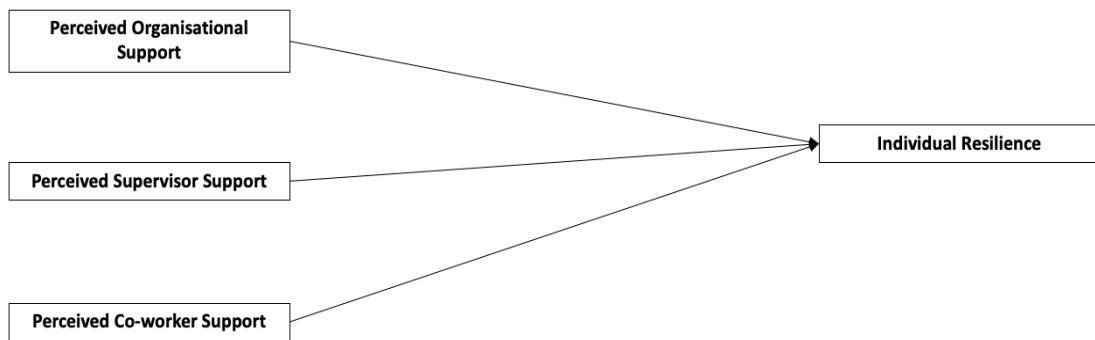
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resources theory, the conservation of resources theory, the high-quality connection theory, the self-determination theory, and the broaden-and-build theory to explain the relationship between IR and various outcomes. This chapter aims to explain the relationship between various variables and IR as an outcome using social exchange theories in hopes that it will bridge the gap between the different theoretical discrepancies provided in the literature. The main underlining theoretical assumption is that resilience develops as a result of the mutual exchange of benefits between employees and different organisational representatives. Table 6 summarises the four hypotheses included in this study chapter and Figure 2 demonstrates the conceptual diagram of the study chapter.

**Table 6: Study Chapter 1 Hypotheses**

<b>Study Chapter</b>	<b>H#</b>	<b>Hypothesis</b>
1 IR as a Behavioural Outcome Influenced by the SET	H1	POS is positively related to IR
	H2	PSS is positively related to IR
	H3	PCS is positively related to IR
	H4	The direct effect of PSS on IR will be stronger than the direct effect of PCS and POS on IR.

**Figure 2: Conceptual Framework for Study Chapter 1**



Each variable introduced in the literature review includes a sub-section explaining where the literature stopped and how it would be theoretically or

empirically advanced as shown in Table 7. As the work progress, I will highlight in the conclusion how each point has been addressed.

**Table 7: Advancing Resilience Theory Progress**

<b>Advancing Resilience Theory Points</b>	<b>Covered</b>	<b>How?</b>
○ Theoretical underpinnings for research on workplace resilience.	✓	
○ It is crucial for future empirical research on resilience in the workplace to acknowledge temporal difficulties and the role of adversity.		
○ Placing a major emphasis on sociocultural elements and processes, whose absence from earlier review work has been bemoaned.		
○ Approach resilience as a process and account for all internal and environmental factors that influence the process.		
○ Scholars have urged researchers to provide cohesive definition for resilience and adversity.		
○ The criteria for performance standards of bouncing back and who sets them should be guided.		
○ Scholars have noted the critical need for better conceptual specification in order to identify how generative and manifested aspects of resilience more precisely are interrelated.		
○ Understand how resilience could be a function of the context in which they take place.		
○ The need for a more comprehensive theoretical advancement outside the western region.		

## **2.4. Psychological Safety (Psysafe)**

The first four hypothesis concluded the first study chapter provided a theoretical underpinning alternative to resilience development. To account for the perception of internal factors and understand how resilience can be a function of the context in

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which they take place, this section discusses psychological safety. This section addresses the second study chapter and analyse how psychological safety as an internal factor account for the development of individual resilience.

According to general consensus, employees can take interpersonal risks when they feel psychologically safe, such as speaking up and employing vocal behaviour (Gong et al., 2020; Newman et al., 2017). Amy Edmondson's description of psychological safety (Psysafe), which was presented in 1999, served as the starting point for research on the phenomena of Psysafe as it is experienced by groups and formed via interactions at work (A. Edmondson, 1999). Psysafe is an essential part of effective decision-making, trust, and communication within work teams, all of which enhance team performance. In the current business environment, organisations are increasingly expecting their employees to contribute to the continual evolution of organisational policies and practises by engaging in behaviours that encourage learning (e.g., voicing new ideas, collaborating, and experimenting with new ways of doing things) (A. Edmondson, 1999; A. C. Edmondson & Lei, 2014).

Despite the potential benefits for the organisation, these activities include some risks for the individual. For instance, the expressing of fresh ideas might be at odds with the organisation's current practises and the self-interest of other members (Detert & Burris, 2007). Additionally, implementing novel approaches at work could ultimately prove ineffective, be seen as a failure, and reflect adversely on those involved. Because of this, there is a growing perception that these dangers may deter people from engaging in active learning, impeding the development of both the individual and the organisation. One method to combat such dangers to individual and collective well-being is by creating a workplace that is psychologically secure (i.e., one in which staff members feel protected to share their opinions, actively seek feedback, offer truthful feedback, cooperate, take risks, and experiment) (Detert & Burris, 2007; A. Edmondson, 1999; A. C. Edmondson & Lei, 2014; Newman et al., 2017).

### ***2.4.1. Psychological Safety Defined***

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Psysafe was first understood in the context of organisational change, where it was defined as a state in which people felt secure managing the change (M. L. Frazier et al., 2017). Psysafe, according to Kahn, is a social construct where people can express their sentiments without worrying that doing so will hurt their reputations or possibilities for advancement. According to Schein, Psysafe is a state in which barriers to embracing and beginning change are removed and failure fears are replaced with guilt-free learning opportunities. Since Psysafe refers to the "common conviction held by members of a team that the team is safe for interpersonal risk taking," Edmondson was the first to hypothesise that it could be approached from a team's standpoint (A. Edmondson, 1999; Nemhard & Edmondson, 2006). I criticise this method and emphasise the need of not discounting individual variances. Because of their upbringings and cultural influences, people have varying perspectives, thus scholars should use caution when combining all of their experiences.

Psysafe is frequently linked to three related concepts, including psychological empowerment, workplace engagement, and trust. Psychological empowerment denotes an innate feeling of drive brought on by the conviction that one has control over their tasks (M. L. Frazier et al., 2017; Stephens et al., 2013). The readiness of individuals to devote their own resources to their work is referred to as work engagement. The readiness of people to be vulnerable with co-workers is referred to as trust (Mayer et al., 1995). The individual's choice of action is where the notions and Psysafe diverge. Work engagement and psychological empowerment are dependent on the particular job requirements. Psysafe is a more general idea that includes the environment as a whole (Carmeli & Gittell, 2009). Psysafe and trust, both help one identify their personal vulnerability at work (M. L. Frazier et al., 2017; Nemhard & Edmondson, 2006). Psysafe focuses on the benefit of the trust that other participants will extend to a person, enabling them to take risks (M. L. Frazier et al., 2017).

### ***2.4.2. Psychological Safety Multi-Level Construct***

The concept of Psysafe has multiple levels. It can be analysed at an individual, team, or organisational level.

Most elements that affect Psysafe, both individually and collectively, are within the domain of supportive settings (i.e., supportive leadership, co-workers, and organisational practises) (Newman et al., 2017). Individual differences and interpersonal connections have an impact on Psysafe, which in turn, affects impacts work outputs in terms of behaviour and attitude. Leadership and team dynamics also play a role in Psysafe, which subsequently impacts team productivity. Furthermore, organisational practises also have an impact on Psysafe, which, in turn affects organisational outcomes.

The majority of these links use the social exchange theories to argue that fostering supportive work settings and relationships can increase Psysafe and motivate staff to give back in the form of beneficial job outcomes (C. Chen & Tang, 2018). Although Psysafe could be approached from the perspectives of individuals, teams, and organisations, these constructs should not be seen as conflicting or opposing points of view but rather as complementing. To guarantee uniformity of the research variable levels, I will approach Psysafe from an individual standpoint.

Psysafe is the idea that taking interpersonal risks at work is safe (A. Edmondson, 1999). In addition to appreciating one another's expertise, having good intentions for one another, and being capable of engaging in constructive disagreement or conflict, employees who feel psychologically at ease at work believe that their organisation's leaders, supervisors, or co-workers will support them if they speak up (M. L. Frazier et al., 2017; Gong et al., 2020; Newman et al., 2017). IR refers to people's positive adaptability, or the capacity to bounce back in the face of crisis (Herrman et al., 2011). Individuals will need to reveal their vulnerability at work in order to comprehend their inadequacies and improve their shortcomings if they are to favourably adapt.

If an organisation ignores the role that individuals play in actively adapting to the environment, it may not be aware of the Psysafe needs of its employees (M. L. Frazier et al., 2017). According to the reciprocity theory and this investigation's aim to theoretically and empirically demonstrate that resilience is a motivational theory explained as the result of reciprocity exchange, if organisations provide a

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psychologically safe environment that is deemed safe for interpersonal risk taking, they can expect employees to reciprocate by engaging in resilience, exposing their vulnerabilities, and doing so without fear of repercussions. More importantly, it has already been noted that psychological safety is one of the key characteristics to team resilience (Hartmann et al., 2020), thus if the hypothesis that resilience translates from individuals, to teams, and organisations is correct, psychological safety should have direct influence on individual resilience.

The hypothesis development focuses on the influence of Psysafe on different elements of resilience. Psysafe refers to the belief that it is safe to take interpersonal risks in the workplace characterised by appreciating each other's expertise, good intentions, and the ability to engage in constructive disagreement or conflict (A. Edmondson, 1999; M. L. Frazier et al., 2017; Newman et al., 2017). Employees who feel psychologically safe at work also believe that leaders, supervisors, or co-workers will support them if they speak up. In the context of IR, which represents positive adaptability and the ability to bounce back in the face of crises, it is crucial for individuals to reveal their vulnerabilities, comprehend their inadequacies, and work towards improvement. The hypothesis suggests that if organisations prioritise and provide a psychologically safe environment that is conducive to interpersonal risk-taking, they can expect employees to reciprocate by engaging in resilience behaviours. By fostering Psysafe, organisations create an environment where individuals feel comfortable exposing their vulnerabilities without fear of negative repercussions. This aligns with the principles of reciprocity theory, which posits that individuals respond positively to perceived support and safety, leading to a reciprocal exchange of resilience. Furthermore, research indicates that psychological safety is a key characteristic of team resilience, highlighting its importance not only at the individual level but also for team and organisational resilience. Therefore, if the hypothesis that resilience translates from individuals to teams and organisations holds true, psychological safety should directly influence individual resilience. By providing a psychologically safe environment, organisations promote trust, open communication, and constructive feedback, which contribute to the emotional, cognitive, and interpersonal elements of individual resilience.

Hence, I hypothesise the following:

**H5: Psychological safety is positively related to individual resilience.**

**2.4.3. *Psychological Safety Antecedents***

Psysafe antecedents may be categorised as contextual or individual factors. Contextual aspects include things like interpersonal dynamics, group dynamics, leadership, and organisational norms that surround the person who is experiencing Psysafe. Characteristics that are referred to be personality traits or behaviours are known as individual components. They exist in those who understand Psysafe. Possessing a proactive personality is one of the traits. Because they can proactively express themselves, people with proactive personalities are less likely to see a situation as psychologically hazardous. Risk taking is another quality. They are tolerant to shifting conditions and accept risky scenarios. According to the Big 5 personality model, those who are emotionally stable and open to new experiences are more likely to describe their surroundings as Psysafe. The attitude toward learning is also connected.

Interpersonal relationships among employees, their peers, and supervisors are one of the components that underlie contextual factors. Employees flag their co-workers and watch for clues in their behaviour to determine what is deemed appropriate. Additionally, they seek on their peers to meet their interpersonal requirements, such as support and trust (Newman et al., 2017). The degree of cooperation among team members improves organisational learning (Carmeli & Gittell, 2009). As leaders give their staff performance and competency reviews, interpersonal relationships also involve the relationships between team members and leaders. To achieve desired results, leaders are supposed to exhibit qualities like trust (Madjar & Ortiz-Walters, 2009), support (Mayer & Gavin, 2005), openness (Detert & Burris, 2007), and coaching (A. Edmondson, 1999; Nembhard & Edmondson, 2006). Some leadership philosophies, such as transformational leadership (Newman et al., 2017), ethical leadership and servant leadership, have shown favourable associations with greater Psysafe (Luthans et al., 2005). This relationship is supported by the organization's policies and procedures that outline appropriate work efforts, behaviours, and organisational standards (Carmeli & Gittell, 2009) Risk-taking, leaders modelling desired behaviour, and mentorship are

expected to be supported by organisational policies which will increase the effectiveness of group dynamics (Z. Chen et al., 2009). Work design has been cited by Edmondson as having a significant impact on Psysafe (1999). Employees would favourably acknowledge the Psysafe of the work environment after they feel trusted with important responsibilities (autonomy) and properly understand their role expectations (clarity) (A. Edmondson, 1999). Additionally, Edmondson noted the value of interdependence and members helping one another to complete duties, which fosters trust (1999).

### ***2.4.4. Psychological Safety Outcomes***

The primary benefit of Psysafe is that it enables workers to take interpersonal risks without worrying about adverse outcomes (Boyer & Edmondson, 2015; A. Edmondson, 1999; A. C. Edmondson & Lei, 2014; Nemhard & Edmondson, 2006). Employees are able to concentrate on their performance when they are less afraid of the consequences of exhibiting their vulnerabilities (Mayer & Gavin, 2005). Improvements in communication (Leroy et al., 2012), knowledge sharing (Mu & Gnyawali, 2003), expressing opinions (Brinsfield, 2013), increased commitment (C. Chen & Tang, 2018), work engagement (Mayer & Gavin, 2005), task performance, innovation (Sanner & Bunderson, 2013), creativity (Carmeli & Gittell, 2009) and an enhanced learning attitude from wins and losses have all been linked to enhanced Psysafe.

### ***2.4.5. Psychological Safety as a Moderator and Mediator***

A growing corpus of study has examined the effects of Psysafe on different types of relationships. The antecedent-outcome correlations are moderated by Psysafe. For instance, researchers found that when participants felt psychologically safe in their surroundings, the negative relationship between goal orientation and role conceptualization was minimised (Tangirala et al., 2013). When Psysafe was low, there was a stronger inverse relationship between expertise diversity and team performance. On the other hand, when Psysafe was high, team expertise diversity showed a stronger favourable relationship with team performance (Martins et al., 2013). Geographical dispersion, electronic dependence, dynamic structure, and

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national diversity had less of an adverse effect on team innovation when Psysafe was effective (Gibson & Gibbs, 2006). Members of teams with greater Psysafe levels were more likely to act unethically than members of teams with lower Psysafe levels, as Psysafe attenuated the relationship between utilitarianism and unethical behaviour (Pearsall & Ellis, 2010). Task conflict only affected the effectiveness of team Psysafe when the team was strong (Bradley et al., 2011). Teams with higher Psysafe levels had a stronger correlation between team safety priority and reporting of treatment errors (Leroy et al., 2012). Additionally, Psysafe mitigated the curvilinear association between performance and nationality diversity (Kirkman et al., 2011).

I utilise the conservation of resource theory (COR Theory) to explain how Psysafe influences the links between perceived support and IR. The theoretical framework will provide a comprehensive explanation of the COR theory. The underlying principle is that people are motivated to protect their existing resources and look for new ones. Resources are widely defined as things that people value, including things, occasions, circumstances, and other things (Hobfoll & Lerman, 1989). When a person has access to more resources, such as interpersonal networks found in psychologically safe work contexts, their capacity to organise resource gain (investment) through the use of their current resources is increased. COVID-19 Due to the pandemic, employees were placed in unusual situations where they lost access to a number of essential resources, including their jobs and their source of income, which was a crucial resource for many of them. When people lack the security and stability needed to meet demands and expectations, they feel pressure. When organisational interventions result in job instability, psychological safety may provide as a supplement to psychological resources, ultimately enhancing the psychological safety needed for resilience. When provided with the required assistance, employees will feel psychologically at ease to share their knowledge and ideas in the hopes that doing so will help them gain access to greater resources. Because the environment is conducive to both individual and team learning, they will be able to achieve their professional goals and performance is likely to improve. Most importantly, considering that psychological safety is a key characteristic to building team resilience, if the hypothesis that resilience translates from individuals, to teams, and organisations is correct, psychological safety should

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have an influence on resilience as an outcome on the individual level. Hence, I hypothesise the following:

**H6: Psychological Safety will have a moderating effect on the relationship between perceived organisational support and individual resilience.**

**H7: Psychological Safety will have a moderating effect on the relationship between perceived supervisor support and individual resilience.**

**H8: Psychological Safety will have a moderating effect on the relationship between perceived co-worker support and individual resilience.**

**H9: Psychological Safety will have a mediating effect on the relationship between perceived organisational support and individual resilience.**

**H10: Psychological Safety will have a mediating effect on the relationship between perceived supervisor support and individual resilience.**

**H11: Psychological Safety will have a mediating effect on the relationship between perceived co-worker support and individual resilience.**

The simultaneous hypothesising of both mediation and moderation mechanisms in this section is justified for several reasons. First, mediation and moderation offer distinct yet complementary perspectives on understanding the relationships between the independent variables (perceived organisational support, perceived supervisor support, perceived co-worker support) and individual resilience. By examining both processes simultaneously, a more comprehensive understanding of the underlying mechanisms at play can be achieved. Regarding hypothesised mediation effects, psychological safety is theorised to act as a mediator by influencing the impact of perceived organisational support, perceived supervisor support, and perceived co-worker support on individual resilience. Previous research has consistently shown that psychological safety plays a crucial role in fostering resilience by creating a supportive work environment, promoting psychological well-being, and facilitating adaptive coping strategies (Carmeli & Gittell, 2009; A. C. Edmondson & Lei, 2014;

Newman et al., 2017). By examining the mediating role of psychological safety, this study aims to shed light on the specific psychological processes through which the independent variables contribute to resilience.

On the other hand, the hypothesised moderation effects of psychological safety are based on the understanding that the impact of perceived organisational support, perceived supervisor support, and perceived co-worker support on individual resilience can vary depending on the contextual factors present (Hartmann et al., 2020; Newman et al., 2017). By considering psychological safety as a moderator, the study acknowledges the importance of contextual factors in shaping the relationships under investigation. Specifically, higher levels of psychological safety may amplify the positive impact of the supportive resources (organisational support, supervisor support, and co-worker support) on resilience, while lower levels may weaken these relationships. This approach accounts for the nuanced interplay between the independent variables and resilience outcomes within specific work contexts.

In establishing a clearer linkage between the independent variables and elements of resilience, prior research indicates that perceived organisational support, perceived supervisor support, and perceived co-worker support are positively associated with adaptive coping strategies, psychological well-being, and perseverance in the face of challenges, which are key elements of resilience. These variables are expected to provide individuals with social and emotional resources, support, and a sense of belonging, all of which contribute to their ability to bounce back from adversity and thrive in the workplace. By simultaneously considering both mediation and moderation mechanisms, this study aims to offer a comprehensive understanding of the complex relationships between the independent variables (perceived organisational support, perceived supervisor support, perceived co-worker support), psychological safety, and individual resilience.

### ***2.4.6. Advancing Psychological Safety Theory***

Studies on Psysafe that have had a significant impact have focused on its causes and/or effects. In this study, there is a lack of theoretical clarity on the mechanisms via which Psysafe promotes both positive and negative work outcomes, as well as

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the boundary conditions that control these interactions (Newman et al., 2017). Psysafe has previously been associated with social exchange theories, in which participants reward organisations that support them by creating a Psysafe atmosphere for taking interpersonal risks with organisational consequences (C. Chen & Tang, 2018). Two theories have recently been put forth by academics to explain the theoretical growth of Psysafe. The first is the conservation of resource theory, which was put forth in an effort to gain a deeper understanding of the processes by which Psysafe develops and influences organisational outcomes. A clear explanation of how assets work in the workplace is given by the conservation of resource theory. In the section on the theoretical framework, the conservation of resources theory is explained in more detail.

If Psysafe has a bigger effect on outcomes for people working in different cultural situations, further study may be needed to prove it. The majority of Psysafe research that has been published has come from Western countries like the US, where there is a low level of collectivism, power distance, and uncertainty avoidance. Without Psysafe, people in these communities are more likely to experiment and be forthright when expressing new views (A. C. Edmondson & Lei, 2014). Since collectivism, power distance, and uncertainty avoidance are valued more highly in organisations with cultures like these, it makes sense to assume that Psysafe will have a stronger impact on work outcomes like learning, performance, and creativity for individuals and teams working within those organisations. It is less frequent to speak up or attempt new things in these cultures because doing so entails more social costs than it does in Western cultures, puts one's face in danger, and raises the probability of being ostracised by the rest of the group. Examining Psysafe will provide a more thorough analysis of Psysafe's predictive usefulness because members' perceptions of the system may vary more in these conditions than in Western society (A. C. Edmondson & Lei, 2014; M. L. Frazier et al., 2017; Newman et al., 2017). Finally, it is unclear in the literature how the negative side effects of psychological safety affects performance (Newman et al., 2017). Table 8 summarises the key findings and future direction for psychological safety research as depicted in the literature review.

**Table 8: Key Findings and Future Direction for Psychological Safety**

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**What are the key findings on Psychological Safety?**

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- Most research have adopted Edmondson's definition of it as a shared belief among people regarding whether it is safe to take interpersonal risks at work.
  - Employees who feel Psysafe at work are more likely to feel that they can explore and show initiative because they know that their co-workers won't judge them for being who they are or speaking what they believe. They also feel that their co-workers recognise each other's expertise, care about them as people and have good intentions toward them.
  - Employees who feel Psysafe are more likely to express their concerns, seek more feedback, and participate in open communication—all of which are risky interpersonal activities.
  - Most of these relationships make case for supportive work environments and connections as being able to improve Psysafe and encourage employees to give back in the form of productive work results using the social exchange theory.
  - At various levels of investigation, it has been discovered that Psysafe has an impact on a variety of workplace outcomes (such as learning and performance).
  - Despite some resemblance between the two concepts, Psysafe is conceptually distinct from trust since it focuses on how group members evaluate a group standard, whereas trust focuses on how one person views another.
- 

**How should the findings be used to influence Psychological Safety research?**

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- The processes by which Psysafe influences both favourable and unfavourable work outcomes, as well as the boundary circumstances that govern these interactions, are not well understood theoretically.
  - Conservation of resource theory is suggested for a more comprehensive grasp of the mechanisms by which Psysafe evolves and affects organisational results.
  - Greater research may be done to determine whether Psysafe has a stronger impact on outcomes for people working in cultural contexts different from western context.
  - Understand the negative side effects of psychological safety.
- 

### **Study Chapter 2: Defining the Influence of Internal Factors on Individual Resilience: Psychological Safety as a Boundary Condition**

This section concludes the second study chapter of this research project. In order to fully assess how resilience develops in the workplace, I embark upon Psysafe, a variable that exhibits crucial characteristics required for embarking upon resilience in order to understand the boundary conditions for resilience in the workplace.

Resilience requires individuals to show their vulnerabilities at work in order to overcome them and bounce back from setbacks, an action that will not be taken unless the environment is deemed safe for interpersonal risk-taking, which occurs in a Psysafe environment. By assessing the moderating and mediating impact of Psysafe on the relationship between the three facets of perceived support and IR, I hope that this will shed light on whether the environment or the contextual aspect of

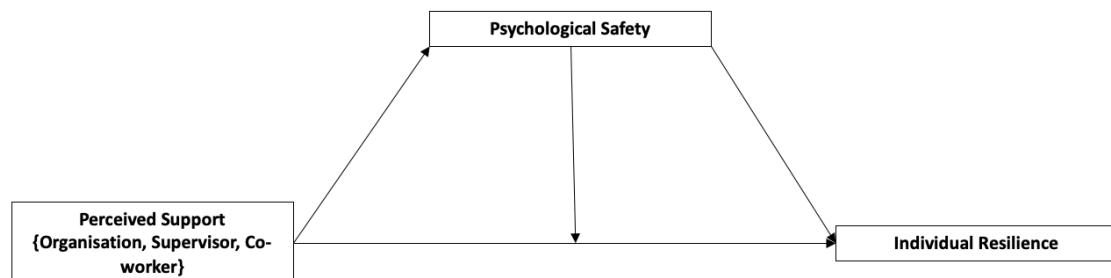
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the workplace sets boundary conditions for individuals to recover from adversities. This chapter introduces a new theory, COR theory utilising it to explain the mechanisms by which Psysafe evolves and affects organisational results. Table 9 lists the hypotheses covering study chapter 2 while figure 3 demonstrates the conceptual model.

**Table 9: Study Chapter 2 Hypotheses**

<b>Study Chapter</b>	<b>H#</b>	<b>Hypothesis</b>
2 Defining the Influence of Internal Factors on Individual Resilience: Psychological Safety as a Boundary Condition	H5	Psysafe is positively related to IR.
	H6	Psysafe will have a moderating effect on the relationship between POS and IR.
	H7	Psysafe will have a moderating effect on the relationship between PSS and IR.
	H8	Psysafe will have a moderating effect on the relationship between PCS and IR.
	H9	Psysafe will have a mediating effect on the relationship between POS and IR.
	H10	Psysafe will have a mediating effect on the relationship between PSS and IR.
	H11	Psysafe will have a mediating effect on the relationship between PCS and IR.

**Figure 3: Conceptual Framework for Study Chapter 2**



Each variable introduced in the literature review includes a sub-section explaining where the literature stopped and how it would be theoretically or empirically advanced as shown in Table 10. As the work progress, I will highlight in the conclusion how each point has been addressed.

**Table 10: Advancing Psysafe Theory Progress**

Advancing Psysafe Theory Points	Covered	How?
1. The processes by which Psysafe influences both favourable and unfavourable work outcomes, as well as the boundary circumstances that govern these interactions, are not well understood theoretically.	✓	
2. COR theory is suggested for a more comprehensive grasp of the mechanisms by which Psysafe evolves and affects organisational results.	✓	
3. Greater research may be done to determine whether Psysafe has a stronger impact on outcomes for people working in cultural contexts different from western context.		
4. Understand how the negative side of psychological safety affects performance		

## 2.5. Fear of COVID-19 Pandemic

To begin accounting for the external factors and understanding how resilience can be a function of the context in which they take place, this section discusses fear of COVID-19, the external variable in question. This section addresses the third study chapter and analyses how fear of COVID-19 as an external factor to the organisation affects the development of individual resilience.

The COVID-19 pandemic altered human behaviour (Pedrosa et al., 2020). Although it seems that the focus of international authorities is on the infectious component of the pandemic, an increase in mental health disorders has been reported (Brooks et al., 2020). In truth, it appears that the pandemic's psychological, emotional, and social repercussions outweigh those of contracting COVID-19. Anxiety, fear, despair, PTSD, obsessive-compulsive disorder, panic disorder, and paranoia are a few of the mental health issues brought on by the COVID-19 pandemic (Brooks et al., 2020; Pedrosa et al., 2020).

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Pandemic-related anxieties and fears have increased awareness of the risks associated with mental health problems (Brooks et al., 2020; Pedrosa et al., 2020; Satici et al., 2020). Along with the increase in COVID-19 cases, the risk of catching this potentially lethal virus also increased. This elevated people's worries and self-doubt about contracting the virus (Elemo et al., 2020). Therefore, people were terrified of getting sick or dying, losing their jobs, or not being able to support their families regardless of exposure (Elemo et al., 2020; Satici et al., 2020). All of these conclusions led to a rise in a universal basic human emotion: fear.

### ***2.5.1. Basic Human Emotions***

Emotions are essential to human existence (Gu et al., 2019). Previously, emotions were categorised as either positive or negative, unpleasant, or pleasant, activated or deactivated, etc (An et al., 2017; Gu et al., 2019). Researchers now understand that human emotions work in harmony rather than opposition to one another (An et al., 2017; Gu et al., 2019; Larsen & McGraw, 2011). In literature, the six primary emotions that people experience are frequently categorised as sadness, joy, fear, anger, surprise, and disgust (Ekman, 1999).

Evidence demonstrates that emotions might produce opposite results (An et al., 2017). What researchers refer to as a positive emotion might result in a negative organisational outcome, and the opposite is also true. In fact, Researchers have often urged other scholars to investigate the dark side of positive emotions (An et al., 2017; Larsen & McGraw, 2011). Hence, despite the classic emotion paradigm, which conceptualises emotions as unidimensional — as either being positive or negative — the evidence suggests that a more flexible approach is necessary (An et al., 2017).

### ***2.5.2. Fear of COVID-19 (FCOVID-19)***

The COVID-19 pandemic has had a variety of severe negative effects on the global industries (Bailey & Breslin, 2021). The immediate effects are now clearly visible and are evident in the disrupted financial flows brought on by unexpected firm closures and business reduction in response to government lock-down orders (Filimonau et al., 2020). Although brief, these closures have put many organisations'

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ability to remain in operation at risk by reducing their revenues and upending their trusted supply networks (Meyer et al., 2022). In response, organisations were forced to use unconventional techniques of budget reduction, like wage cutbacks and layoffs continuously, in addition to removing many of the other benefits that employees received like supplementary remunerations (Fairlie & Fossen, 2022). This is attributed to a lack of the necessary knowledge and experience to work in pandemic related situations where organisations offer little room for creativity and offers little training but at the same time necessitates high levels of individual commitment, interpersonal communication, teamwork, and stress tolerance (Bailey & Breslin, 2021; Fairlie & Fossen, 2022; Filimonau et al., 2020; Meyer et al., 2022; Saricali et al., 2022).

### **2.5.3. Fear of COVID-19 Outcomes**

Fear is common outcome to COVID-19. This is evidenced by the great number of research that have assessed the outcomes of the variable.

Fear of COVID-19 is positively related to Job insecurity (Bilal et al., 2022; Cheng & Lam, 2021; Khudaykulov et al., 2022), emotional exhaustion (Altintas et al., 2022; Cheng & Lam, 2021; Karagöl & Törenli Kaya, 2022; Padmanabhanunni et al., 2022), perceived stress (Dymecka et al., 2021), Job stress (Abid et al., 2021; Adekanmbi et al., 2022; Bakioğlu et al., 2021; De los Santos & Labrague, 2021; Monterrosa-Castro et al., 2020), turnover intention (De los Santos & Labrague, 2021; Deniz Günaydin, 2021; Mileva et al., 2021; Selem et al., 2022), depression (Belen, 2022b, 2022a; Gasparro et al., 2020), anxiety (Belen, 2022a, 2022b; Gasparro et al., 2020), burnout (Abdelghani et al., 2020; Ahorsu et al., 2022; Carreon et al., 2021; Karagöl & Törenli Kaya, 2022; Kurt Alkan et al., 2022), perceived job insecurity (Gasparro et al., 2020) mental health outcomes (Ahorsu et al., 2022), workplace panic anxiety (S. Malik et al., 2021) workplace avoidance behaviour (S. Malik et al., 2021), intolerance of uncertainty (Bakioğlu et al., 2021; Gullo et al., 2022; Kardaş, 2021; Ur Rehman et al., 2021), psychological distress (Collantoni et al., 2021; De los Santos & Labrague, 2021; Gullo et al., 2022; Kukreti et al., 2021; Mileva et al., 2021), hopelessness (Karagöl & Törenli Kaya, 2022; Padmanabhanunni et al., 2022; Saricali et al., 2022),

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career distress (Korkmaz & Doganulku, 2021), work alienation (Peng et al., 2022), post-traumatic stress disorder (Kukreti et al., 2021), emotional distress (Kulip et al., 2022), and psychological detachment (Llorente-Alonso et al., 2021).

Fear of COVID-19 is negatively related to job engagement (Cheng & Lam, 2021; Shaheen et al., 2022; Zampetakis, 2022), job performance (Adekanmbi et al., 2022; Deniz Günaydin, 2021; Yousaf et al., 2021), self-efficacy (Okan, 2021; Yenen & Çarkit, 2021), work-quality life (Maslakçı et al., 2021), well-being (Azez Mahamid & Bdier, 2021; Bilal et al., 2022), mindfulness (Belen, 2022b), perceived supervisor support (Yenen & Çarkit, 2021), satisfaction (De los Santos & Labrague, 2021; Mileva et al., 2021), quality of life (Kakodkar et al., 2021; Stefanatou et al., 2022), vision about future (Korkmaz & Doganulku, 2021), psychological well-being (Guberina & Wang, 2021; Humphrey et al., 2022; Selem et al., 2022), spiritual well-being (Kasapoğlu, 2020), resilience (Belen, 2022a; Collantoni et al., 2021; Flora et al., 2021; Shiri et al., 2022), meaning of life (Shiri et al., 2022), knowledge and learning (Hossain et al., 2020), life satisfaction (Satici et al., 2021), happiness (Satici et al., 2020), emotional regulation (Gullo et al., 2022), perceived organizational support (Adekanmbi et al., 2022) and psychological empowerment (Llorente-Alonso et al., 2021).

In addition to the increased emotional, mental health and performance issues caused by the widespread of COVID-19 that were mentioned above, the catastrophe that organisations were experiencing and their blatant failure to react and control the crisis also served to heighten these consequences. Fear is an adaptive response that makes people aware of potential threats or danger (Elemo et al., 2020). Thus, employees were not only fearing for the health of themselves and loved ones, but also their longevity in their respective organisations, which consequently affected employees' degree of trust in the organisation representative's ability to act in their best interest. The key word here is trust. When there is a lack of trust between employees and organisations, employees are less likely to go above and beyond.

Two terminologies dictate the relationship: trust and priorities. Employees are less likely to go above and beyond when there is a lack of trust between them and their employers. Additionally, organisations and employees both place a higher

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priority on survival. Employees want to ensure their longevity in the organisation and organisations want to ensure their longevity in the market. When this happens, it becomes challenging to concentrate on meeting each other's needs in order to achieve high performance. This brings the argument back to SET. Fairness and trust form the foundation of both SET and reciprocity (Blau, 2007). SET explains the foundations of human interactions and the factors that influence how employees behave. Thus, I utilise the SET to explain how the increase in fear as a result of COVID-19 impacts employees' attitudes, behaviours, and performances.

Resilience is related to people's capacity to respond to external threats like COVID-19. Employees must disclose their weaknesses at work in order to overcome them and achieve above expectations. However, when external factors like COVID-19 enter the equation, they increase people's anxiety and worry, making it impossible for them to focus and putting them under further stress by revealing their flaws at work. Thus, I argue that when fear of COVID-19 increases, individuals' ability to embark upon resilience decreases.

The trust between employers and employees is broken when organisations' priority changes to survivability. When trust is broken, the exchange process underlying reciprocity is compromised. Thus, I argue that when fear of COVID-19 increases, individuals involved in the reciprocity further focus on achieving their own priorities more than thinking about other parties in the exchange process, breaking trust and affecting the trade. The strength and the degree of impact of perceived support on IR is thus negatively affected.

The hypothesis development delves into the influence of fear of COVID-19 on different elements of resilience. The widespread impact of COVID-19 not only resulted in increased emotional and mental health issues but also exacerbated the consequences due to organisations' failure to effectively react and control the crisis. Fear is an adaptive response that alerts individuals to potential threats or dangers. In the context of COVID-19, employees were not only concerned about their own health and the well-being of their loved ones but also about their longevity within their respective organisations. This fear of uncertainty and potential job insecurity influenced employees' trust in the organisation's ability to act in their best interests.

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Trust plays a crucial role in the relationship between employees and organisations. When trust is lacking, employees are less likely to go above and beyond their job responsibilities. Additionally, both organisations and employees prioritise survival during times of crisis. Employees strive to secure their position within the organisation, while organisations aim to ensure their longevity in the market. As a result, it becomes challenging to prioritise meeting each other's needs and achieving high performance. Drawing upon Social Exchange Theory (SET) and the principles of reciprocity, fairness, and trust, the hypothesis development explains how the increase in fear due to COVID-19 impacts employees' attitudes, behaviours, and performance. SET provides insights into human interactions and factors influencing employee behaviour. When fear of COVID-19 intensifies, it heightens individuals' anxiety and worry, making it difficult for them to concentrate and causing additional stress when revealing their weaknesses at work. Consequently, the ability of individuals to exhibit resilience diminishes. Moreover, trust between employers and employees becomes fractured when organisations prioritise survivability. This fracture in trust compromises the underlying exchange process of reciprocity. As a result, when fear of COVID-19 increases, individuals involved in the reciprocal exchange become more focused on their own priorities rather than considering the needs of other parties in the exchange process. This breakdown in trust affects the strength and impact of perceived support on individual resilience. The negative influence of fear of COVID-19 weakens the connection between perceived support and individual resilience.

Hence, the I hypothesise the following:

**H12: Fear of COVID-19 is negatively related to individual resilience.**

**H13: Fear of COVID-19 will have a moderating effect on the relationship between perceived organisational support and individual resilience.**

**H14: Fear of COVID-19 will have a moderating effect on the relationship between perceived supervisor support and individual resilience.**

**H15: Fear of COVID-19 will have a moderating effect on the relationship between perceived co-worker support and individual resilience.**

**H16: Fear of COVID-19 will have a mediating effect on the relationship between perceived organisational support and individual resilience.**

**H17: Fear of COVID-19 will have a mediating effect on the relationship between perceived supervisor support and individual resilience.**

**H18: Fear of COVID-19 will have a mediating effect on the relationship between perceived co-worker support and individual resilience.**

The simultaneous hypothesising of both mediation and moderation mechanisms in this study is justified given the unique context of the COVID-19 pandemic and its potential impact on individual resilience. The hypothesised mediation effects aim to understand how fear of COVID-19 may act as a mediator in the relationships between perceived organisational support, perceived supervisor support, perceived co-worker support, and individual resilience. The fear of COVID-19 is a salient psychological factor during the pandemic that may influence individuals' resilience by shaping their perceptions, emotions, and behaviours. By examining the mediating role of fear of COVID-19, this study seeks to elucidate the underlying psychological processes through which the independent variables contribute to resilience in the context of the pandemic.

Furthermore, the hypothesised moderation effects of fear of COVID-19 acknowledge that the impact of perceived organisational support, perceived supervisor support, and perceived co-worker support on individual resilience may be contingent upon individuals' levels of fear related to the pandemic. Fear of COVID-19 can influence individuals' interpretation and response to supportive resources and the challenges they face, which may vary depending on the severity of their fear. By considering fear of COVID-19 as a moderator, this study recognises the importance of contextual factors in shaping the relationships under investigation, as the pandemic context introduces unique challenges and uncertainties that may influence the impact of supportive resources on resilience outcomes.

In terms of the linkage between the independent variables and elements of resilience, prior research suggests that higher levels of perceived organisational support, perceived supervisor support, and perceived co-worker support are associated with increased adaptive coping strategies, psychological well-being, and perseverance, all of which contribute to individual resilience. These supportive resources can provide individuals with a sense of safety, belonging, and social support during a time of heightened fear and uncertainty. Understanding how fear of COVID-19 may mediate or moderate the relationships between these independent variables and resilience outcomes is crucial for developing interventions and support systems that effectively promote resilience during the pandemic.

By simultaneously examining both mediation and moderation mechanisms, this study aims to provide a comprehensive understanding of the complex relationships between fear of COVID-19, perceived organisational support, perceived supervisor support, perceived co-worker support, and individual resilience in the unique context of the pandemic. This approach acknowledges the potential direct and indirect pathways through which these variables may impact resilience and offers insights into the underlying psychological processes and contextual factors that influence individuals' ability to adapt and thrive in the face of COVID-19 challenges.

### **Study Chapter 3: Defining the Influence of External Factors on IR: Fear of COVID-19**

This concludes the final study chapter comprising this research project. One of the benefits of approaching resilience as a process is accounting all the internal and external factors that influence resilience development. This section of the investigation focuses on analysing the contextual factor highlighting the study: COVID-19 and how fear resulting from the spread of the pandemic influences how resilience develops and interacts with other internal factors. Additionally, by integrating fear in the analysis, I am able to fill in a gap in the literature about theoretical ways to investigating the dark side of the human emotions. I also examine fear critically and hopes that the results emphasise that, when properly managed,

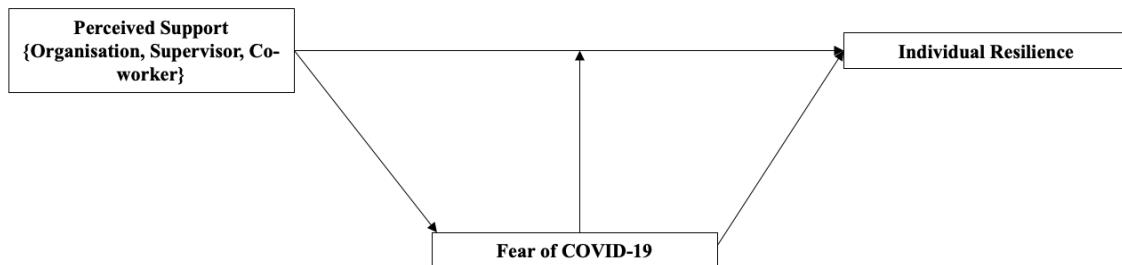
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the existence of unpleasant emotions is not always a bad thing. Table 11 summarises the hypotheses of the final study chapter while Figure 4 demonstrates the conceptual model.

**Table 11: Study Chapter 3 Hypotheses**

<b>Study Chapter</b>	<b>H#</b>	<b>Hypothesis</b>
3 Defining the Influence of External Factors on IR: Fear of COVID-19	H12	FCOVID-19 is negatively related to IR
	H13	FCOVID-19 will have a moderating effect on the relationship between POS and IR.
	H14	FCOVID-19 will have a moderating effect on the relationship between PSS and IR.
	H15	FCOVID-19 will have a moderating effect on the relationship between PCS and IR.
	H16	FCOVID-19 will have a mediating effect on the relationship between POS and IR.
	H17	FCOVID-19 will have a mediating effect on the relationship between PSS and IR.
	H18	FCOVID-19 will have a mediating effect on the relationship between PCS and IR.

**Figure 4: Conceptual Framework for Study Chapter 3**



### 2.6. Summary

One of the primary issues with literature on resilience is its unidimensional approach to the phenomena and lack of focus on social, cultural, and external factors and processes that affect the growth process. To address this issue, I approached resilience as a process and accounted for internal and environmental

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factors that influence it, thus understanding how resilience could be a function of the context in which it takes place. The first study chapter addressed all stakeholders that interact with employees in the work environment and thus might directly or indirectly affect performance and provided a theoretical foundation to the development of individual resilience as explained by the social exchange theories and the mutual benefit exchange. The second study chapter focused on the internal aspect of the context, assessing the psychological safety of the environment in which resilience occurs. The third study chapter focused on how the external environment, specifically COVID-19, impacted the environment in which resilience occurs. As this research focuses on the individual, the primary goal was to assess how fear of COVID-19 impacted an individual's ability to perform in the workplace. The following chapter discusses the cultural and societal background that governs this research, specifically focusing on Egypt.

### 3. Chapter Three: Research Context

This chapter aims to explain the cultural background in which the study is taking place, Egypt. Middle East and North African cultures are filled with diversified ethnic upbringing different from western world which increases the potential of this context challenging existing theories. The socioeconomic and cultural context that governs a work environment influences the productivity at work. Section 3.1 presents how diversified and complex the Egyptian culture is, explaining the social and economic structure of the country. Section 3.2 presents how Egypt's national culture and how the country resides within Hofstede's cultural framework. Section 3.3 presents how national culture is integrated into the analysis. Section 3.4 presents COVID-19's contextual framework within Egypt. Section 3.5 presents individual resilience progression in Egypt. The section concludes with a summary regarding the main issues discussed in this chapter.

#### 3.1. Overview of Egyptian Social and Economic Structure

Egypt's history and culture span thousands of years, beginning with Pharaonic culture and progressing through Christianity and Islam (Islami, 2016). Egypt is one of the world's oldest civilisations. Its culture has been influenced by a mixing pot of cultures and ethnic groups who have either lived in or invaded the country (Dunne, 2020; Islami, 2016; Lambert, 2020). While embedded within Africa geographically and influenced politically by the region, Egypt is member of the 250 million-strong Arabic-speaking population that stretches throughout Morocco to Oman. Egypt identifies as a Middle Eastern country culturally officially named "The Arab Republic of Egypt". The Arabic language in Egypt, as the rest of the Arab world, is marked by language variation. That is, there is a significant difference between the written and spoken languages. There are local accents, but none that prohibits communication. There is a huge disparity between the rich and the poor, in terms of language, attitude, and compliance. The culture encourages the weak to submit to the strong. Individual and family differences in Egypt can be expressed by economic status. Differences may be seen in choices such as residence, transportation, clothing, speech, school, entertainment, and so forth.

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Political unrest, corruption, and poor government management are just a few of the internal problems that have contributed to Egypt's current economic problems. More recently, these internal problems have come together with external crises like the COVID-19 pandemic, the war in Ukraine, and the threat of a global recession (Schaer, 2023; The Economist, 2023). One of Egypt's major sources of income, tourism, was severely damaged by the pandemic. Then, as the world's largest importer of wheat, the conflict in Ukraine hampered wheat supply to the nation. For many middle-class Egyptians, grocery shopping has altered and turned into a tight exercise in currency control as the value of the Egyptian pound has fallen. Food costs have increased by a factor of two, but wages have decreased by a factor of four. The fact that Egypt is frequently regarded as "too big to fail" is possibly the biggest distinction between Egypt and other countries facing similar economic situations. It is the most populous country in the region with about 107 million people.

### **3.2. Egyptian National Culture**

A society's members exhibit a set of patterns and behaviours, which are referred to as its culture (Mansaray & Jnr, 2020). According to Hofstede, culture is "the collective mental training that separates members of one group from those of another" (Hofstede, 2009, p. 9). According to some, culture is collective, shared by many individuals (though not all), invisible, and mostly discernible by people's behaviour (Hofstede & McCrae, 2004). National culture serves to represent nations, shapes societal attitudes, and affects people's responses to the environment (Kalmanowitz & Ho, 2016). These social encounters serve as examples of appropriate behaviour. The same obstacles that society faces in internal and external adaptation gave rise to Kluckhohn's values orientation theory, which contends that because these challenges are shared by all cultures, cultural phenomena like norms and beliefs can be categorised into different cultural dimensions (Hills, 2002).

This inspired Hofstede's empirical studies (From 1967 through 1979, Hofstede conducted his research to create his cultural dimensions (Hillmann, 2021). He used more than 116,000 questionnaires that were filled out by around 88,000 IBM employees from 72 different countries (de Mooij & Hofstede, 2010; Hillmann, 2021;

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Hofstede, 2001, 2009; Hofstede & McCrae, 2004). In addition to confirming Hofstede's findings, replications utilising data from diverse organisations have added two more cultural features to the original four. Table 12 below provides a representation of the six indexes along with a list of each one's definitions.

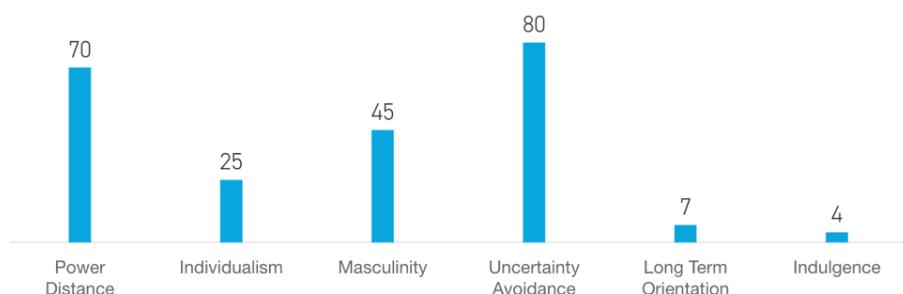
**Table 12: Hofstede Cultural Dimensions**

Cultural Index	Definition
Power Distance Index (PDI)	A society's tendency to accept power distribution unequally. High PDI reflects acceptance of individual's place with no justification. Low PDI reflects thrive to equal distribution of power and justification (Hofstede, 2001; Hofstede & Bond, 1984)
Individualism vs Collectivism Index (IDV)	A society's tendency to care about themselves versus surroundings. High IDV thrive to care about themselves and immediate relatives. Low IDV (collectivism) expect unjustified loyalty and care about the well-being of ingroups (Hofstede, 2001; Hofstede & Bond, 1984)
Masculinity vs Femininity Index (MAS)	A society's tendency to place importance on values more than others. High MAS values competition, assertiveness, rewards, and success. A Low MAS (feminine) values modesty, cooperation, and family-oriented work relation (Hofstede, 2001; Hofstede & Bond, 1984)
Uncertainty avoidance Index (UAI)	A society's tendency to accept ambiguous situations and accept uncertain circumstances. High UAI would reject any implication of unorthodox attitudes. Low UAI is more relaxed to changes (Hofstede, 2001; Hofstede & Bond, 1984)
Long-term orientation vs Short-term orientation Index (LTO)	A society's decision-making attitude with respect to time. High LTO values achieving future goals, are willing to give-up short-term impulses. Low LTO (short-term) focus on present and past (Hofstede, 2001; Hofstede & Bond, 1984)
Indulgence vs Restraint Index (IVR)	A society's tendency to establish control over their natural instincts. High IVR values having fun and letting go of restrictions to enjoy life. Low IVR (restrained) prefers to be regulated by rules and norms (Hofstede, 2001; Hofstede & Bond, 1984)

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Figure 5 displays the cultural orientation of Egypt. Egypt ranks highly on the PDI with a score of 70. Without justification, Egyptians accept hierarchy and regulations (Hofstede, 2001, 2009). Egyptians are seen as collectivists because they only scored a 25 on the IDV scale. Egyptians place a high priority on close ties with their family, friends, and co-workers. Egypt has a 45 MAS score, making it a feminine society. Egyptians place a high importance on a positive work environment and are concerned with both their own and others' well-being. An Egyptian's UAI score of 80 shows that they value regulations, security, and shun uncertainty. Scores of 7 and 4 show that Egyptians are both conservative and focused on the near term. Egyptians tend to be normative, obligated to meet their family and society obligations, and preoccupied with immediate concerns rather than long-term planning.

**Figure 5:** Egypt as depicted by Hofstede.



The model has received praise for establishing dimensions empirically and has received citations in numerous articles where the validity and reliability were acknowledged (Cohen et al., 2007; Maseland & Hoorn, 2017). Hofstede faced a number of criticisms. The single-company approach was criticised for not providing enough diversity (Baskerville, 2003). In response, Hofstede said his model was intended to be a cross-cultural approach that looked at many countries operating within the same work constraint (Hofstede, 2009). The number of dimensions was deemed insufficient to constrain society behaviour (Baskerville, 2003). In response, Hofstede said that any model should only have a maximum of seven dimensions, and any further additions should result in significant definitional deviations (Hofstede, 2009). This criticism was abandoned when Hofstede added the LTO and IVR dimensions. Scholars criticised Hofstede's concept for neglecting globalisation and dividing apart countries based on geography (Mc Sweeney, 2002). Hofstede

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responded that national comparisons are a tool for associating societies (Hofstede, 2009). Political and cultural borders are not necessarily the same (Baskerville, 2003). A country's multi-ethnic population, like that of African nations, can give rise to a variety of subcultures (Alesina et al., 2003). People who share the same culture but are divided by political boundaries exist in Arab nations. However, I believe that it is highly subjective to combine communities who do not share the same political boundaries as sharing the same cultural experiences despite sharing different cultural aspects.

### **3.3. Utilising Egypt's National Culture in the Research**

Researchers can use historical data to offer important insights for current research (Zimmerman, 2008). If the work is "based on 'private/ specific/original data from several years ago' but for which the phenomenon researched is still of current interest,"(Stolowy & Paugam, 2018, p. 415). This is relevant to this field of study because Egypt has never looked into how national culture affects individual resilience (IR). Additionally, cultural practises have the power to both strengthen and weaken people's resilience. I will expand on earlier work linking national culture to IR in this section to forecast the resilience of Egyptians.

National culture dimensions have been recently linked to resilience except LTO and MAS and all indicate that Egyptians are more skewed towards exhibiting resilience (Fietz et al., 2021). My major line of reasoning is that, despite some traits adhering to resilience under normal circumstances, other traits that could ordinarily be seen negatively may actually prove helpful in overcoming the difficulties brought on by disasters. The literature on remaining cultural dimensions remains very sparse. In fact, the limited publications indicate that LTO and MAS has no impact on resilience.

**PDI Index.** Employees in countries with high PDI value task performance because they understand how hierarchical order helps organisations achieve their goals (Farh et al., 2007). Low PDI enables workers to take on tasks outside of those assigned to them, which promotes innovation (Svarc et al., 2011). The reliability of relationships is also impacted by PDI. High power distance societies have less trust

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in external networks than low power distance civilisations (Fietz et al., 2021). Accessing the resources required to deal with unforeseen circumstances may be challenging if there is low trust in external networks. Resilience requires strong interpersonal relationships at work, hence having a low PDI may be beneficial for resilience (Gittell et al., 2005). Despite the literature suggesting that lower PDI is advantageous for resilience, Results from previous studies on NAFTA indicated that higher PDI is positively related to resilience as lower PDI index did not promote resilience (Fietz et al., 2021). I capitalise on previous conclusions and suggest that a collective acceptance of power could produce a favourable outcome in times of turbulence, like as crises or unanticipated events, since employees will implement methods devised by their superiors without the need for extensive preliminary discussions due to the vagueness of the situation. For this reason, I suggest that the high nature of Egyptian power distance culture will assist Egyptian employees in achieving resilience.

**IDV Index.** IDV are unique in that its members are only loosely connected to the community (Tata & Prasad, 2015). They put their own interests ahead of those of the group (Surangi, 2014; Tata & Prasad, 2015). Because IDV civilisations are less oriented upon groups, common values are less significant (Surangi, 2014). To become resilient, employees must acknowledge and then overcome their weaknesses at work. These activities are more conceivable in collectivistic cultures, where members prioritise the needs of their group and get protection from the collective at the same time (Hofstede, 2001). Previous studies on NAFTA suggested that their individualistic oriented index was negatively associated with resilience (Fietz et al., 2021). For this reason, I argue that Egyptian workers' high collective culture will help them develop resilience.

**UAI Index.** High UAI cultures are very explicit about what they anticipate (de Mooij & Hofstede, 2010). They look for conventional solutions to deal with ambiguous situations in addition to trying to limit uncertain scenarios. Low UAI are more receptive to different viewpoints and creative ideas. Favourable traits for avoiding uncertainty, such as spontaneity over preparation and proactivity, are also linked to societies that place a high emphasis on resilience, such as pragmatism, openness to change, and adaptability (Fietz et al., 2021). As a result, rather than

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intentionally promoting resilience inside their corporate environments, these cultures are predominantly influenced by external circumstances. It is believed that the characteristics of high uncertainty avoidance exceed those of low uncertainty avoidance, and as a result, high uncertainty avoidance has a favourable effect on resilience. This is due to high uncertainty avoidance index cultures setting up extensive frameworks and rules to prepare for a range of circumstances and outcomes as well as an uncertain future. Results from NAFTA studies indicated that their low uncertainty avoidance was negatively correlated with resilience. Accordingly, I argue that Egyptian workers would develop resilience as a result of the high degree of uncertainty avoidance culture in Egypt.

**IVR Index.** IVR demonstrates how people manage their impulses (Hofstede, 2001, 2009; Hofstede & McCrae, 2004; Upadhyaya et al., 2021). It reveals if people prioritise pleasure or duty more highly. IVR societies respect their autonomy. A culture of restraint regulates impulses. Restrained cultures are motivated by duty and are used to following stringent guidelines. They are used to working hard and are prepared to devote more time if needed to finish the task (Fietz et al., 2021; Hofstede, 2009). In the event of unforeseen or urgent circumstances, managers and employees will go above and beyond to ensure business success because of such a strong dedication to work ethic among managers and staff (Fietz et al., 2021). I argue that Egyptian workers' highly restrained culture will aid in the development of resilience because people in indulgent cultures generally tend to be more upbeat and content as they make their own decisions as opposed to feeling vulnerable, a crucial characteristic to exhibit resilience.

Despite the literature on remaining cultural dimensions remains very sparse and the fact that the limited publications indicate that LTO and MAS has no impact on resilience (Fietz et al., 2021), there are certain characteristics pertaining LTO that would suggest that individuals could be more skewed towards resilience or not. For example, LTO explains how each culture must keep some ties to its history while addressing issues of the present and the future (Hofstede, 2001). Cultures scoring high on this dimension prefer to uphold long-standing customs and standards while being wary of societal change. On the other hand, high-scoring cultures adopt a more practical approach. They promote thrift and efforts in modern education as a

means of future preparation. Egyptian culture is pretty typical. People in these societies are normative in their thinking and are concerned with discovering the unchanging Truth. They demonstrate a respect for customs, a modest predisposition to save for the future, and an emphasis on getting things done quickly. This falls in line with their power distance orientation. If given the ambiguity of the scenario, employees will adopt strategies developed by their superiors without the need for significant previous conversations, their short-term orientation, respect for customs and need to get things done quickly will also allow for acceptance of rules and regulations to overcome the crisis in hands. Feminine cultures also have similar characteristics to collectivists cultures. Cultures labelled as feminine are more family oriented and value cooperation. These characteristics fall in line with collectivist nations indicating that Egyptian's feminine index will support resilience development.

### 3.4. Why Egypt?

Overnight, COVID-19 changed everyone's reality. Lockdown shock and uninformed fear impacted individuals, groups, organisations, cities, economies, countries, and continents (Shaw et al., 2020). Despite efforts at globalisation and the Westernisation of policies and procedures globally, culture still has a significant impact on human resources management and organisational behaviour (Festing & Tekieli, 2018). Countries adapted the global health recommendations to their local health, economic, and societal circumstances—even when it came to COVID-19 pandemic procedures. Therefore, societal, and cultural differences affect those processes, despite our best efforts to standardise HR or other systems. It is safe to assume that understanding how different international institutions operate is crucial to understanding how culture and societies influence human resources management and organisational behaviour practices and most importantly, performance.

This investigation goes beyond understanding HRM and OB implications in Western cultures. It covers an area that has not been studied extensively when it comes to international HRM and OB: North Africa, more specifically, Egypt in hopes that this approach will help better understand OB and HRM in developing and emerging economies. I turn to the institutional theory to help illuminate further understanding (DiMaggio & Powell, 1983). The institutional theory sheds light on

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how context-specific elements influence how managerial practises, such as OB and HRM, adapt in response to shifts in the institutional environment of a particular setup (in this case, the North African region).

The states of North Africa can be compared and contrasted to be distinguished from the rest of Africa because of their social, economic, religious, linguistic, and cultural commonalities. It is impossible to dispute North Africa's membership in Africa because Morocco, Algeria, Tunisia, Libya, Sudan, and Egypt all share a physical continent with the rest of Africa as well as a common colonial past (Amrani, 2015). Nevertheless, although being located in Africa, these North African nations have some distinctive qualities in common with one another that set them apart from the rest of the continent. In fact, the Middle East, and North Africa (MENA) region is frequently discussed in academic, political as well as organisational contexts alongside the Middle East (Serhan et al., 2022). North Africa has undergone enormous political and economic growth and is currently going through a challenging change process. The Arab spring, which was a wave of armed uprisings, anti-government protests, and demonstrations that swept over much of the Arab world in the early 2010s, has been characterised by the region in recent history. Businesses, academics, and decision-makers are becoming more interested in the area as it continues to see economic growth, and there are many requests for analysis of this understudied part of the world (Gao et al., 2017). These factors create a wealth of study possibilities for deepening theoretical knowledge and comprehension of OB and HRM practises in a distinctive and dynamic regional environment.

In spite of the fact that HRM practises differ from the south to the north and from the east to the west of Africa, there are some constants that are frequently perceived as issues in the field. In reality, HRM in North Africa is often regarded as an administrative and clerical task, as opposed to a more strategic one (Horwitz, 2008). HRM in North Africa consists of little interventions to shape organisational behaviour beyond the clerical responsibilities unless local regional divisions of international organisations are given directives by headquarters.

In general, there is a lack of research in North Africa during the COVID-19 pandemic, when it comes to HRM and OB topics and most importantly, performance.

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Most research published focuses on the health-care sector (Horwitz & Budhwar, 2015). Although the COVID-19 response might seem to be an exceptional occurrence, there is little doubt that organisations will need to respond to other crises, whether they are economic, political, or environmental. Therefore, studying organisational responses to crisis has importance. Analysis of the existing studies is essential due to the paucity of research on North African organisational reactions to COVID-19 and the region's distinctive socio-cultural and political issues. The lack of literature in this area is exacerbated by the fact that there don't seem to be many works produced by African authors who have the appropriate exposure to and professional experience in these economies. There are several reasons why it makes sense to look at how North African HRM and OB practises coincide and vary in response to the COVID-19 problem. The acute dearth of reliable literature on the subjects of OB and HRM from the region, especially any systematic contextual analysis, is a key factor to be considered. This factor is foreshadowed by the growing academic and professional interest in North Africa (Horwitz & Budhwar, 2015). Given the particular makeup of the workforce in this region, which is primarily made up of expatriates from other areas of the world, the Arab world is likewise a distinctive and fascinating location for studying and analysing international OB and HRM (Budhwar et al., 2019). Additionally, research indicates that the cultural, administrative, physical, and economic context in which subsidiaries are embedded in developing economies have a significant impact on them in addition to the headquarters, which has significant ramifications for the relationship between the headquarters and subsidiaries (Horwitz & Budhwar, 2015).

As a representative for North African region, Egypt is selected for this investigation. Egypt has emerged as the continent's emblem of growth resilience because it is the only one of the three largest economies in Africa (the others are Nigeria and South Africa) to have experienced robust GDP growth even at the time of the pandemic downturn (3.3%) (Al-Aees, 2022). According to the IMF's most recent forecast, Egypt will continue to be a significant economic engine for the region, with a projected GDP growth of 5.9% in 2022. The national economy is well supported by a number of forces, including expanding infrastructure development, a booming gas extraction sector, stronger private consumption, and increasing remittances and capital inflows. Despite the economic turmoil on people, Egypt has

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been described as "too big to fail" and a general pandemic success in the region (Schaer, 2023). Thus, Egypt, the largest developing nation in the area, serves as a model for other developing nations hoping to advance their economies during the current economic crisis. The analysis of the Egyptian businesses' efforts to recover and survive the crises will be helpful for those developing countries in determining the direction of their future endeavours. As a result, the focus of this research is Egypt, the largest economically developing nation in the region.

Although a cross-cultural comparison amongst North African locations is not feasible within the time constraints of a PhD study, I believe that Egypt's status as the region's largest economy and the similarities among the countries that make up North Africa make the findings of this research significant. I hope that these findings will encourage scholars interested in North Africa to investigate other countries and compare their results with those of Egypt, while also recognising that the outcomes may not be the same for all North African countries.

### **3.5. COVID-19 in Egypt**

The COVID-19 pandemic had a significant and wide-ranging effect in Egypt, hurting both its public and economy. Egypt announced its first instance of the virus in March 2020, which prompted the authorities to respond quickly (Abouelfarag & Qutb, 2022). A national curfew, the shutdown of educational institutions, non-essential enterprises, and limitations on public gatherings were among the severe measures put into place (Abouelfarag & Qutb, 2022; Saied et al., 2021). A full lockdown including a shutdown of international and domestic flights was implemented in April 2020, restricting movement and non-essential activities (Saied et al., 2021).

The health sector was under a great deal of stress as hospitals and medical staff strove valiantly to handle the rising number of COVID-19 patients. Lack of hospital beds, ventilators, and medical supplies presented problems for the capability of the healthcare system (Breisinger et al., 2020a). As firms endured closures and a recession, the employment sector suffered from widespread job losses and decreased revenue (Abouelfarag & Qutb, 2022; Breisinger et al., 2020a; Saied et al., 2021). Due to the lack of social security programmes, informal workers including

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street sellers and daily wage earners were particularly vulnerable (Rezk et al., 2020). The adoption of online learning by schools and universities resulted in a dramatic shift of the education sector. The digital divide and access issues were brought to light by this change, particularly for students in rural regions who lacked access to dependable internet and the requisite gadgets. Remote teaching and learning approaches required teachers and students to adapt, which presented problems in terms of infrastructure, technology, and training (Medhat et al., 2021; Rezk et al., 2020). COVID-19 has a huge negative influence on Egypt's economy. Due to travel restrictions and decreased foreign travel, the tourism industry, a significant source of income, was negatively impacted (I. E. Salem et al., 2022). The hospitality, transportation, and entertainment industries, among others, were all affected. Due to decreased demand and operational limitations, Egypt's small and medium-sized businesses (SMEs), which are essential to the country's economy, have been forced to close or experienced financial problems (Zaazou & Salman Abdou, 2022). Due to closures and restricted access to financial aid, Egypt's informal sector, which accounts for a sizable portion of the country's economy, suffered (Abouelfarag & Qutb, 2022). Egyptian stock market volatility and decreases during the pandemic indicated investor unease, according to the banking sector (Elsayed & Abdelrhim, 2020). The banking industry saw difficulties as a result of corporate operations interruptions, an increase in loan defaults, and decreased economic activity. The Central Bank of Egypt took action to help the financial sector as a result of stock market volatility and difficulties in the banking sector. On the other side, the pandemic saw a spike in service demand in the telecommunications and technology industries (Medhat et al., 2021). A rise in internet usage and the demand for dependable connectivity were caused by the reliance on distant employment, online learning, and digital communication. Internet service providers have to expand and strengthen their infrastructure as a result of rising network traffic to guarantee steady connections. The pandemic also sped up the adoption of digital technology across a number of industries by enticing organisations and customers to use online platforms and services. The nation's economy and foreign exchange reserves were also impacted by a fall in remittances from Egyptians working overseas. Egypt's imports and exports suffered as a result of diminished commercial activity and global supply chain disruptions.

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The Egyptian government employed a number of regulations and measures throughout the timeframe to stop the virus's spread while progressively reopening the economy. These actions included enforcing safety regulations in public areas, supporting remote work, and encouraging good cleanliness (Rezk et al., 2020). The government also started programmes to aid impacted industries, give money to weaker people, and quicken the process of digital transformation. Overall, COVID-19 had a significant negative impact on Egypt, having an adverse effect on the nation's economy, employment, and overall health. While it posed many difficulties, it also provided chances for digital innovation and the adoption of new technology across a range of industries. Table 13 demonstrates the timeline of key events in response to COVID-19 in Egypt. Data for this research was gathered for this study starting in January 2021 and lasting until March 2021.

**Table 13:** *Timeline of Key Events regarding Egypt's response to COVID-19 Pandemic*

Date	Event
February 14, 2020	Egypt confirms its first case of COVID-19, becoming the first country in Africa to report an infection.
March 15, 2020:	The Egyptian government announces the closure of schools and universities nationwide, as well as a suspension of flights to and from major affected countries.
March 19, 2020:	A partial curfew is imposed, restricting movement from 7 PM to 6 AM on weekdays and a longer curfew on weekends.
March 25, 2020:	Egypt declares a state of emergency and implements a nationwide curfew from 8 PM to 6 AM to limit the spread of the virus.
March 26, 2020:	The government announces the closure of mosques and churches and suspends prayers and religious gatherings.
April 8, 2020:	A decision is made to extend the nationwide curfew during the holy month of Ramadan from 9 PM to 6 AM.
May 17, 2020:	Egypt starts the first phase of reopening the economy, allowing certain businesses and services to resume operations with precautionary measures in place.
June 27, 2020:	The government begins the second phase of reopening, permitting international flights to tourist destinations such as Hurghada, Sharm El-Sheikh, and Marsa Alam.
July 26, 2020:	Egypt further relaxes restrictions, allowing the resumption of regular international flights to and from all airports in the country.
August 15, 2020:	The Egyptian government announces a "new normal" strategy, gradually easing restrictions and implementing preventive measures in various sectors.
September 21, 2020:	Egypt reopens schools for the new academic year with a hybrid model of in-person and online learning.
October 1, 2020:	The government permits the reopening of cinemas, theatres, and sports clubs, with limited capacity and adherence to safety protocols.
<b>December 1, 2020: (Data gathering)</b>	<b>Egypt receives its first batch of COVID-19 vaccines, starting with healthcare workers and vulnerable groups.</b>
<b>March 2021: (Data gathering)</b>	<b>The Ministry of Health launches a national vaccination campaign to vaccinate the general population against COVID-19.</b>
April 2021:	The government announces fines and penalties for individuals and businesses that fail to comply with COVID-19 preventive measures, such as wearing masks in public.

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May 6, 2021:	The Egyptian government imposes a two-week lockdown during the Islamic holiday of Eid al-Fitr to curb the spread of the virus
July 2021:	Egypt launches the "Home to Home" initiative, allowing COVID-19 patients with mild symptoms to receive treatment and isolate at home instead of hospitals.
May 6, 2021:	The Egyptian government imposes a two-week lockdown during the Islamic holiday of Eid al-Fitr to curb the spread of the virus
July 1, 2021:	Egypt launches the "Home to Home" initiative, allowing COVID-19 patients with mild symptoms to receive treatment and isolate at home instead of hospitals.
November 1, 2021:	The government starts implementing a "no work without vaccination" policy, requiring employees in various sectors to get vaccinated or undergo regular PCR testing
January 2022:	Egypt announces the "Egypt Can" campaign, encouraging the population to get vaccinated and promoting vaccine awareness

*(All data gathered from official Egyptian government communication channels including social media)*

### 3.6. Resilience in Egypt

Since 2019, there has been next to no study on resilience in Egypt at any of the three construct levels. Few studies examined resilience as a product of the setting in which it operates. Fewer studies examined resilience as an outcome to provide an understanding of how it develops, making the literature on resilience in Egypt scarce, and subject to greater literary development.

Most studies didn't go any farther than looking at how different variables affected resilience and didn't provide a theoretical explanation of how this variable affected resilience or how it developed. For example, one study showed that organisational learning has a statistically significant impact on academics' organisational resilience. The findings also demonstrated the importance of the multi-stakeholder network in mediating the link between organisational resilience and learning outcomes (Mousa et al., 2020). Another study concluded that through resilience-promoting techniques including the expansion of their social support system, an increase in optimism, the supply of resilient role models, and high-quality resilience-related education, nurses' occupational stress can be minimised (Mostafazadeh et al., 2021). Another study found that corporate continuity and employee resilience are directly related, with distributive justice and trust serving as some of the mediators (Saad & Elshaer, 2020). In summary, while few studies examined the potential factors of resilience in Egypt, it is still unclear how the construct develops considering all societal and cultural impacts.

### 3.7. Summary

It is safe to conclude that understanding how various international institutions function is essential to comprehending how culture and societies affect organisational behaviour practises, human resources management, and performance. In general, research on HRM and OB themes, and most critically, performance, is lacking in North Africa during the COVID-19 pandemic. Egypt, one of the three largest economies in Africa (the others being Nigeria and South Africa), has become a symbol of the continent's growth resilience. This is because Egypt is the only African country to have experienced strong GDP growth, even throughout the pandemic recession. Accordingly, North African countries can learn from Egypt's successful efforts to recover and survive in the pandemic and use this knowledge to their own future efforts. Although Egypt has shown impressive growth during the pandemic, the literature reviewed in this chapter suggests that the country still has much to learn about resilience and its development.

#### 4. Chapter Four: Conclusion to the Literature

This chapter serves as a conclusion to the literature review and research context and is structured as follows: Section 4.1. provides an overall summary of the research aim. Section 4.2 demonstrates the conceptual framework. Section 4.3 discusses the theoretical framework and Section 4.4. outlines the hypothesis.

##### 4.1. Research Aim

With Individual resilience being the main performance connotation in this investigation, the primary aim of this research is to develop a theoretical and empirical foundation for research on workplace resilience in order to understand the specific mechanisms by which Individual resilience develops and influences job outcomes, and the boundary conditions that govern these interactions while considering the implications of the internal and external environment surrounding the research context.

To acknowledge the temporal difficulties caused by catastrophes, the role of adversity, and understand how resilience could be a function of the context in which they take place, I assess individual resilience during COVID-19 pandemic while placing emphasis on the sociocultural and economic element governing the investigation, Egypt. One of the major criticisms of resilience literature was the lack of empirical data regarding the elements that foster resilience in the workplace in addition to the sole focus on resilience being a function of personality traits. The authors that focused on resilience being more than just a product of personality traits and approached the concept as a process or an outcome provided just a fragmentary theoretical explanation of how resilience develops. To respond to this, I approach IR as a process continuously affected by the internal and external environment as well as the national context in which it occurs. The theoretical lens for this research includes a combination of motivational theories headed by the social exchange theory and ERG theory in addition to the Conservation of Resource Theory. Each theory served a purpose in providing theoretical justification for the internal and external impact on resilience development. With trust constituting the relationship between employees and organisational representative and acting as a

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main liaison to the successful adaptation of social exchange theories, I utilise the SET to demonstrate how resilience occurs as a result of mutual exchange of benefits between employees and organisational representatives by investigating the impact of perceived support from 1) organisational 2) supervisor 3) co-worker perspectives on IR. I then include the ERG theory to analyse the shift of priorities during crises and the importance and degree of influence of each of the perceived support facets on individual resilience. Along with perceived support, the other internal factor is psychological safety with each variable representing the psychological and social aspects respectively. I exploit the COR theory to explain how psychological safety affects IR and the relationship between perceived support and IR. The COR theory offers a clear explanation of how workplace resources influence job results favourably. I treat psychological safety as a resource within organisations that explains positive or negative work outputs. Psychological safety calls for an environment safe for interpersonal risk taking – a critical factor for resilience. Thus, I assume that the presence or absence of psychological safety at various degrees impacts resilience development. Finally, to assess the external variable, I redeploy SET to explain the relationship between fear of COVID-19 and individual resilience and how fear of COVID-19 impacts the relationship between perceived support and IR. The key factor in this equation is trust. Since the concept of reciprocity is based on trust, the relationship assumes that as fear of COVID-19 increases, it negatively impacts the trust between organisational representatives and employees causing a disruption to the exchange process. It is no secret that resilience causes stress to the employees due to the exposure of their weaknesses in the workplace. Combined with the increased fear of COVID-19 which also elevates stress, it is highly likely that fear of COVID-19 will negatively impact resilience.

In summary, to respond to the limitations and gaps introduced in the research aim, I approach resilience as a process continuously affected by internal and external environment. To assess the internal environment, I measure perceived support and psychological safety representing psychological and social paradigms. To assess the external environment, I measure fear of COVID-19. Within the contextual framework of Egypt, I will reflect on the national culture in the discussion. The key research question is “How does individual resilience develop in the

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workplace beyond personality traits during crisis considering all contextual elements?”.

In support of the research aim, the research objectives are stated as follows:

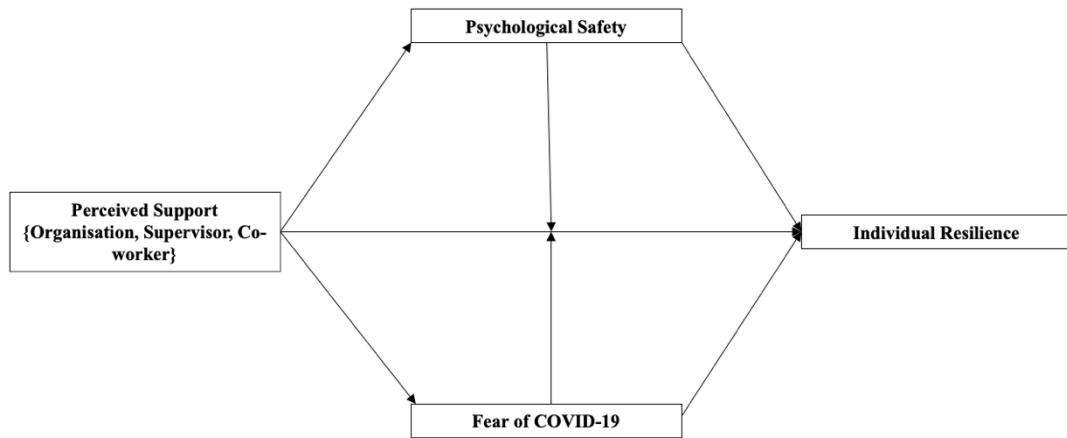
- To develop theoretical underpinnings for research on workplace individual resilience.
- To place a major emphasis on internal and external elements and processes that influences workplace individual resilience.
- To account for sociocultural factors that influence workplace individual resilience.
- To understand how individual resilience could be a function of the context in which they take place.
- To provide a more comprehensive theoretical advancement outside the western region.

### **4.2. Conceptual Framework**

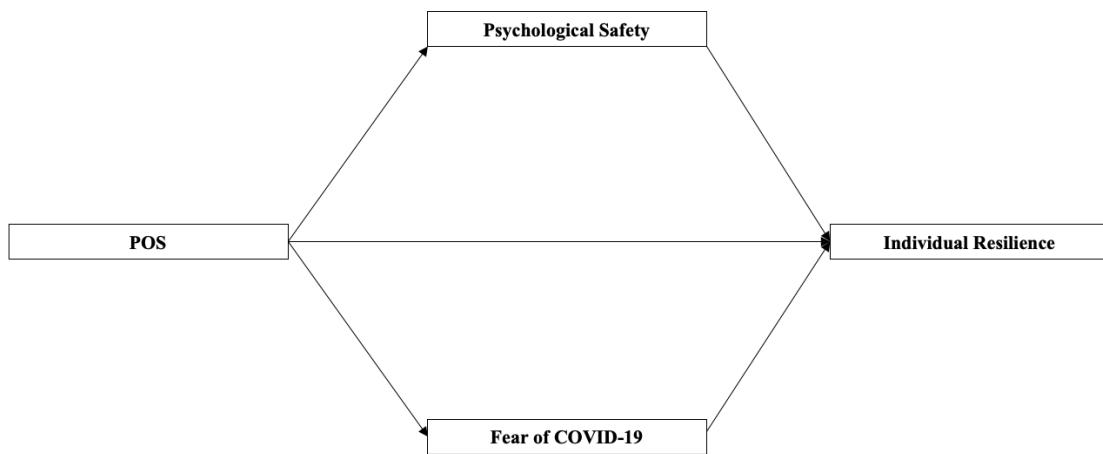
The full conceptual Model is demonstrated in Figure 6 below. The main relationship assessed is the impact of perceived support on individual resilience. I then measure the moderation and mediation impact of psychological safety and fear of COVID-19 on the relationship as well as the direct impact. In order to present full analyses into how each element of perceived support affects the interaction model, I present the results using three separate model representing perceived organisational support, perceived supervisor support and perceived co-worker support respectively as represented in figures 7, 8 and 9. This allows focused analyses into the impact and importance of each of the three facets.

## Individual Resilience in a Global Crisis

**Figure 6: Full Conceptual Model**

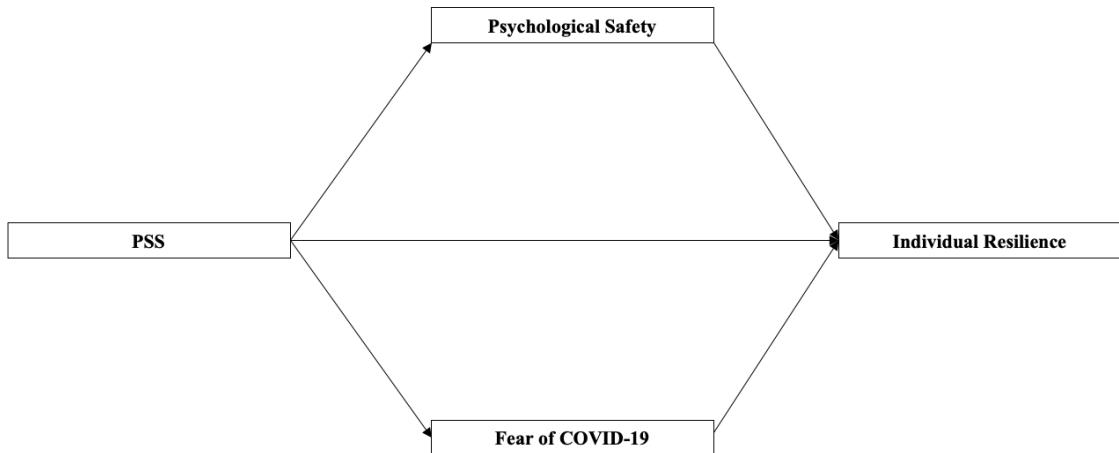


**Figure 7: Model 1: POS**

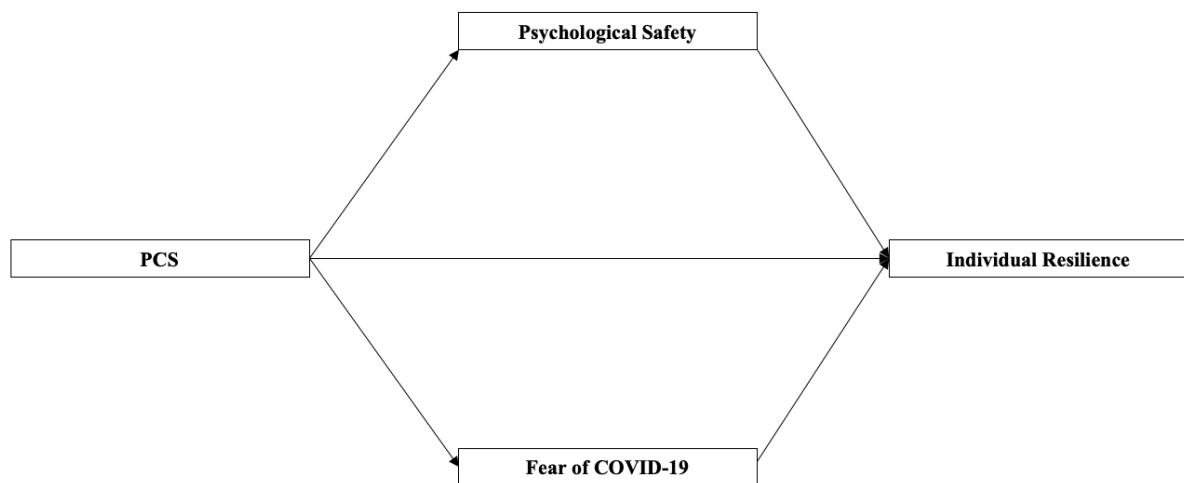


## Individual Resilience in a Global Crisis

**Figure 8: Model 2: PSS**



**Figure 9: Model 3: PCS**



### 4.3. Theoretical Framework

The theoretical basis for this study is part of a wider discussion of motivational theories conveyed in social exchange theory and ERG theory. The other theories relate to the discussion of employee stress during the pandemic and the interconnections of demands and resources and how they affect work output under the conservation of resource theory. To interact with the research aim posed in the current section, this model allows for a theoretical investigation of the conceptual framework. This section delves deeper into the theories, provides critiques, and

examines the major notions of the study. The theoretical framework is explored before I operationalise the important concepts and relate them to the study's methodology and empirical analysis.

### **4.3.1. Social Exchange Theory**

Social exchange theories (SET) are rooted back to motivational theories and suggest that when forced to give anything up, people are compelled to hold onto some value (reward) (Cropanzano et al., 2017). People seek out social interactions compromised in mutual exchanges of resources where the drawbacks outweigh the benefits (Blau, 2007). Resources are allocated through a reciprocity mechanism, in which one party tries to return another's beneficial (occasionally negative) acts (Blau, 2007; Cook & Rice, 2006; Cropanzano & Mitchell, 2005). Exchange process is reciprocated based on individual's needs fulfilment. The reciprocal reactions are split into two subcategories: behavioural characterised as extrinsic governed by reward-driven actions such as salary increases and relational characterised as interpersonal actions like emotional support. Often the reciprocal reactions are referred to as monetary and non-monetary. In essence, it does not matter whether the exchange is fulfilled immediately as long as the exchange variable fits the current needs of the receiver, indicating the importance of trust. According to social exchange theory, a relationship may end or be deserted if the costs of the relationship are greater than the benefits, such as if a lot of time or money was invested in it without receiving anything in return. Organisational Support theory is similar to SET in premise where employees establish a view of how much organisations value their contributions, care about their well-being and accordingly, increase job effort (Eisenberger et al., 1986). While the latter theory is acceptable, SET considers exchange process between any two parties, not just organisations. In line with the research's empirical analysis of perceived support from three perspective, I will consider SET.

**Using Social Exchange Theories.** I use SET to explain the correlation between perceived support, psychological safety, fear of COVID-19 as independent variables and individual resilience. Epistemologically, the concept of perceived support is built on the SET. The reciprocity exchange in this scenario includes employees achieving high resilience in exchange of continuous acts of support behaviourally, financially,

## **Individual Resilience in a Global Crisis**

and interpersonally from organisations, supervisors, and co-workers that fulfils employees' individualistic current needs. By introducing resilience as an outcome of behavioural exchange between parties, I introduce resilience as an outcome explained through the use of social exchange theories rooted back to motivational theories. I further use the SET theory to explain how fear of COVID-19 moderates and mediates the relationship between perceived support and individual resilience. Two terminologies dictate the relationship: trust and priorities. Employees are less likely to go above and beyond when there is a lack of trust between them and their employers. Additionally, organisations and employees both place a higher priority on survival. Accordingly, I argue that when fear increases, trust decreases due to the lack of confidence in organisation's response to the pandemic, and thus impacts the reciprocity exchange negatively. I further critique the SET on the premise that it fails to explain how the external environment affects the exchange process. Embedding fear of COVID-19 and psychological safety into the analysis of resilience will allow to understand the influence of internal and external factors on the exchange process. This perspective would advance the theory and enable providing a more holistic explanation of the foundation.

The rationale behind framing individual resilience as a motivational form of reciprocity exchange is rooted in the social exchange theory, which suggests that individuals engage in relationships and interactions based on fairness and mutual benefit. By applying this theory to resilience, the study aims to understand the impact of perceived support from the organisation, supervisor, and co-workers on individual resilience. Additionally, it explores the direct effects of psychological safety and fear of COVID-19 on individual resilience. The study captures the development of resilience by examining the perceived support individuals receive from their social environment and how it influences their resilience. By measuring the impact of various sources of support, the study explores the role of external factors in fostering and enhancing resilience. This suggests that resilience can be nurtured and developed through supportive relationships and work environments. Furthermore, the study goes beyond surface-level displays of resilience by examining the underlying psychological factors that contribute to resilience. It considers the influence of psychological safety, which reflects a sense of trust, openness, and confidence in one's work environment, as well as the impact of fear of COVID-19 on

resilience. These factors reflect deep-level changes in resilience, as they tap into individuals' beliefs, perceptions, and emotional responses, which are fundamental to the development and maintenance of resilience. In conclusion, the study's framing and approach acknowledge the reciprocal nature of resilience, the influence of external support, and the role of psychological factors in its development. It goes beyond pre-existing resilience by exploring the impact of various factors on resilience and delving into deep-level changes. This comprehensive approach provides valuable insights into the dynamics of resilience and its potential for growth and development.

### **4.3.2. ERG Theory**

Maslow's hierarchy of need originally depicts that individual's needs are grouped into five categories, shaping their motivational levels (Maslow, 1945). Maslow's hierarchy was adjusted by Alderfer to address the limitation of an individual not progressing to a further need until the current is fulfilled. Alderfer's theory is divided into three categories: existence, relatedness, and growth (ERG) (Alderfer, 1969). Existence is linked to psychological and safety requirements, relatedness is linked to social, and self-esteem needs, and development is linked to actualisation needs. The ERG theory does not dictate the sequence in which requirements are met, but it encourages the pursuit of many levels at the same time (Hobfoll & Lerman, 1989). However, Individuals will redouble their attempts to meet needs in a lesser category if a given category of needs is not being met. This indication supports my claim that individuals' needs, prioritises and motivational schemes shift in the context of a crisis.

**Using ERG Theories.** I use the ERG theory to explain how employees' priorities and needs change during a crisis through capitalising on the main advancing theoretical development of the ERG theory that states that the sequence in which requirements are met should not be dictated and that employees can pursue many levels at the same time. The theory also states that employees can revert back to previous or lower needs if priorities change, or they become less of a necessity. I explain that during crisis, employees' priorities shift to survivability and maintaining a stable income in times of headcount reduction. The organisation's priorities similarly

shift to survivability. I also highlight that employees use their co-workers as a mean to understand the ambiguous environment during COVID-19 and endorse and support their fears. Due to the fact that employees deal with organisational leaders the least, and in line with their knowledge that supervisors' act as organisation agents and their review of performance is what decides their employment status, I predict that perceived supervisor support will have the strongest impact on individual resilience, followed by perceived co-worker support and finally perceived organisational support.

### ***4.3.3. Conservation of Resource Theory***

The foundation of COR theory is the idea that people are driven to both conserve their current resources and seek out new ones (acquisition). Resources are broadly described as items, events, circumstances, and other objects that individuals value (Hobfoll & Lerman, 1989). A sample of frequent reported resources are shown in Table 14. The worth of resources varies from one individual to another and is influenced by their unique circumstances and expertise (Halbesleben et al., 2014; Hobfoll, 2001). Several of the theory's key tenets—conservation and acquisition—come into play. The first is the primacy of resource loss, which holds that losing resources psychologically hurts people more than gaining those resources will assist them. Additionally, it implies that when considering resource losses, employment-related resource gains will become more significant. The second concept is resource investment, People make investments in attempt to acquire resources, recoup from deficits, and prevent loss of resources (Hobfoll, 2001). There is still much to learn about how individuals think about resources and the methods by which they obtain and exchange them (Halbesleben et al., 2014).

A frequent criticism to the theory is that almost anything beneficial can be viewed as a resource (Halbesleben et al., 2014). First, the term "value" confuses the resource with its result by implying that a resource must produce a beneficial result in order to be a resource. Controversially, research is increasingly demonstrating that even great things can result in negative results (Halbesleben, 2010, 2012; Halbesleben et al., 2014). I advance this train of thought by assuming that even negative things can result in positive results.

**Table 14: A Sample of Resources Reported in Literature**

Resources	References
Job Security	(Selenko et al., 2013)
Rewards, Reinforcement Contingencies, Inducements	(Shin et al., 2012)
Autonomy, Decision Authority, Skill Discretion, Control	(Schmidt & Diestel, 2012)
Participation in Decision Making Opportunities for Professional Development	(Halbesleben, 2010, 2012)
Resilience	(Halbesleben, 2010, 2012)
Social Support (supervisor, co-worker, organization, spousal, customer, etc.)	(Shin et al., 2012)
Time Away from Work, Recovery Experiences	(Halbesleben, 2010, 2012)
Emotional Intelligence	(Davidson et al., 2010)
Self-Esteem, Self-Efficacy, Locus of Control, Core Self-Evaluation	(Winkel et al., 2011)
Conscientiousness, Emotional Stability	(Z. Chen et al., 2009)
Family-Friendly Workplace Policies	(Halbesleben, 2010, 2012)
	(Payne et al., 2012)

**Using COR Theories.** I use the COR theory to explain how psychological safety moderates and mediates the relationship between perceived support and individual resilience. The outcome of the presence of a Psysafe environment including taking interpersonal risks without worrying about consequences (Boyer & Edmondson, 2015; A. C. Edmondson & Lei, 2014; Mayer & Gavin, 2005), improving communication and knowledge sharing (Leroy et al., 2012; Mu & Gnyawali, 2003), expressing opinions, increasing commitment, work engagement, innovation, and creativity (Brinsfield, 2013; C. Chen & Tang, 2018; Mayer & Gavin, 2005; Sanner & Bunderson, 2013), are all enablers and prerequisites to other desirable organisational outcomes including individual resilience. Supportive workplace resources create a psychologically safe environment that protects against resource loss, which is linked to unfavourable individual results like stress and strain as well as unfavourable team outcomes like conflict. As members of such teams are motivated to invest resources (such as communication, support, and knowledge sharing), which in turn results in positive work outcomes like learning, innovation, and performance, a climate of psychological safety also appears to set high performing teams apart from their counterparts. In that manner, the COR theory

offers a clear explanation of how workplace resources (listed in table 12) have a positive impact on work outcomes. Resilience itself is listed as a resource, in addition to social support from all three facets of perceived support. I propose that the presence or depletion of a psychologically safe environment in which support for interpersonal risk-taking is encouraged could also be treated as a resource that affects work outcomes. Thus, the presence of a psychologically safe environment along with the positive outcomes it presents in an organisation could be treated as a resource that with depletion, could negatively affect work outcomes.

### **4.4. Hypotheses**

As explained previously, this investigation is divided into three study chapters based on the aims of the hypothesis and to allow smoother interpretation of the results. Study Chapter 1 measures the first internal factor represented as a psychological factor and studies the impact of perceived support on individual resilience and assesses the degree of importance of each of the facets on individual resilience and is titled “Individual Resilience as a Behavioural Outcome Influenced by the Social Exchange Theory”. This chapter considers the main theoretical argument of the research which demonstrates individual resilience as a behavioural outcome resulting from the mutual exchange of benefits between organisational members and views resilience as a product of social exchange theories. Study Chapter 2 measures the second internal factor represented as a social factor and studies the impact of psychological safety on individual resilience and the relationship between perceived support and individual resilience and is titled “Defining the Influence of Internal Factors on Individual Resilience: Psychological Safety as a Boundary Condition”. The analyses of psychological safety at different levels of strength allows to investigate boundary conditions to psychological safety affecting the relationships. Study Chapter 3 measures the external factor and studies the impact of fear of COVID-19 on individual resilience and the relationship between perceived support and individual resilience and is titled “Defining the Influence of External Factors on IR: Fear of COVID-19” The results and discussion chapters will be divided into the three study chapters to allow smooth analyses of results. After fully analysing each of the study chapters separately, the last section of the discussion will overlap all of

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the main findings including a discussion of the national culture to serve the main conceptual model. Table 15 summarises the study chapters and hypotheses.

**Table 15: Summary of all Hypotheses**

<b>Study Chapter</b>	<b>H#</b>	<b>Hypothesis</b>
<b>1</b> Individual Resilience as a Behavioural Outcome Influenced by the Social Exchange Theory	H1	Perceived organisational support is positively related to individual resilience.
	H2	Perceived supervisor support is positively related to individual resilience.
	H3	Perceived co-workers support is positively related to individual resilience.
	H4	The direct effect of perceived supervisor support on individual resilience will be stronger than the direct effect of perceived co-worker's support and perceived organisational support on individual resilience.
<b>2</b> Defining the Influence of Internal Factors on Individual Resilience: Psychological Safety as a Boundary Condition	H5	Psychological safety is positively related to individual resilience.
	H6	Psychological Safety will have a moderating effect on the relationship between perceived organisational support and individual resilience.
	H7	Psychological Safety will have a moderating effect on the relationship between perceived supervisor support and individual resilience.
	H8	Psychological Safety will have a moderating effect on the relationship between perceived co-worker support and individual resilience.
	H9	Psychological Safety will have a mediating effect on the relationship between perceived organisational support and individual resilience.
	H10	Psychological Safety will have a mediating effect on the relationship between perceived supervisor support and individual resilience.
	H11	Psychological Safety will have a mediating effect on the relationship between perceived co-worker support and individual resilience.
<b>3</b> Defining the Influence of External Factors on IR: Fear of COVID-19	H12	Fear of COVID-19 is negatively related to Individual Resilience
	H13	Fear of COVID-19 will have a moderating effect on the relationship between perceived organisational support and individual resilience.
	H14	Fear of COVID-19 will have a moderating effect on the relationship between perceived supervisor support and individual resilience.
	H15	Fear of COVID-19 will have a moderating effect on the relationship between perceived co-worker support and individual resilience.
	H16	Fear of COVID-19 will have a mediating effect on the relationship between perceived organisational support and individual resilience.
	H17	Fear of COVID-19 will have a mediating effect on the relationship between perceived supervisor support and individual resilience.

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H18 Fear of COVID-19 will have a mediating effect on the relationship between perceived co-worker support and individual resilience.

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## 5. Chapter Five: Research Methodology

This chapter presents the research methodology followed in this study. The chapter begins with section 5.1 providing a summary of the research aim. Section 5.2 describes the research approaches, philosophies, and theory development. Section 5.3 explains the research designs, while section 5.4 provides detail on the quantitative approach employed. Section 5.5 explains data analysis procedures, while section 5.6 details ethical considerations. The chapter concludes with a summary of the approaches.

### 5.1. Summary of Research Aim

The primary aim of this research is to understand the mechanisms through which individual resilience (IR) develops during crisis and influences job outcomes, and the boundary conditions that govern these interactions by considering contextual factors surrounding the construct and investigating the impact of perceived support from organisations (POS), supervisors (PSS), and co-workers' (PCS) perspective on IR as well as assessing the direct, moderating and mediating effect of psychological safety (Psysafe) and fear of COVID-19 (FCOVID-19) on the relationship to measure their enabling and inhibiting influence and recognise how resilience could develop as a function of the context in which it takes place.

### 5.2. Research Approaches, Philosophies, and Theory Development

#### 5.2.1. Research Approaches

Several assumptions are established, either deliberately or unknowingly, at various stages of the research that reflect the researcher's decisions regarding the research topics and data collecting (Saunders et al., 2019). Three sets of presumptions are made by researchers, reflecting epistemology (human knowledge), ontology (reality), and axiology reflecting how their own (values) affect the investigation. Epistemology reflects how investigators collects the data and how information is viewed as genuine, reliable, and generalisable (Burrell & Morgan, 1985). Ontology is the method by which investigators decide to think about their topics. The organisation, people, and management are the topics studied in social

sciences (Thomas & Hardy, 2011). Axiology decides how values are dealt with and how they direct the research (Heron, 1996). Making these presumptions places the investigator between objectivism and subjectivism, two extremes on a spectrum (Saunders et al., 2019). Feelings, values, and presumptions are seen as external instruments to the study in the world of objectivism, which emphasises the importance of numerical facts and quantifiable things. Subjectivism holds that each person has a unique sense of reality, and that language and perception are important (Burrell & Morgan, 1985).

### ***5.2.2. Research Philosophies***

Researchers have suggested that there are five main research philosophies. Each philosophy reflects the researcher's strategy for gathering and analysing data (Saunders et al., 2019). Positivism thinking favours factual information that can be generalised and is unaffected by human interpretation. Realism believe that reality exists independently of the mind. The distinction is that positivism holds that anything that exists can be demonstrated quantitatively, in contrast to realism, which asserts that the outside world exists independently of our experiences (Fleetwood, 2005). Interpretivism is based on the arbitrary interpretation of a person's situation in light of their social and cultural upbringing (Saunders et al., 2019). Postmodernism is not in reality a research philosophy but rather a critical theory that questions the modernist assumptions about knowledge, truth, and objectivity. In terms of research philosophy, postmodernism is often associated with interpretivism. Postmodernism challenges the idea of a fixed and objective reality and argues that reality is constructed through language, discourse, and power relations. The pragmatic approach assumes that a researcher can continue employing multi-dimensional approaches. A pragmatic researcher presupposes that various analytical approaches and methodologies may be employed to meaningfully improve research (Saunders et al., 2019).

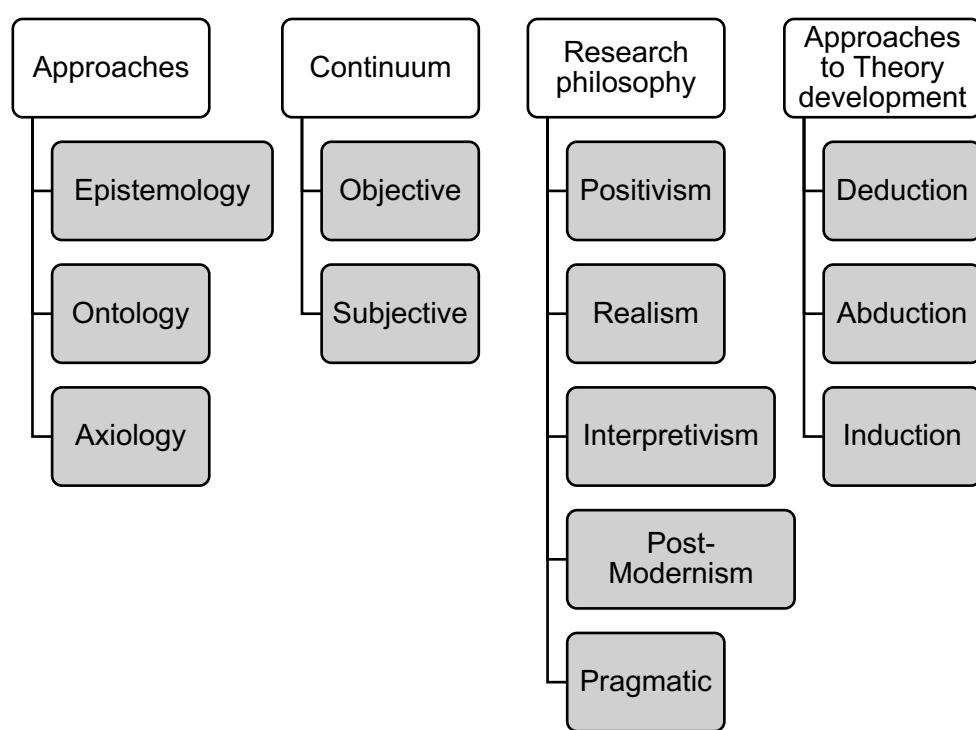
### ***5.2.3. Approaches to Theory Development***

A researcher can use a deduction, induction, or abduction strategy while creating a theory. In the method of deduction, theories or hypotheses are first developed after

a thorough analysis of the literature (Saunders et al., 2019). The investigator then gathers, examines, and tests the hypothesis. The organised nature of the deductive approach enables researchers to study ad hoc correlations between variables and generalise their findings. In the induction strategy, the investigator first gathers data before developing a hypothesis in light of the findings. In the abduction strategy, the investigator develops novel theories in light of already-known facts.

Figure 10 provides a summary of the possible research approaches, philosophies, and theory development techniques.

**Figure 10: Research Approaches, Philosophies and Theory Development**



### 5.2.4. Considerations For This Research Context

Pragmatism is the philosophical stance that this research chooses. The philosophy behind pragmatism is that academics should select the method that is most appropriate for their subject (Creswell, 2013). There are three pragmatic guiding concepts. First, contexts and circumstances cannot be separated from actions (Morgan, 2014). Second, events, choices, and results are all interconnected. Third, because no two people have exactly the same experiences, they cannot have

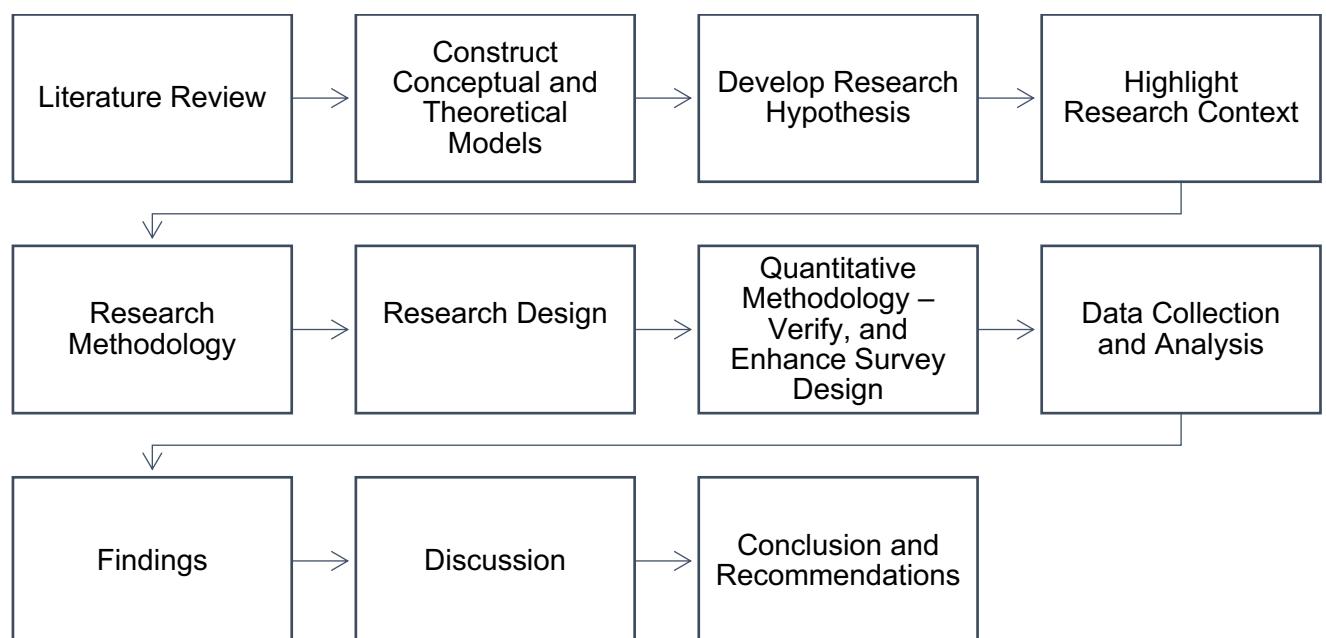
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exactly the same worldviews. Given that the research is about perception and individual differences and contextual nature of resilience development, pragmatism suits the goals of the study. It looks into how workers view their companies, managers, co-workers, psychological safety, and their fear of COVID-19. It evaluates how this view affects their work-related resilience. No two employees interpret these issues in the same way. The analysis also contains a significant amount of interpretation, particularly when it comes to national culture and the use of historical data to interpret recent findings. As a result, positivism is disregarded because it demands unbiased, uninterpreted studies. Interpretivism is ignored because it advocates for qualitative data gathering and holds that there are no right or incorrect answers. This study is based on how perception impacts work performance, and realism is rejected on the grounds that it detaches the human mind from reality. Although postmodernism is close to the goals of the research, culture does not guide the research. Thus, pragmatism is chosen due to its multifaceted nature. Epistemologically, valid data must be gathered, reflecting an objective method, for the study to successfully establish a favourable association between variables. The greatest source to test the hypothesis will be primary data that has been quantitatively collected. However, the research will also contain personal, subjective interpretations as supported by the pragmatism approach. Scholars have long held the ontological view that individual resilience (IR) is a result of personality traits. I will examine individual resilience as the dependent variable in order to understand how resilience develops beyond personality traits. By including the other factors affecting the phenomenon and investigating resilience as an outcome, the emphasis on individual resilience is changed from psychological to include social and external environments, emphasising many realities and stressing a modified ontological perspective. IR is a heavily understudied area of axiology in Egypt, particularly in times of crisis. By considering this shift in the paradigm of IR and providing the environment with empirical significance, I seek to forecast causal interactions. Given that the literature review was first examined to create hypotheses that would later be tested by data gathering, the deductive technique should be used for the current inquiry.

### 5.3. Research Design

Research design is seen as the research framework (Akhtar, 2016). It is the "Glue" which ties together each part of a research study. It demonstrates how the research is organised. The study is set up as a quantitative study because there is a significant amount of literature to develop and test hypotheses. The literature review defines the important elements that influence how variables and hypotheses relate to one another. Primary data and online questionnaires will be used to collect the research's major variables. However, published data from Hofstede will be utilised to traverse and illustrate the impact of each index on resilience in order to look into the role of national culture. The quantitative surveys are already provided and validated by previous researchers and will be used to provide the empirical evidence for the conceptual framework. The quantitative methodology will be discussed in the following section. The rationale for selecting a cross-sectional time horizon for this research is that the goal of the study is to incorporate more than three variables at once rather than understand the dynamics of a longitudinal effect on participants. While the latter is a worthy goal, it is impossible to fit both within the confines of this doctorate study. Figure 11 illustrates the research design.

**Figure 11: Research Design**



## 5.4. Quantitative approach

This section discusses the process and procedure of quantitative approach. Researchers adopt one of three scientific methods when collecting data. They can follow quantitative, qualitative, or mixed methodology approaches (Almeida et al., 2017). The choice should be selected based on what serves the research aim best (Borrego et al., 2009). In this segment, I will explore the different approaches underlining the main advantages and disadvantages of each method and the reasoning behind the selection of quantitative approach. This is followed by discussion of the sampling method and sample size. The research instruments are then presented concluding the section with the surveying procedure.

### 5.4.1. Selecting Quantitative Approach

Researchers following quantitative methods aim for objectivity, and generalisability. Therefore, they gather data systematically or extract data that can be analysed on statistical procedures (Plonsey et al., 2007). The data gathered can be generalised with right number of respondents. Researchers can choose from three common approaches. Interviews allow to correct any misunderstanding occurring from the participants (Anderson et al., 2018). However, interviews conducted from quantitative perspective are designed as close-ended leaving no room for the interviewer to probe the questions. Researchers prefer to conduct questionnaires over interviews when large amount of data is concerned. Interviews are expensive and time consuming compared to questionnaires (Anderson et al., 2018; Plonsey et al., 2007). Company records allows the researcher to access data from within the company that represents information about the organisation. These data can be presented in annual reports, income statements, or company strategies. Questionnaires' popularity comes from the high representation characteristics as well as the low-cost and time-saving qualities. Researchers have a set of pre-determined questions presented in a specific order. The main downside lies in the fact that the reliability and validity depend on the questionnaire structure.

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Qualitative approaches investigate behaviours, experiences, values, and opinions of participants by collecting non-numerical data such as language to gain a subjective understanding of participant's experience (Hollstein, 2011). There are five common approaches to select from (Hollstein, 2011). Observation is where researchers observe the scenario in its environment (Charmaz, 2006). Ethnography allows to both observe and interview participants to make sense of their observation (Charmaz, 2006). It requires having a holistic approach of the culture (Charmaz, 2006). Focus groups allows to interact with more than one participant which allows for correcting any misinterpretation that occurs (Maxwell, 2012). Fearing that interviewing employees at the same time might affect the results due to the reluctance of participants to state an opposing view in front of their colleagues (Maxwell, 2012). Case studies allow to explore specific environments with the hope of generalising the results to multiple other environments (Hollstein, 2011).

Mixed methodology combines both quantitative and qualitative techniques allowing researchers to integrate both objective and subjective analysis methods (Leech et al., 2010). Researchers following mixed methodology approach apply both quantifiable measures and subjective data collection (Ivankova & Creswell, 2009). Mixed methodology benefits from the advantage of both measures as it obtains numerical evidence and allows to include participant's opinions and thoughts (Ivankova & Creswell, 2009; Leech et al., 2010). However, the complexity of research and analysis of results are heightened in mixed methodology as it requires a lot of planning to carefully tackle all aspects of the research. Evidence must be presented as to the reasons why it is required to examine both quantitative and qualitative methods to address research question.

Qualitative methodology is disregarded for several reasons. The target number of participants (over 500) is difficult to achieve via interviews. In fact, the target number of participants is difficult to achieve under any of the qualitative techniques. Qualitative approach to collecting and analysing the data subjectively complicates the aim of generalisability and replication. Therefore, mixed methodology was also disregarded. The nature of this research requires gathering of data through questionnaires to allow generalisability and creation of causal relations between variables. Accordingly, quantitative methodology is selected for this investigation.

Quantitative methodology through online questionnaires was chosen to test the main variables of the research; IR, perceived support, Psysafe, FCOVID-19. The pragmatism approach allows the researcher to analyse data both quantitatively and subjectively fitting the aim of the research question. Questionnaires were selected for several reasons. First, their cost-effectiveness; they may be used in many ways such as mailing of questionnaires to respondents in comparison to arrangement costs of personal interviews (Anderson et al., 2018). Second, their generalisability; samples are obtained as correspondents from the whole population. The data is collected, evaluated, and perceived on behalf of the whole population (Anderson et al., 2018; Plonsey et al., 2007). Third, their reliability; the reliability of survey can be credited to the well-structured survey design and questions. The findings of the surveys are accurate, as the instruments are subject to statistical reliability and procedural consistency testing. Finally, their versatility; and their applicability to be used across different disciplines.

### **5.4.2. Population and Sample Size**

**Population.** Data for this research was gathered starting in January 2021 and lasting until March 2021. The population targeted is Egyptians working in the service sector in Cairo above the legal working age of 18 and not exceeding the retirement age of 60. The service sector, defined as an industry made up of businesses that primarily make profit from selling intangible goods and services (Arent et al., 2015), is considered one of the most important contributors to the Egyptian economy, accounting for a value of 51.76% (Breisinger et al., 2020b; N. Salem et al., 2021). Service sector examples include Technology and telecommunication, Real-estate, Education, Financial Service, aviation, media and entertainment, energy and resources, transportation and logistics, hospitality services, e-commerce, and government services. In this study, the medical sector and health care are excluded from the sample size due to the different nature of COVID-19 experience when compared to corporate workers (Haldane et al., 2021). This aligns with the focus on analysing resilience within regular corporate jobs (Fisher et al., 2019).

Due to the exhausting list of service industries, I will focus on industries that were heavily impacted by COVID-19 in terms of business model and revenue, while

providing intangible services. Three sectors fall into this category: Technology and telecommunication, Education, and Financial Services. Educational services were forced to change their business model to online teaching and technology and telecommunication companies had to accommodate the need to online teaching and business delivery by adjusting their services and offers (N. Salem et al., 2021), facing an increased usage due to individual's need for social contact alternatives. Moreover, individuals resorted to online shopping and e-commerce due to government restrictions on physical stores. Financial services played a pivotal role in keeping financial wheels turning during a crisis for the entire country and had to respond to individual's panic buying behaviours with limited working hours. Finally, Cairo was selected based on its importance as the business hub of Egypt. The population in Cairo working in the selected sectors share the same socio-economic and cultural background. I would encounter generalisability issues if the research moved away from the capital city.

The sample for the study was accessed through a combination of social media platforms and personal connections utilising a snowball sampling technique (Datta, 2018). Initially, individuals who had previous experience working in the financial industry, education industry, and telecommunication and technology sectors were identified. Through personal connections, these individuals were asked to participate in the study and were provided with information about the research. Additionally, social media platforms were utilised to reach a wider audience within these sectors. Participants were further asked to share the survey among their connections. Participants were contacted via email, where they received a participant information sheet detailing the purpose and procedures of the study, along with frequently asked questions. The email also included a consent form for participants to provide their informed consent. Finally, participants were directed to an online questionnaire through a provided link to complete the study's survey. This approach ensured a diverse representation of participants from the targeted sectors and ensured their voluntary participation while maintaining the necessary ethical considerations.

**Sample Size.** When determining the sample size, researchers must put into consideration two factors: the margin of error and the level of confidence (Desu, 2012). The margin of error refers to the percentage of risk the investigator is willing

to accept. In other words, it indicates the level of error received from participants in surveying. In social sciences, the acceptable level is at 5%. The level of confidence refers to the degree to which the diverse degree of characteristics has been accurately presented in the research. In social sciences, the acceptable level is at 95%. Egypt's population reached 101,000,000 early in 2020 with Cairo population reaching roughly 10,000,000 (World Meters, 2023). As of 2020, 48.55% of Egyptian population works in service sector (Saifaddin, 2021). With a 5% margin of error and a 95% confidence level, 400 survey are an acceptable number for validity and generalisability nonetheless I aim to collect about 600 surveys.

### 5.4.3. Sampling Method

The impracticality of investigating an entire population is known in the world of research. Scientific research resorted to sampling as a method that permits researcher to generalise results without having to investigate every member of community (Alvi, 2016; Taherdoost, 2016). The sampling methods are divided into two main themes: probability and non-probability sampling. The selection of the sampling methods depends on the research questions (Bhardwaj, 2019; Datta, 2018).

**Figure 12: Sampling Techniques**

Probability Sampling	Non-Probability Sampling
<ul style="list-style-type: none"><li>•Simple Random Sampling</li><li>•Systematic Sampling</li><li>•Stratified Sampling</li><li>•Clustured Sampling</li><li>•Multi-Stage Random Sampling</li></ul>	<ul style="list-style-type: none"><li>•Convenience Sampling</li><li>•Quota Sampling</li><li>•Judgment Sampling</li><li>•Snowball Sampling</li></ul>

**Probability Sampling.** With probability sampling, every individual has an equal chance of participating in the research (Taherdoost, 2016). A general advantage to using probability sampling technique is reducing selection bias and allowing ease calculations of sampling errors. There are five types of probability sampling. Simple

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Random is where participants are selected randomly with no previous selection based on characteristics and it is the most straight-forward method (Bhardwaj, 2019). However, researchers will have to overcome the challenges of not having all characteristics required represented. Systematic Sampling allows systematic selection of participants at given intervals (Datta, 2018). The investigator would select every 5th participant from the population. Stratified Sampling allows researchers to categorise population into several sub-categories who share similar interests and characteristics (Alvi, 2016). This method is used when characteristics of participants will vary and largely affect the results. Clustered Sampling is an advanced level of stratified sampling where the sub-categories are treated as clusters. The technique is usually selected by researcher examining large geographical areas. Multi-Stage Random Sampling allows researchers to use a combination of probability sampling techniques (Datta, 2018).

**Non-probability Sampling.** Non-probability sampling means that the investigator will previously select participants (Taherdoost, 2016). Volunteer bias is a general disadvantage to non-probability technique, as researchers might select the population that will serve their study. The selected population may not be the most accurate representation for the population which will lead to issues with generalisation. Convenience Sampling is selecting participants in the study based on their willingness to be included and their availability (Alvi, 2016). Quota Sampling which is usually used by market researchers where interviewers are given a quota of population; for example, 10 women and 10 men. Judgment Sampling is when the investigator personally selects the participants based on the needs of the research which results in inconsistency. Snowball Sampling is beneficial when the population is hard to reach. The investigator asks individuals who already participated to recommend other participants with the same characteristics, creating a snowball effect.

In this study, a mixed approach of stratified sampling and snowball sampling was utilised to select and reach the working population in Egypt, specifically focusing on three industries: Technology and Telecommunication, Education, and Financial Services. First, a stratified sampling technique was employed to subcategorise the working population based on their sector and governorate. This involved dividing the

population into distinct strata based on the three target industries and their respective geographic locations. The selection of participants from each stratum was then done proportionally to ensure representation from different sectors and governorates. Initially, the study was conducted in Cairo, which served as the primary focus area due to its prominence and concentration of these industries. Within Cairo, individuals working in Technology and Telecommunication, Education, and Financial Services sectors were identified using available databases, professional networks, and employment directories.

To complement the stratified sampling, a snowball sampling method was employed to reach a wider pool of participants. Initially, I reached out to family and friends asking for referrals to professional contacts working in the selected services industries in Cairo. These contacts were approached via email and once they agreed to participate, were asked to refer other potential participants from their professional networks who fit the study criteria. This process continued iteratively, creating a snowball effect, and expanding the sample size. Through this combined approach, the study aimed to capture a diverse range of participants from different sectors and governorates, ensuring representation and a comprehensive understanding of the impact of COVID-19 on the selected industries in Egypt. It allowed for both a systematic sampling approach based on strata and the inclusion of participants through personal connections and referrals, leveraging the participants' networks to reach individuals who might not have been captured through traditional sampling methods.

### **5.4.4. Selected Questionnaires**

**Individual Resilience.** For measuring individual resilience, I used the Brief Resilience Scale developed by Smith (Smith et al., 2008) . The scale contains 8 items where respondents rate their level of agreement on a 7-pointer scale structure to questions like “I tend to bounce back quickly after times” and “I have a hard time making it through difficult events”. The scoring technique for the brief resilience scale goes by adding the responses varying from 1-7 for all six items and then dividing the total sum by the total number of questions answered. Individuals are then later grouped into either; 1.00 – 4.19 signalling low resilience, 4.20 – 6.02 signalling

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normal resilience or 6.03-7.00 signalling high resilience. This measure is included in Appendix 1.

**Perceived Organisational Support.** One of the most prominent unidimensional scales developed to measure POS was created by Eisenberger (Eisenberger et al., 1986). It is considered the most reliable tool to measure POS and still used by many researchers (Caesens & Stinglhamber, 2020). The authors developed a 36-item unidimensional, 7-pointer scale structure questionnaire to measure POS (Rhoades & Eisenberger, 2002). Following the positive responses from researchers and critics, they updated the original 36-item questionnaire and reduced it to an 8-items survey which is equally reliable, unproblematic, and provided the same results. This reduction was to reduce the possibility of respondents to lose focus and interest when completing the survey (Caesens & Stinglhamber, 2020). I will use the 8-item survey for this research. The 8-item Scale is available in Appendix 1.

**Perceived Supervisor Support.** Employees reported on their supervisory support perception using the model created by Kotiske & Sharafinski (Kotiske & Sharafinski, 1988). The Scale contains questions that ranges from “My supervisor values my contribution to the well-being of the department” to “My supervisor appreciates extra effort from me”. The 16 Items were developed using a 7-pointer Likert scale structure. The reliability analysis resulted in a .98 coefficient alpha with range of item-total correlation from .58 to .92. The median item total correlation .85 and A-test ( $t=6.58$ ,  $P<0.001$ ). The median factor is .87. The factor analysis resulted in a 74.1% of the variance for PSS. This measure is included in Appendix 1.

**Perceived Co-worker Support.** Employees report on their co-workers' supportive behaviour using the 14 highest loading items from Interpersonal Citizenship Behaviour (ICB) scale created by Settoon and Mossholder (Settoon & Mossholder, 2002). The ICB scale measures the extent to which employees participate in voluntary, cooperative efforts toward their peers. The ICB scale's activities typically include giving colleagues with technical tools to help them do their tasks better (e.g., “This employee helps co-workers who are running behind in their work activities”) and providing socioemotional assistance that improves their mental health (e.g., “This employee listens to co-workers when they have to get something

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off their chest"). The objective was modified from "co-workers" to "myself" when employees commented on their co-workers' supportive treatment of them (e.g., "My co-workers help me when I'm running behind in my work activities"). Participants responded on a 7- point Likert-scale from 1, "strongly disagree" to 7, "strongly agree." This measure is included in Appendix 1.

**Psychological Safety.** Psychological safety was measured by the 7- item scale created by Edmondson (A. Edmondson, 1999). The questions are measured on a 7-point Likert-scale from 1, "strongly disagree" to 7, "strongly agree." They are like "if you make a mistake on this team, it will be held against you" and "it is safe to take risks on this team". The Cronbach alpha for this tool is .82. This measure is included in Appendix 1.

**Fear of COVID-19.** Elemo and his colleagues developed a scale to measure the Fear of Covid-19 among the general population in March 2020 (Elemo et al., 2020). The Fear of COVID-19 Scale (FCV-19S) was initially created for the general Iranian community to assess their emotional response to COVID-19, was later made available in an English translation. This scale has since been confirmed in other languages after being translated to Portuguese (Cavalheiro & Sticca, 2022; Giordani et al., 2021), Arabic (Alyami et al., 2021), English (Winter et al., 2020), Japanese (Masuyama et al., 2022), French (Mailliez et al., 2022), Italian (Soraci et al., 2022) , Turkish (Haktanir et al., 2020; Satici et al., 2021), Spanish (Huarcaya-Victoria et al., 2022), among other languages. Several studies with the FCV-19S have been published and it is widely considered the most reliable and valid scale to assess fear of COVID-19. All the 78 articles used in this systematic review utilised the FCV-19S in different languages. Participants indicate whether they agree or disagree on a 7-item Likert- type scale. Questions include a range of "I am most afraid of coronavirus-19" and "It makes me uncomfortable to think about coronavirus-19". Seven items with acceptable corrected item-total correlation (0.47 to 0.56) were retained and further confirmed by significant and strong factor loadings (0.66 to 0.74). Also, other properties evaluated using both classical test theory and Rasch model were satisfactory on the seven- item scale. More specifically, reliability values such as internal consistency ( $\alpha = .82$ ) and test-retest reliability ( $ICC = .72$ ) were acceptable. Concurrent validity was supported by the Hospital Anxiety and

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Depression Scale (with depression,  $r = 0.425$  and anxiety,  $r = 0.511$ ) and the Perceived Vulnerability to Disease Scale (with perceived infectability,  $r = 0.483$  and germ aversion,  $r = 0.459$ ). The minimum score possible for each question is 1, and the maximum is 7. A total score is calculated by adding up each item score. The higher the score, the greater the fear of coronavirus-19. This measure is included in Appendix 1.

**Control Variables.** Control variables are factors or aspects that researchers attempt to keep constant throughout their research in order to not impact the results. Control factors improve a study's internal validity by reducing the effect of confounding and other extraneous variables (Schjoedt & Bird, 2014). This aids in the establishment of a correlational or causal link between variables of interest and aids in the avoidance of research bias. The control variables chosen for this research are gender, age, education, salary, sector, years of experience and department. Department was specifically added to test the theory that certain jobs that face higher risks such as medical teams are more oriented to achieving resilience than others (Herrman et al., 2011). The remaining control variables such as age, gender, salary, years of experience were added to test different cultural responses to resilience. Other variables such as sector and education were never tested before. . I divided the population by generation to make assumptions about the generation trends. The generations are Gen Z (18-22 years old), Millennials (23-38 years old), Gen X (39-54 years old), and Boomers (55-60 years old) (Dimock, 2019).

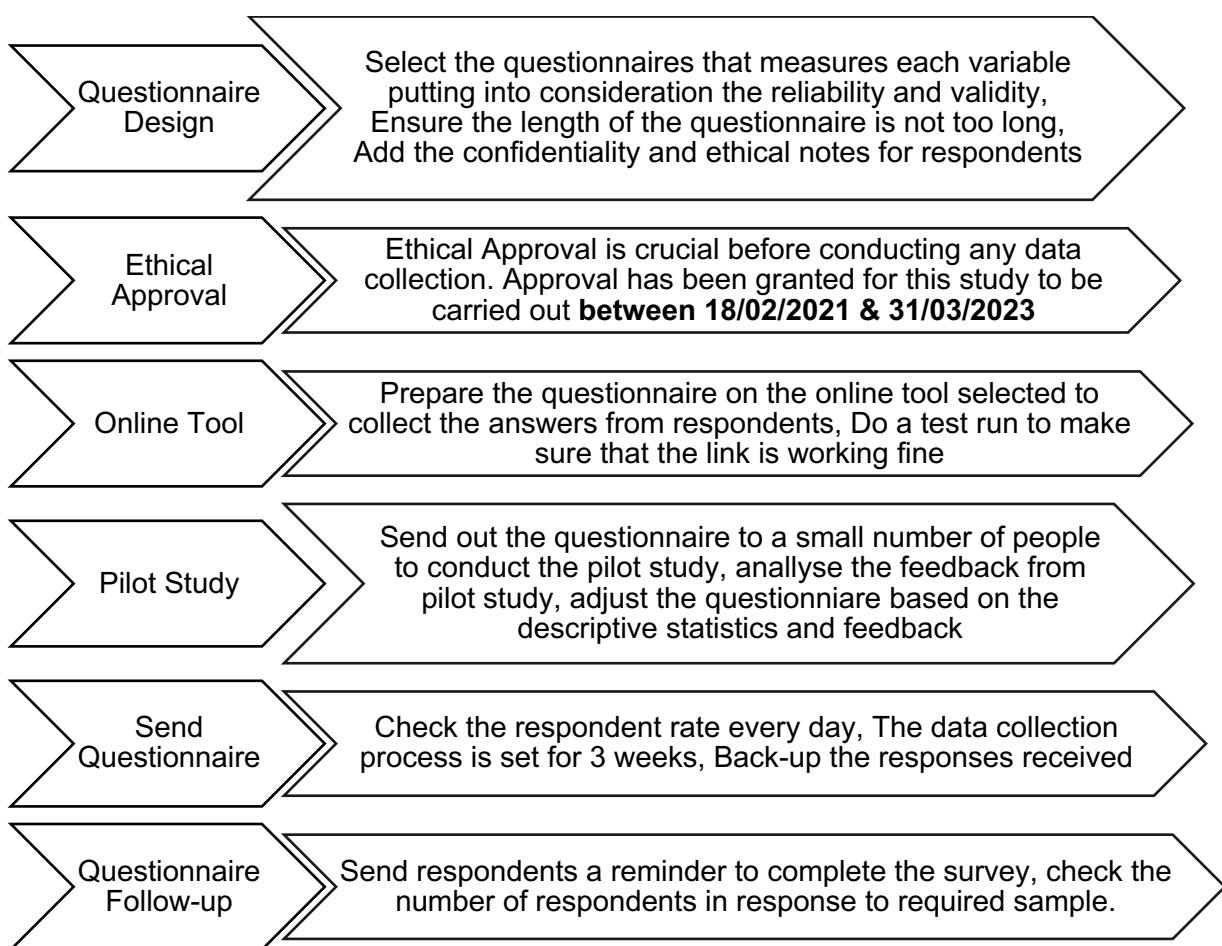
**Likert Scale.** Since the introduction of the Likert scale in 1932, researchers have debated the optimum potential usefulness in terms of reliability and validity of the scale's number of points and whether it is more efficient to use 5-likert or 7-likert scale (Joshi et al., 2015). In his initial study, Likert examined the unlimited number of defined attitudes that exist in a particular individual, as well as the potential of organising them into "clusters" of answers (Likert, 1932). The fundamental assumptions of his survey are that the items on the scale are presented in such a way that participants may pick clearly opposed alternatives. As a result, it is considered in the context of attitude clustering that the 7-point scale may perform better than the 5-point scale when it comes to the dependability of replies from the survey participants (Joshi et al., 2015; Likert, 1932). The 7-point scale gives more

possibilities, which increases the likelihood of reaching people's objective reality as a 7-point scale conveys more information and it effectively appeals to the power of participants 'power of reason'. In addition, the issue of having to choose between two unfavourable points on a 5-point scale may be resolved by extension to a 7-point scale that provides additional options in between. The rationale of choosing a 7-point scale for the questionnaires lies in the essence of the research. The complexity of human nature and wide range of emotions and perceptions cannot be simply expressed in a simple notion of Strongly agree and disagree. A wide range of emotions and perceptions should accordingly be presented to participants to effectively express their feelings.

### ***5.4.5. Survey Procedure***

Obtaining a significant number of respondents to consider the survey result valid has always been challenging (Malterud, 2001). Prior to the COVID-19 pandemic, the challenges has been the complicated forms that may result in non-response or respondents typing in answers at random just to finish the survey due to a lack of understanding the context, the length of the questionnaire or questions and confusing and misleading wording of questions. The COVID-19 period in Egypt, with closed boarders and government-imposed lockdown mandates, added logistical, mental and psychological challenges. Respondents were working-from-home and had added responsibilities, leaving limited time to finish tasks beyond family and work obligations. These challenges were overcome by using a snowball sampling method, initially reaching out to personal networks for referrals and requesting those recruits for further referrals. Other measures included ensuring the survey's length was not too long, making it easily accessible online, and sending out email invitations and reminders to potential participants. Figure 13 provides an overview of the steps taken to collect the surveys.

**Figure 13: Survey Procedure**



## 5.5. Data Analysis Procedures

In this section, the methodology procedure chosen to analyse the data is presented. Various statistical techniques are used in this research to accommodate the research aims and are described below.

### 5.5.1. Descriptive Statistics Analysis

Descriptive statistics can be useful for two main objectives. First, to provide basic data on variables in a dataset and second, to highlight possible connections between variables (Marshall & Jonker, 2010). The means, the range, the standard deviation, maximum scores, the mean, and variance of the survey data offer a good sense of

the response to the survey items and how effective the measurements are. It can be achieved using SPSS and allows to analyse the relationship between the variables.

### **5.5.2. Factor Analysis**

Factor analysis is a statistical technique used to identify underlying dimensions or factors that explain the variation in observed variables. By revealing commonalities among seemingly unrelated variables, factor analysis can help to simplify the complex relationships between variables and offer insight into the underlying structure of the data (Yong & Pearce, 2013). In this study, factor analysis was applied to identify and eliminate variables that were not meaningful or relevant to the research objectives.

### **5.5.3. Correlation Analysis**

The study of correlations is a widely used approach that discovers intriguing data links (Kumar & Chong, 2018). These connections enable us to understand the significance of the qualities in relation to the anticipated target class. Correlation coefficients are used to quantify the connection strength of the two variables. Pearson is the most often utilised correlation in statistics as it assesses the strength and direction of a two-variable linear connection. It ranges from -1 to +1, where -1 represents a perfect negative correlation, 0 represents no correlation, and +1 represents a perfect positive correlation.

### **5.5.4. Reliability and Validity Tests**

Reliability and validity are theories used to assess the quality of research. They specify how well a method, technique, or test measure a variable (Amirrudin et al., 2020). Reliability is about the consistency of a measure, and validity is about the accuracy of a measure. Reliability means how a method measure something consistently. Where the same results can be achieved consistently with the same methods, measurement is considered reliable in the same circumstances. Validity is essential as it decides what questions to include in the survey and helps to guarantee that researchers select questions that really measure key issues. The

validity of a survey is seen as measuring what it purports to measure. Reliability is measured using Cronbach's alpha while validity is measured using convergent and discriminant validity. Table 16 shows acceptable Cronbach's alpha. In summary, the closer the measure is to 1, the more acceptable it is. Convergent and discriminant validity are both considered subcategories of construct validity.

**Table 16: Cronbach's alpha**

Cronbach's alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

### **5.5.5. Regression Analysis**

Regression analysis is a statistical technique used to investigate the relationship between a dependent variable and one or more independent variables. It allows researchers to identify which independent variables have a significant impact on the dependent variable and how they are related (Q. Yang, 2017). Regression analysis results are often presented as coefficients, with a p-value indicating the significance of the relationship. In SPSS output, regression analysis is denoted as "P." A p-value of 0.05 or less is typically considered statistically significant.

### **5.5.6. Moderation and Mediation Analysis**

Moderation occurs when the connection between two variables is influenced in degree of strength by the presence of a third variable (Musairah, 2015). An interaction is a statistical term for the influence of a moderating variable (Musairah, 2015). The moderator affects the degree of the strength of the independent variable on the dependent variable (Musairah, 2015). According to the mediation model, the independent variable produces the mediator variable, which in turn causes the dependent variable (Musairah, 2015). The difference between moderation and

mediation lies in how they interact with the variables. A moderator variable affects the strength and direction of the association between independent and dependent variables, whereas a mediator variable explains how and why the relationship between the two variables occurs (Musairah, 2015).

### **5.5.7. Data Analysis tool**

There is no doubt that technology has become increasingly important in business, education and all sectors related to social sciences. This reliance has grown to the point where it is no longer feasible to comprehend social science studies without a solid understand of statistics and at least a basic comprehension of statistical software (Rahman & Muktadir, 2021). I utilise SPSS (Statistical Package for the Social Sciences) for the quantitative analysis section of the research while integrating Hayes' PROCESS macro for SPSS for the moderation and mediation analysis (Hayes, 2012).

## **5.6. Ethical Consideration**

Brunel University follows a carefully structured and detailed ethical approval process that permits researchers to participate in the data collection process. This lengthy process is there to ensure safety for both the reader and participants. I consider the difference between anonymity and confidentiality. While confidentiality ensures that the data is kept confidential with the identity of the participant known to readers, anonymity ensures that the identity of the participants are kept unknown (Fleming & Zegwaard, 2018). This research ensures anonymity that goes beyond hiding names. It ensures that no self-inflecting questions or statements that would require participants to reveal data that identifies their persona are included. The only personal data collected are recorded in the questionnaire regarding age, gender, and salary information. Questionnaire design also needs to consider all the possible harm that might be inflicted on respondents because of participating in the research (Fleming & Zegwaard, 2018). This research does not pose any harm on participants whether physical or emotional as it only requires them to participate in completing the online survey. The only possible physical harm that might be inflicted would be minor back pain because of completing the survey online and this ranges in its

impact depending on the participant. I aim to address participants using JISC platform that allows to collect data via an online platform. In line with the guidelines presented from Brunel University to protect participants, I will present two documents to respondents before completing the survey. The first is the Online Consent Form which ensures that the participant agrees to participate anonymously, is over 18, and that no retractions are possible once the answers are submitted. The second is the Participant Information Sheet which is a document with a list of frequently asked questions and answers that participants ask. Both documents are available under Appendix 2.

In conducting the research, several ethical considerations were considered to ensure the well-being and rights of the participants. One crucial aspect was acknowledging the potential impact of COVID-19 on participant stress levels. Given the nature of the study, which aimed to examine the impact of COVID-19 on the financial industry, education industry, and telecommunication and technology sectors, it was important to be mindful of the potential sensitivity of the topic. The participants may have experienced personal or professional challenges during the pandemic, such as job losses, financial difficulties, or health concerns. To address this concern, the participant information sheet included a section highlighting the potential emotional and psychological impact of discussing their experiences related to COVID-19. It emphasised that participation was voluntary and that individuals could withdraw at any time if they felt uncomfortable or distressed. Additionally, participants were assured of the confidentiality and anonymity of their responses, with data being reported in an aggregated and de-identified manner to ensure privacy. Furthermore, the questionnaire itself was designed to be sensitive and respectful in its questioning. The survey also provided an option for participants to skip any questions they did not feel comfortable answering. Prior to participation, participants were required to provide informed consent by signing the consent form. The form clearly outlined the purpose of the research, the voluntary nature of participation, the confidentiality of data, and contact information for any questions or concerns. Overall, these ethical considerations aimed to prioritise the well-being and autonomy of the participants. By addressing the potential impact of COVID-19 on participant stress levels and implementing measures to protect their privacy and

emotional well-being, the research aimed to ensure a comprehensive understanding of the outcomes while respecting the rights and experiences of the participants.

### **5.7. Summary**

Following the pragmatism approach as the philosophical stance allows me to select the method that is most appropriate for this research context. Objectively, I will follow the quantitative methodology using online surveys to analyse all research variables using online data surveys. These questionnaires are already provided and validated by previous researchers and will be used to provide the empirical evidence for the conceptual framework. To analyse the impact of national culture on resilience development, published data from Hofstede will be utilised to traverse and illustrate the impact of each index on resilience allowing for a subjective interpretation and cross-cultural comparison with previous studies. Data for this research was gathered for this study starting in January 2021 and lasting until March 2021. The population targeted is Egyptians working in the service sector in Cairo above the legal working age of 18 and not exceeding the retirement age of 60. Given that the literature review was first examined to create hypotheses that would later be tested by data gathering, the deductive technique should be used for the current inquiry. The rationale for selecting a cross-sectional time horizon for this research is that the goal of the study is to incorporate more than three variables at once rather than understand the dynamics of a longitudinal effect on participants. Various statistical techniques are used in this research to accommodate the research aims. The data will be analysed using SPSS or Statistical Package for the Social Sciences.

## 6. Chapter Six: Quantitative Data Analysis and Findings

This chapter presents the findings from the quantitative data research. The quantitative area in this investigation involved collecting data through web-based online surveys. This chapter is organised as follows: Section 6.1 discusses the data sample and collection results. Section 6.2 analyses the data distribution and frequency. Section 6.3 presents the quantitative data analysis highlighting factor analysis, correlation analysis, reliability and validity tests, regression and multiple regression analysis, and model test. Section 6.4 summarises this chapter. The implication of the results drawn from these findings are discussed in Chapter 7.

### 6.1. Sample and Data Collection

I selected the data sample from Egyptian employees working in the service sector in Cairo across technology and telecommunications, education, and financial services. For this investigation, data was obtained from January 2021 to March 2021. I distributed the questionnaires online through email to participants. There were not preselected standards for participants except the industry. The study did not request any personal information from participants in order to retain their anonymity. Out of 1000 surveys sent, 600 were returned, yielding a response rate of 60%. Given that the survey was conducted online during the COVID-19 pandemic and was somewhat lengthy, this was a decent response rate. The respondent's demographic details are presented in Table 17. There were no missing data as the questionnaire did not allow participants to proceed to the next page with missing information. I divided the population by generation to make assumptions about the generation trends. The generations are Gen Z (18-22 years old), Millennials (23-38 years old), Gen X (39-54 years old), and Boomers (55-60 years old) (Dimock, 2019). Participants' ages were restricted in accordance with the minimum and maximum child labour laws and retirement ages in Egypt respectively (Shehata & Elnagar, 2023). From table 17, I deduced that the majority of respondents (65.7%) represent millennials. (36.8%) of the respondents obtained master's degree and (57%) completed the bachelor's degree and only (6.2%) completed the doctorate degree. I linked the educational qualification to the industry and concluded that respondents who completed higher education (master's or doctorate) work in the education

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sector. This made sense because postgraduate studies are a prerequisite to promotion in the education sector.

**Table 17: Demographic Characteristics of the Research Sample**

	Result (Frequency)	Result (Percentage)
<b>Age (Generation)</b>		
55-60 years old - Boomers	22	3.7
39-54 years old – Gen X	64	10.7
23-38 years old - Millennials	394	65.7
18-22 years old - Gen Z	120	20
<b>Gender</b>		
Male	276	46
Female	324	54
<b>Sector</b>		
Technology,		
Telecommunications	201	33.5
Education	198	33
Financial Services	201	33.5
<b>Highest Degree of Education</b>		
Bachelor's degree	342	57
Master's degree	221	36.8
Doctorate	37	6.2
<b>Current Salary Range</b>		
Less than 3000 EGP	15	2.5
Between 3000 and 5900 EGP	23	3.8
Between 6000 and 8900 EGP	102	17
Between 9000 and 14,900 EGP	182	30.3
Between 15,000 and 20,900 EGP	92	15.3
Between 21,000 and 40,000 EGP	121	20.2
Above 40,000 EGP	65	10.8
<b>Years of Experience</b>		
1-3 years	183	30.5
4-6 years	187	31.2
7-10 years	150	25
10-14 years	34	5.7
15 years or more	46	7.7
<b>Department</b>		
Sales	50	8.3
Business development	45	7.5
Customer Service	32	5.3
Marketing	42	7
HR	43	7.2
Education	198	33
Finance	100	16.7
Operations/Project Management	90	15

The average salary range and years of experience all aligned with the average expected brackets of generations respondents. The respondents are divided equally

across the three sectors (33.5%) representing the technology and financial sectors and (33%) representing the education sector. The female respondents (54%) are slightly larger than the male respondents (46%). The respondents included respondents from different departments to analyse resilience rate among them. They included departments that faces significant changes and risks such as sales and customer service and more static office work such as finance and HR.

### 6.2. Frequency Analysis

This section presents the frequency analysis per variable according to the population in the study. Table 18 represents the correlation across all variables and control variables. Based on the results, I conducted the following frequency analysis.

The theoretical justification for examining age, gender, education, salary, sector, years of experience, and department in detail in the frequency tables stems from their significance in shaping individuals' experiences within the workplace. These demographic variables are crucial components of employees' identities and socio-economic backgrounds, which may influence their perceptions of support and levels of resilience. By thoroughly analysing these variables in the frequency tables, I can gain a comprehensive understanding of the sample's composition, uncover potential patterns, and identify any group differences that might exist. This knowledge is essential for contextualising the subsequent analyses and interpreting the relationships between different variables and individual resilience within different demographic subgroups. As I explain in section 6.3.6, the decision to present three separate models instead of a single model, and the choice to exclude demographics from the models, was made to maintain the focus on the main research questions and to avoid potential confounding effects. However, despite not being included in the final models, the detailed analysis of control variables in frequency tables serves as a valuable step in uncovering any underlying demographic influences that could provide nuanced insights into the dynamics of perceived support and individual resilience within the diverse workforce. This approach allows for a more comprehensive examination of how demographic factors might intersect with the main variables, enriching the contextual understanding of the study's outcomes and potentially informing targeted interventions or organisational strategies to enhance

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support and resilience across different employee groups as they are based on the correlation between control variables and different independent variables.

**Table 18: Correlation Across all Control Factors and Variables**

			POS	PSS	PCS	IR	Psysafe	Fear of COVID-19
	M.	SD.						
1. Gender	1.54	.499	-.016	-.096*	.116**	-.211**	.031	.402**
2. Age	3.02	.674	-.079	-.149**	-.188**	-.094*	.051	.125**
3. Education	2.55	.786	-.166**	.012	.014	-.002	-.256**	.219**
4. Salary	4.56	1.47	.214**	.194**	-.035	.183**	-.096*	-.222**
5. Sector	2.00	.819	-.059	.021	-.202**	-.017	-.044	0.06
6. Years of Experience	2.29	1.179	-.024	.093*	.204**	.127**	-.228**	.123**
7. Department	5.38	2.12	-.181**	-.204**	-.207**	-.254**	-.156**	.206**

Notes. \*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

Highlights from the correlation analysis across all control variables revealed the following: Sector only correlated with perceived co-worker support indicating that the individually, the interpersonal relationships between co-workers at the workplace mostly affects the type of business or sector. Gender and Age do not correlate with either perceived organisational support or psychological safety indicating that people are either affected by variables where strong interpersonal relationships exists between them such as PCS and PSS and that people are also affected by variables that impact them directly and work outputs such as fear and resilience. Psychological safety is more related to the work environment and is created by several actors within the framework of the organisation. Moreover, organisation leaders rarely interact with individual workers. Finally, department is the only control factor that had positive correlation with all variables.

### 6.2.1. Individual Resilience

As referred to in the research methodology, participants responding to the individual resilience (IR) scale are grouped into either; 1.00 – 4.19 signalling low

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resilience, 4.20 – 6.02 signalling normal resilience or 6.03-7.00 signalling high resilience. The scoring technique for the resilience scale is calculated by adding the responses varying from 1-7 for all six items and then dividing the total sum by the total number of questions answered (See Table 19). According to the results, the population is skewed towards normal and high resilience with only (12.5%) indicating low resilience. It was evident from (Table 18), that all variables correlated with resilience except the participant's sector and education degree. This indicated an interesting finding that neither participant's level of education nor the industry they work in have a direct impact on resilience.

**Table 19: Individual Resilience Frequency Across Population**

	<b>Low Resilience</b>	<b>Normal Resilience</b>	<b>High Resilience</b>
Frequency	75	300	225
Percentage	12.5%	50%	37.5%
Total		600 Respondents	

I then looked at the IR across the population (see table 20). The analysis showed that across gender, the high resilience population was more visible in males (N=130) than females (N=95). In the normal resilience population, the female population (N=176) were visibly higher than male population (N=124). This indicated that males were more prone to achieve high resilience than females in this population. The analysis indicated that across age groups, Millennials showed the highest resilience score and the highest normal resilience score. While the salary range correlated with the resilience score, I could not indicate any pattern in the data. The resilience scores did not increase as the salary range increase or decrease as the salary range decrease. The results did not indicate an extreme resilience frequency range in any of the salary brackets. The years of experience frequencies indicated that with the normal resilience scores, the resilience scores gradually decreased as individuals gained more experience. The high resilience scores indicated that the first 10 years of experience showed the maximum resilience value and gradually decreased afterwards. This analysis indicated an interesting finding that younger employees are more likely to be resilient than older population with more experience. Finally, literature indicated that sales, business development and customer service departments are likely to be more resilient than other departments due to the nature of their jobs (Windle, 2011). While these three departments in fact showed no low

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resilience scores among their population, they were not the highest frequencies in normal and high resilience scores. In fact, the education sector showed the highest frequency in normal and high resilience scores. The education sector was one of the most impacted during COVID-19 pandemic due to the fact that universities had to change their business model from face-to-face to hybrid or online teaching. This required employees to learn more skills and gain more knowledge to the art of online teaching. Looking at the population, it is evident that the respondents are more skewed towards the younger generations. Seeing that it is clear from the data that the younger population are more ready to achieving resilience than the older population, it is evident that generation Z and Millennials were quick to respond to the technological need of the sector. It also indicates that there are more variables that determine why certain employees are resilient other than the nature of the job.

**Table 20: Individual Resilience Frequency Across Correlated Control Variables**

	Low Resilience	Normal Resilience	High Resilience
<b>Gender</b>			
Male <b>N=276</b>	22	124	130
Female <b>N=324</b>	53	176	95
<b>Age</b>			
55-60 years old – Boomers <b>N=22</b>	0	0	22
39-54 years old – Gen X <b>N=64</b>	4	35	25
23-38 years old - Millennials <b>N=394</b>	65	209	120
18-22 years old - Gen Z <b>N=18</b>	6	56	58
<b>Salary Range</b>			
Less than 3000 EGP <b>N=15</b>	0	0	15
Between 3000 and 5900 EGP <b>N=23</b>	0	12	11
Between 6000 and 8900 EGP <b>N=102</b>	24	66	6
Between 9000 and 14,900 EGP <b>N=182</b>	18	94	70
Between 15,000 and 20,900 EGP <b>N=92</b>	6	69	17
Between 21,000 and 40,000 EGP	27	49	45
<b>N=121</b>			
Above 40,000 EGP <b>N=65</b>	0	10	55
<b>Years of Experience</b>			
1-3 years <b>N=183</b>	18	110	55
4-6 years <b>N=187</b>	26	90	71
7-10 years <b>N=150</b>	19	80	51
10-14 years <b>N=34</b>	10	12	12
15 years or more <b>N=46</b>	2	8	36
<b>Department</b>			
Sales <b>N= 50</b>	0	29	21
Business development <b>N= 45</b>	0	25	20
Customer Service <b>N= 32</b>	0	18	14
Marketing <b>N= 42</b>	6	11	15
HR <b>N= 43</b>	2	26	15

<b>Education N= 198</b>	30	112	56
<b>Finance N= 100</b>	22	70	8
<b>Operations/Project Management N= 90</b>	15	28	47
<b>Total Number of Respondents</b>		<b>600</b>	

### **6.2.2. Fear of COVID-19**

A total score for fear of COVID-19 is calculated by adding up each item score.

The higher the score, the greater the fear of COVID-19. I calculated the average of respondents as 23.4. The criteria to determine whether the respondents feared COVID-19 pandemic was the average. Scores below 23.4 indicated low fear of COVID-19 and scores above 23.4 indicated high fear of COVID-19 (see table 21). The population indicated a general low fear of COVID-19 (53.5%). However, a large percentage of the population still scored high on fear of COVID-19 (46.5%).

**Table 21: Fear of COVID-19 Frequency Across Population**

	<b>Low Fear</b>	<b>High Fear</b>
Number of Respondents	321	279
Percentage of Respondents	53.5%	46.5%
<b>Total Number of Respondents</b>	<b>600</b>	

These findings prompted further analysis to the frequency of fear of COVID-19 across age, gender, and sector (see Table 22). Across the population sample, it was evident that females were more fearful of COVID-19 than males. Millennials showed the highest rate of fear of COVID-19 followed by Gen Z. However, Millennials were also the lowest rate of fear of COVID-19. In fact, when comparing both frequencies, millennials were generally low in fear (N=219) than high in fear (N=175) of COVID-19. However, that could be attributed to the fact that millennials were generally the highest respondents to this investigation. The salary range showed an interesting nominal distribution in the level of fear. Employees fearing COVID-19 gradually increased until the salary bracket of 13,900 EGP, then gradually decreased. Similar to the salary range, the level of fear in comparison to the years of experience also showed nominal distribution. The Education department showed the highest level of fear. I explain this phenomenon through how much each sector was impacted by COVID-19 pandemic. Between the financial, technology and telecommunication and education sector, the education sector showed the most change in business model,

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changing the education system from face-to-face to hybrid. That, in addition to the number of students educators deal with, explains the rise in fear. Finally, with regards to educational degree, participants with bachelor's as their maximum education degree showed the highest fear of COVID-19, followed by master's and PhD.

**Table 22: Fear of COVID-19 Frequency Across Correlated Control Variables**

	Low Fear	High Fear
<b>Male N=276</b>	195	81
<b>Female N=324</b>	126	198
<b>Age</b>		
55-60 years old – Boomers N=22	22	0
39-54 years old – Gen X N=64	42	22
23-38 years old - Millennials N=394	219	175
18-22 years old - Gen Z N=18	30	90
<b>Salary Range</b>		
Less than 3000 EGP N=15	5	10
Between 3000 and 5900 EGP N=23	17	6
Between 6000 and 8900 EGP N=102	33	69
Between 9000 and 14,900 EGP N=182	81	101
Between 15,000 and 20,900 EGP N=92	41	51
Between 21,000 and 40,000 EGP N=121	91	30
Above 40,000 EGP N=65	53	12
<b>Years of Experience</b>		
1-3 years N=183	124	60
4-6 years N=187	88	99
7-10 years N=150	65	85
10-14 years N=34	16	18
15 years or more N=46	28	18
<b>Department</b>		
Sales N= 50	44	6
Business development N= 45	33	12
Customer Service N= 32	17	15
Marketing N= 42	20	22
HR N= 43	33	10
Education N= 198	75	123
Finance N= 100	49	51
Operations/Project Management N= 90	50	40
<b>Education</b>		
Bachelor's degree N= 342	207	135
Master's degree N= 221	93	128
Doctorate N= 37	21	16
<b>Total Number of Respondents</b>	600 respondents	

The following variables were developed using a 7-pointer scale structure. The goal was to make the scale results easier to understand. To achieve this, I developed the following criteria to analyse the results: Likert scales of 1,2 and 3 indicated low level, Likert scale 5,6,7 indicated high level and Likert scale 4 indicated neutrality.

### **6.2.3. Perceived Organisational Support**

The data presented in (Table 23) generally revealed a high percentage of perceived organisational support. This indicated that despite the pandemic, the employees of the three sectors generally viewed the actions received from the respective organisations as supportive. There was still a 28% of the population with low perceived organisational support, this prompted continuous analysis with the multiple regression analysis across age, gender, and sector (see Table 24).

**Table 23:** POS Frequency Across Population

	Low POS	Neutral	High POS
Frequency	168	109	323
Percentage	28%	18%	54%
<b>Total</b>		<b>600</b>	

POS positively correlated with education, salary range and department as shown in table 16. Table 24 demonstrates the distribution of POS across correlated variables. As shown in Table 24, POS increases with salary increase until a certain cut off range between 9000-14900 EGP. After that, POS starts decreasing as salary range increases. This indicates that employees regard salary increases as a valuable trade factor up to a certain point after that, either something else becomes more important, or employees assign salary increases to different organisational actors. The highest POS is linked with the lowest educational degree. This finding could reflect that the more employees are educated, the harder it becomes to convince them of organisational support, or something else becomes more important than relationships with organisational leaders. Finally, the highest POS rates were linked with more static departments like financial and operational industries when compared to sales, business development and marketing. This could be due to the nature of these jobs being different and requiring more effort from organisations to

support them. It could also be because the needs of these departments could be fulfilled by simple organisational support.

**Table 24: POS Frequency Across Correlated Control Variables**

	Low POS	Neutral POS	High POS
<b>Salary</b>			
Less than 3000 EGP <b>N=15</b>	15	0	0
Between 3000 and 5900 EGP <b>N=23</b>	6	11	6
Between 6000 and 8900 EGP <b>N=102</b>	30	19	53
Between 9000 and 14,900 EGP <b>N=182</b>	43	42	97
Between 15,000 and 20,900 EGP <b>N=92</b>	31	12	49
Between 21,000 and 40,000 EGP <b>N=121</b>	34	25	62
Above 40,000 EGP <b>N=65</b>	9	0	56
<b>Education</b>			
Bachelor's degree <b>N= 342</b>	85	50	207
Master's degree <b>N= 221</b>	67	53	101
Doctorate <b>N= 37</b>	16	6	15
<b>Department</b>			
Sales <b>N= 50</b>	9	0	41
Business development <b>N= 45</b>	9	6	30
Customer Service <b>N= 32</b>	0	15	17
Marketing <b>N= 42</b>	12	8	22
HR <b>N= 43</b>	16	0	27
Education <b>N= 198</b>	70	39	89
Finance <b>N= 100</b>	22	29	49
Operations/Project Management <b>N= 90</b>	30	12	48
<b>Total Number of Respondents</b>	600		

#### **6.2.4. Perceived Supervisor Support**

As demonstrated in (Table 25), the general perception of supervisor support is high across our samples with 94% of respondents indicating neutral to high perception of supervisor support.

**Table 25: PSS Frequency Across Population**

	Low PSS	Neutral	High PSS
Frequency	38	107	455
Percentage	6%	18%	76%
<b>Total</b>		<b>600</b>	

As evident from the multiple regression analysis (Table 26), the gender category showed equal distribution when PSS is concerned. Millennials showed the highest

percentage of PSS although other generations did not demonstrate a low percentage of PSS. All generations showed neutral to high PSS. While the salary range with respect to PSS did not show any pattern, they were all skewed towards neutral and high perception of supervisor support. Similarly, department population were all skewed towards high perception of supervisor support which education showing more neutral frequencies. In comparing the frequency distribution of POS to PSS, the results indicated that the study's population highly regarded their direct supervisors more than their organisation representatives.

**Table 26: PSS Frequency Across Correlated Control Variables**

	Low PSS	Neutral PSS	High PSS
<b>Male N=276</b>	19	44	213
<b>Female N=324</b>	19	63	242
<b>Gender</b>			
55-60 years old – Boomers N=22	0	0	22
39-54 years old – Gen X N=64	0	6	58
23-38 years old - Millennials N=394	32	79	283
18-22 years old - Gen Z N=18	6	22	92
<b>Age</b>			
Less than 3000 EGP N=15	5	0	10
Between 3000 and 5900 EGP N=23	0	5	18
Between 6000 and 8900 EGP N=102	9	18	75
Between 9000 and 14,900 EGP N=182	8	53	121
Between 15,000 and 20,900 EGP N=92	16	12	64
Between 21,000 and 40,0000 EGP N=121	0	19	102
Above 40,000 EGP N=65	0	0	65
<b>Salary</b>			
Sales N= 50	0	0	50
Business development N= 45	6	9	30
Customer Service N= 32	0	9	23
Marketing N= 42	0	6	36
HR N= 43	10	9	24
Education N= 198	9	47	142
Finance N= 100	8	0	92
Operations/Project Management N= 90	5	27	58
<b>Total Number of Respondents</b>		600	

#### **6.2.5. Perceived Co-Worker Support**

As demonstrated in (Table 27), the general perception of co-worker support is high across our samples with 97% of respondents indicating neutral to high

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perception of co-worker's support and only 3% indicating low perception of co-worker support.

**Table 27: PCS Frequency Across Population**

	Low PCS	Neutral	High PCS
Frequency	18	31	551
Percentage	3%	5%	92%
<b>Total</b>		<b>600</b>	

As evident from the multiple regression analysis (Table 28), the gender category showed equal distribution when PCS is concerned. Millennials and Gen Z showed the highest percentage of PCS although other generations did not demonstrate low perception of co-worker support. All sectors showed high levels of PCS with the frequencies almost the same. Education sector showed the highest percentage, followed by technology and telecommunication and financial sectors. Education sector showed no low perception of co-worker's support. The years of experience of participants and department they work in were all tilted towards high perceived co-workers support with almost no population experiencing low perceived co-worker support in either variable.

**Table 28: PCS Frequency Across Correlated Control Variables**

	Low PCS	Neutral PCS	High PCS
<b>Gender</b>			
Male N=276	12	13	251
Female N=324	6	18	300
<b>Age</b>			
55-60 years old – Boomers N=22	0	0	22
39-54 years old – Gen X N=64	0	0	64
23-38 years old - Millennials N=394	12	31	351
18-22 years old - Gen Z N=18	6	0	114
<b>Sector</b>			
Technology, Telecommunications N= 201	6	8	187
Education N= 198	0	9	189
Financial Services N= 201	12	14	175
<b>Years of Experience</b>			
1-3 years N=183	6	9	168
4-6 years N=187	6	14	167
7-10 years N=150	6	8	136
10-14 years N=34	0	0	34

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<b>15 years or more N=46</b>	0	0	46
<b>Department</b>			
Sales N= 50	6	0	44
Business development N= 45	0	0	45
Customer Service N= 32	0	0	32
Marketing N= 42	0	0	42
HR N= 43	0	0	43
Education N= 198	0	9	189
Finance N= 100	6	17	77
Operations/Project Management N= 90	6	5	79
<b>Total Number of Respondents</b>	600		

### 6.2.6. Psychological Safety

Psychological safety was the most interesting variable to analyse. This is due to the fact that the population response has been equivalently high across low, normal, and high indicators. While 63% of the population indicated high psychological safety in their respective organisation, there was still an alarming 18% (107 of the 600 respondents) that indicated low psychological safety experience (See Table 29).

**Table 29:** Psychological Safety Frequency Across Population

	Low Psysafe	Neutral	High Psysafe
Frequency	107	112	381
Percentage	18%	19%	63%
<b>Total</b>		<b>600</b>	

As evident from the multiple regression analysis (Table 30), Psychological safety appeared to decrease as the population gained more degrees. With regards to years of experience, it is evident that the younger population with 1-6 years of experience seemed to experience the highest psychological safety. While salary was positively correlated with psychological safety, the frequency distribution seemed to indicate no pattern of increase or decrease. The highest psychological safety frequency was shown among the education department with other department showing equal distribution. The lowest psychological safety among the departments is seen in the operations department.

**Table 30:** Psychological Safety Frequency Across Correlated Control Variables

	Low Psysafe	Neutral Psysafe	High Psysafe
--	-------------	-----------------	--------------

	<b>Education</b>		
Bachelor's degree <b>N= 342</b>	36	53	253
Master's degree <b>N= 221</b>	55	53	113
Doctorate <b>N= 37</b>	16	6	15
	<b>Years of Experience</b>		
1-3 years <b>N=183</b>	12	20	152
4-6 years <b>N=187</b>	15	48	124
7-10 years <b>N=150</b>	52	20	78
10-14 years <b>N=34</b>	16	10	8
15 years or more <b>N=46</b>	12	14	20
	<b>Salary</b>		
Less than 3000 EGP <b>N=15</b>	5	0	10
Between 3000 and 5900 EGP <b>N=23</b>	6	5	12
Between 6000 and 8900 EGP <b>N=102</b>	0	11	91
Between 9000 and 14,900 EGP <b>N=182</b>	27	52	103
Between 15,000 and 20,900 EGP <b>N=92</b>	38	21	33
Between 21,000 and 40,0000 EGP	10	15	96
<b>N=121</b>			
Above 40,000 EGP <b>N=65</b>	21	8	36
	<b>Department</b>		
Sales <b>N= 50</b>	0	26	24
Business development <b>N= 45</b>	6	6	33
Customer Service <b>N= 32</b>	15	0	17
Marketing <b>N= 42</b>	0	2	40
HR <b>N= 43</b>	26	0	17
Education <b>N= 198</b>	15	48	135
Finance <b>N= 100</b>	6	10	84
Operations/Project Management <b>N= 90</b>	39	20	31
<b>Total Number of Respondents</b>		600	

### 6.3. Quantitative Data Analysis

In this section, The SEM model and the research hypotheses are evaluated. To remove the strongly correlated measurements, I use factor analysis (indicators). The relationships between the variables are subsequently investigated using correlation analysis. The acquired data are next examined for validity and reliability, and the hypothesis is subsequently evaluated using the multiple regression method. The entire model is analysed in the end.

#### 6.3.1. Factor Analysis

The main goal of Factor analysis is to synthesise data so that correlations and patterns may be easily evaluated and comprehended (Yong & Pearce, 2013). It is usually used to organise variables into a small number of clusters based on their shared variance. As a result, it aids in the separation of constructs and concepts.

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Factor analysis was used to check discriminant validity. Factor analysis with varimax was used to assess for uni-dimensionality among items because each variable was measured by multi-item constructs (Pett et al., 2011). Items that had a factor loading of less than 0.5 were removed. Factor loading more than 0.5 was considered reliable in this investigation because there were more than 500 data samples.

**Table 31:** Rotated Component Matrix for All Variables with Varimax Rotational Analysis Results

	Rotated Component Matrix					
	Component					
	1	2	3	4	5	6
POSQ2				.851		
POSQ3				.799		
POSQ5				.803		
POSQ7				.768		
PSSQ1		.781				
PSSQ3		.740				
PSSQ4		.796				
PSSQ5		.696				
PSSQ6		.761				
PSSQ7		.598				
PSSQ8		.839				
PSSQ9		.683				
PSSQ10		.540				
PSSQ11		.820				
PSSQ13		.809				
PSSQ14		.681				
PSSQ15		.635				
PSSQ16		.700				
PCSQ1			.821			
PCSQ2			.841			
PCSQ3			.816			
PCSQ4			.877			
PCSQ7			.800			
RESILIENCEQ1					.785	
RESILIENCEQ3					.661	
FearOfCovidQ1		.719				
FearOfCovidQ2		.740				
FearOfCovidQ3		.770				
FearOfCovidQ4		.856				
FearOfCovidQ5		.869				

FearOfCovidQ6	.863	
FearOfCovidQ7	.813	
PSYSAFETYQ1		.737
PSYSAFETYQ3		.633
PSYSAFETYQ5		.581

According to Table 31, the factor analysis results shows that the factors of all variables are clearly clustered.

**Table 32: KMO and Bartlett's Test**

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.765
Bartlett's Test of Sphericity	Approx. Chi-Square	18344.081
	Df.	595
	Sig.	.000

### 6.3.2. Correlation Analysis

The following table demonstrates the correlation analysis results of all the variables of the conceptual framework (see Table 33). 2-tailed Bivariate Pearson correlation method was used to test the correlation between variables. Table (34) shows correlation across all variables and control factors.

The variables are Fear of Covid-19 (TFCOV), Perceived Organisational Support (TPOS), Perceived Supervisory Support (TPSS), Perceived Co-worker's Support (TPCS), Psychological safety (TPSY) and Individual Resilience (TRES).

- Fear of Covid-19 is significantly negatively correlated with the following variables at 0.05 level: (TPOS,  $r=-.295^{**}$ ), (TRES,  $r=-.179^{**}$ ), (TPSY,  $r=-.227^{**}$ ).
- Fear of Covid-19 is significantly negatively correlated with the following variables at 0.01 level: (TPSS,  $r= -.083^*$ ).
- Fear of Covid-19 does not correlate with TPCS.

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- Perceived Organisational Support is significantly positively correlated with the following variables at 0.05 level: (TPSS,  $r=.373^{**}$ ), (TRES,  $r=.193^{**}$ ), (TPSY,  $r=.284^{**}$ ).
- Perceived Organisational Support does not correlate with TPCS.
- Perceived Supervisory Support is significantly positively correlated with the following variables at 0.05 level: (TRES,  $r=.352^{**}$ ), (TPCS,  $r=.154^{**}$ ), (TPSY,  $r=.249^{**}$ ).
- Individual Resilience does not correlate with TPSY. However, it is significantly positively correlated with the following variable at 0.05 level (TPCS,  $r=.213^{**}$ ).
- Finally, Psychological safety is significantly positively correlated with the following variable at 0.05 level (TPCS,  $r=.299^{**}$ ).

**Table 33: Variable Correlation Matrix**

Correlations		TFCOV	TPOS	TPSS	TRES	TPSY	TPCS
TFCOV	1						
TPOS	-.295 <sup>**</sup>	1					
TPSS	-.083 <sup>*</sup>	.373 <sup>**</sup>	1				
TRES	-.179 <sup>**</sup>	.193 <sup>**</sup>	.352 <sup>**</sup>	1			
TPSY	-.227 <sup>**</sup>	.284 <sup>**</sup>	.249 <sup>**</sup>	-.021	1		
TPCS	.054	-.004	.154 <sup>**</sup>	.213 <sup>**</sup>	.299 <sup>**</sup>	1	

\*\*. Correlation is significant at the 0.01 level (2-tailed).  
\*. Correlation is significant at the 0.05 level (2-tailed).

**Table 34: Correlation Including all Variables and Controls**

	Correlations														
	Gender	Age Group	Education	Salary	Sector	Years Of Experience	Department	Job Title	TFCOV	TPOS	TPSS	TRES	TPSY	TPCS	
Gender	1														
Age Group	-.042	1													
Education	.267 <sup>**</sup>	-.283 <sup>**</sup>	1												
Salary	-.391 <sup>**</sup>	-.201 <sup>**</sup>	.078	1											
Sector	.074	.142 <sup>**</sup>	.168 <sup>**</sup>	-.209 <sup>**</sup>	1										
Years Of Experience	-.013	-.274 <sup>**</sup>	.242 <sup>**</sup>	.322 <sup>**</sup>	-.003	1									
Department	.207 <sup>**</sup>	.082 <sup>*</sup>	.145 <sup>**</sup>	-.180 <sup>**</sup>	.118 <sup>**</sup>	-.116 <sup>**</sup>	1								
Job Title	.005	-.158 <sup>**</sup>	.057	-.068	-.034	.031	.067	1							
TFCOV	.402 <sup>**</sup>	.125 <sup>**</sup>	.219 <sup>**</sup>	-.222 <sup>**</sup>	.064	.123 <sup>**</sup>	.206 <sup>**</sup>	.107 <sup>**</sup>	1						
TPOS	-.016	-.079	-.166 <sup>**</sup>	.214 <sup>**</sup>	-.059	-.024	-.181 <sup>**</sup>	-.078	-.295 <sup>**</sup>	1					
TPSS	-.096 <sup>*</sup>	-.149 <sup>**</sup>	.012	.194 <sup>**</sup>	.021	.093 <sup>*</sup>	-.205 <sup>**</sup>	-.002	-.083 <sup>*</sup>	.373 <sup>**</sup>	1				
TRES	-.211 <sup>**</sup>	-.094 <sup>*</sup>	-.002	.183 <sup>**</sup>	-.018	.127 <sup>**</sup>	-.254 <sup>**</sup>	.085 <sup>*</sup>	-.179 <sup>**</sup>	.193 <sup>**</sup>	.352 <sup>**</sup>	1			

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TPSY	.031	.052	-.256**	-.096*	-.044	-.228**	-.156**	.193**	-.227**	.284**	.249**	-.021	1
TPCS	.116**	-.188**	.014	-.035	-.202**	.204**	-.207**	.280**	.054	-.004	.154**	.213**	.299**

\*\*. Correlation is significant at the 0.01 level (2-tailed).  
\*. Correlation is significant at the 0.05 level (2-tailed).

In summary, all variables are correlated with each other except for Perceived Co-worker's Support which is only correlated with Individual resilience and Psychological Safety. Individual Resilience does not correlate with psychological safety.

### 6.3.3. Reliability and Validity Analysis

To test the reliability of the data, I applied the Cronbach's alpha reliability analysis. When evaluating the internal consistency of a questionnaire that contains many Likert-type scales and items, Cronbach's alpha is most typically utilised (Amirrudin et al., 2020). The reliability scores for each variable are above the standard acceptable alpha score threshold of .70, indicating good internal consistency. It is highlighted in literature that if the questionnaire has less than 10 items, it is difficult to get a high alpha, in which case, an alpha above .50 is acceptable (Pallant, 2001). The convergent validity of each item with its respective variable is also shown, with most items having a significant correlation with their respective variable at the 0.01 level. Overall, these results suggest that the questionnaire used in the study is reliable and valid for measuring the constructs of interest.

**Table 35: Statistical Results for Reliability and Validity Tests**

Variable	# Of items	Mean	SD	Reliability (Cronbach's alpha)	Convergent Validity (Correlation of item with total-score item)
Perceived Organisational Support	4	17.78	6.017	.879	.809** .789**
Perceived Co-worker's Support	5	28.73	5.488	.901	.725** .788** .698** .850**
Perceived Supervisory Support	14	72.68	14.21	.934	.758** .688** .738** .685** .682** .576** .590**
					.793** .645** .467** .825** .789** .678** .701**

## Individual Resilience in a Global Crisis

<b>Fear of Covid-19</b>	7	23.38	9.94	.916	.685** .739** .704** .756**	.811** .765** .758**
<b>Individual Resilience</b>	2	9.615	2.905313	.749	.601**	.601**
<b>Psychological safety</b>	3	14.061667 <i>Inter-item correlations are (.04)</i>	3.740479	.667	.451** .539**	.451**

Notes. \*\* correlation is significant at 0.01 level

To test the validity of the collected data, I used convergent and Discriminant validity analysis. Convergent validity measures the extent to which various measures of a concept that should be connected theoretically are actually related (Gefen & Straub, 2005). This will ensure that multiple-item constructions are unidimensional and will help to eliminate any unreliable indicators. An AVE greater than .50 provides empirical evidence for convergent validity. Discriminant validity shows whether a test that is designed to measure a particular construct does not correlate with tests that measure different constructs. Although discriminant validity has no standard value, a result of less than .85 indicates that discriminant validity exists between the two scales (Fornell, C., Larcker, D.F., 1981). A score of greater than .85 indicates that the two constructs overlap significantly and are most likely measuring the same thing (Gefen & Straub, 2005). Table 32 demonstrates the results of the collected data which shows that those data are statistically reliable and valid. The results of the discriminant validity study (factor loading on single factors) are displayed in Table 36. Capital letters (A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P) in the table indicate how much of each variable is present. After factor analysis, 23 measures are eliminated to increase the quality of the data.

**Table 36: Discriminant Validity (Factor Loading on Single Factors)**

Factor Analysis Communalities	Measures															
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
POS	.556	.819	.675	.709	.796	.549	.691	.448	N/A							
PCS	.657	.757	.669	.839	.860	.829	.686	.607	.781	.828	.905	.879	.751	.753	N/A	N/A
PSS	.648	.684	.567	.640	.704	.731	.511	.728	.512	.653	.755	.659	.691	.523	.488	.791

## Individual Resilience in a Global Crisis

IR	.720	.643	.679	.671	.464	.768	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PSYSAFE	.513	.566	.602	.605	.547	.500	.626	N/A						
Fear	.580	.644	.627	.687	.749	.704	.695	N/A						

Notes. Colour meanings: Green indicates proved indicator variable; orange indicates deleted indicator variable.

Table 37 shows the factor correlation matrix with six factors (1 to 6) and their corresponding variables (PSS, Fear, PCS, POS, PSY, and Resilience). The table shows the correlation coefficients between each pair of factors. The results of the Factor Correlation Matrix show discriminant validity is accepted, and there are no multicollinearity issues present.

**Table 37: Factor Correlation Matrix**

Factor	Factor Correlation Matrix					
	1	2	3	4	5	6
1 (PSS)	1.000					
2 (Fear)	-.092	1.000				
3 (PCS)	.174	-.008	1.000			
4 (POS)	.385	-.248	-.026	1.000		
5 (PSY)	.162	-.167	-.007	.228	1.000	
6 (Resilience)	.268	-.058	-.025	.206	.387	1.000

Extraction Method: Principal Axis Factoring.

Rotation Method: Promax with Kaiser Normalization.

### 6.3.4. Regression Analysis

**Table 38: Regression between Variables**

Independent/ Dependent	POS	PSS	PCS	PSYSAFE	FCOVID19	IR
POS				$\beta = 2.84$ F = 52.47 R2 = .081 T = 7.243	$\beta = -2.95$ F = 57.048 R2 = 0.087 T = -7.553	
PSS				$\beta = .249$	$\beta = -.083$	

## Individual Resilience in a Global Crisis

		F = 39.69 R2 = .0622 T = 6.30 <b><math>\beta = .299</math></b> F = 58.68 R2 = .089 T = 7.66	F = 4.11 R2 = .007 T = -2.027 P= .0431 <b><math>\beta = .054</math></b> F = 1.739 R2 = 0.003 T = 1.318 P= .188
PCS			
FCOVID19		<b><math>\beta = -.227</math></b> F = 32.43 R2 = .0514 T = -5.69	
IR	<b><math>\beta = .193</math></b> <b><math>\beta = .352</math></b> <b><math>\beta = .213</math></b> F = 23.02    F = 84.51    F = 28.55 R2 = .037    R2 = .124    R2 = .046 T = 4.798    T = 9.193    T = 5.343	<b><math>\beta = -.021</math></b> F = .260 R2 = 0.000 T = -.510 P = .6101	<b><math>\beta = -.179</math></b> F = 19.76 R2 = .032 T = -4.44

I first tested Hypothesis 1, which suggested a positive relationship between POS and IR. The dependent variable (IR) was regressed on predicting variable (POS) to test the hypothesis (H1). POS significantly predicted IR ( $b = .186$ ,  $p < 0.001$ ). The results of this study indicate that there is a statistically significant difference between the mean test scores of the two variables. Specifically, the independent variable ( $M = 4.45$ ,  $SD = 1.504$ ) and dependent variable ( $M = 4.81$ ,  $SD = 1.453$ ). A t-test revealed a t-statistic of 4.798, with  $df = 599$  ( $p < .001$ ). The effect size was small, with a Cohen's d of 0.24515.

I then tested Hypothesis 2, which suggested a positive relationship between PSS and IR. The dependent variable (IR) was regressed on predicting variable (PSS) to test the hypothesis (H2). PSS significantly predicted IR ( $b = .503$ ,  $p < 0.001$ ). The results of this study indicate that there is a statistically significant difference between the mean test scores of the two variables. Specifically, the independent variable ( $M = 5.19$ ,  $SD = 1.015$ ) and dependent variable ( $M = 4.81$ ,  $SD = 1.453$ ). A t-test revealed a t-statistic of 9.193, with  $df = 599$  ( $p < .001$ ). The effect size was medium, with a Cohen's d of 0.306554.

I then tested Hypothesis 3, which suggested a positive relationship between PCS and IR. The dependent variable (IR) was regressed on predicting variable (PCS) to test the hypothesis (H3). PCS significantly predicted IR ( $b = .282$ ,  $p < 0.001$ ). The

## Individual Resilience in a Global Crisis

results of this study indicate that there is a statistically significant difference between the mean test scores of the two variables. Specifically, the independent variable ( $M = 5.75$ ,  $SD = 1.098$ ) and dependent variable ( $M = 4.81$ ,  $SD = 1.453$ ). A t-test revealed a t-statistic of 5.343, with  $df = 599$  ( $p < .001$ ). The effect size was medium, with a Cohen's d of 0.729735.

I then tested Hypothesis 4, which suggested that PSS will have the strongest effect on IR, followed by PCS then POS. Further analysis into the unstandardised coefficient, it is evident that PSS exerted the strongest direct effect on IR ( $b = .503$ ), followed by PCS ( $b = .282$ ) and POS ( $b = .186$ ). Further, the dependent variable (IR) was regressed on the three predicting variables (perceived support) to test the hypothesis (H4). PSS significantly predicted IR ( $b = .422$ ,  $p < 0.001$ ), followed by PCS ( $b = .223$ ,  $p < 0.001$ ) and POS ( $b = .080$ ,  $p < 0.005$ ).

The first 4 hypotheses concluded the first study chapter. Table 39 provides a summary of path coefficients and significant levels of study chapter 1.

**Table 39: Hypothesis Results: Summary of Path Coefficients and Significant Levels (Study Chapter 1)**

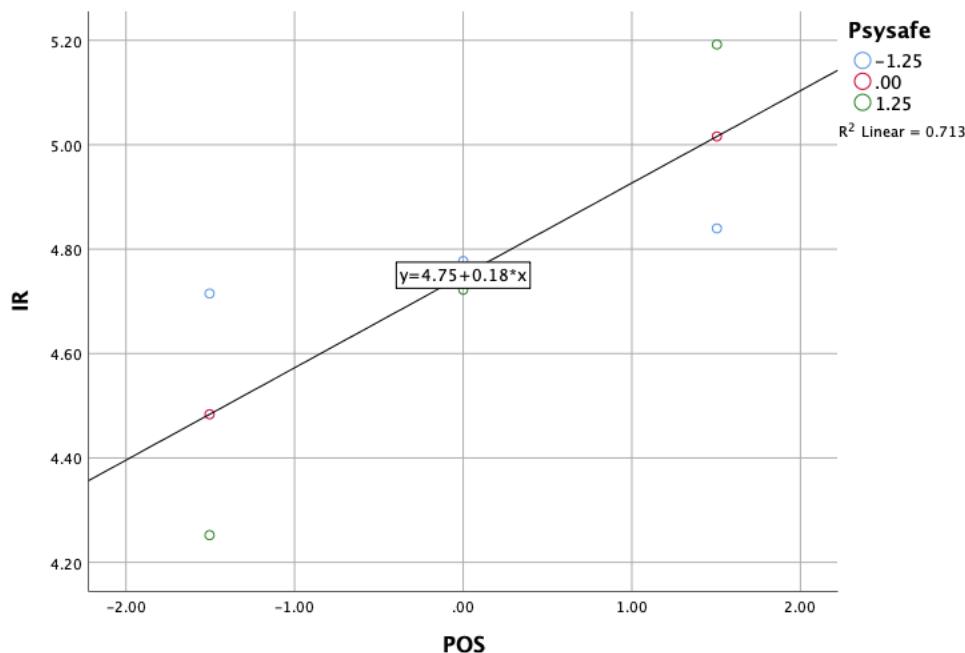
Study Chapter	#	Hypothesis	Sign	Path Coefficient ( $\beta$ )	T-Value	Support for Hypothesis ?
1 IR as a Behavioural Outcome Influenced by the SET	H1	Perceived organisational support is positively related to individual resilience	+	.192	T = 4.798**	Yes
	H2	Perceived supervisor support is positively related to individual resilience	+	.352	T = 9.193**	Yes
	H3	Perceived co-worker support is positively related to individual resilience	+	.213	T = 5.343**	Yes
	H4	The direct effect of perceived supervisor support on individual resilience will be stronger than the direct effect of perceived co-worker's support and perceived organisational support on individual resilience.	+	POS=.083 PSS=.295 PCS=.168	T = 2.05* T = 7.17** T= 4.41**	Yes

## Individual Resilience in a Global Crisis

I then tested Hypothesis 5, which suggested that Psysafe will have a significant impact on individual resilience. The dependent variable (IR) was regressed on predicting variable (Psysafe) to test the hypothesis (H5). Psysafe did not have a significant impact on IR ( $b = -.0243$ ,  $P = .610$ ), rejecting hypothesis 5.

I then assessed the moderating role of Psysafe on the relationship between POS and IR. The results revealed a positive and significant moderating impact of Psysafe on the relationship between POS and IR ( $b = .1086$ ,  $t = 4.0070$ ,  $p = .0001$ ), supporting hypothesis 6. Results of simple slope analysis conducted to better understand the nature of the moderating effects are shown in Figure 14. As can be seen in Figure 14, the line is much steeper for high Psysafe. This shows that at high level of Psysafe, the impact of POS on IR is much stronger in comparison to low levels of Psysafe. As shown in figure 14, as the level of Psysafe decreased, the strength of the relationship between POS and IR decreased. Further assessing the moderating impact, and as demonstrated in Table 40, it is shown that the moderating impact of Psysafe on POS and IR is only significant at medium and high levels of Psysafe, indicating that the presence of a minimum level of Psysafe might be considered a boundary condition for the moderating impact to take place.

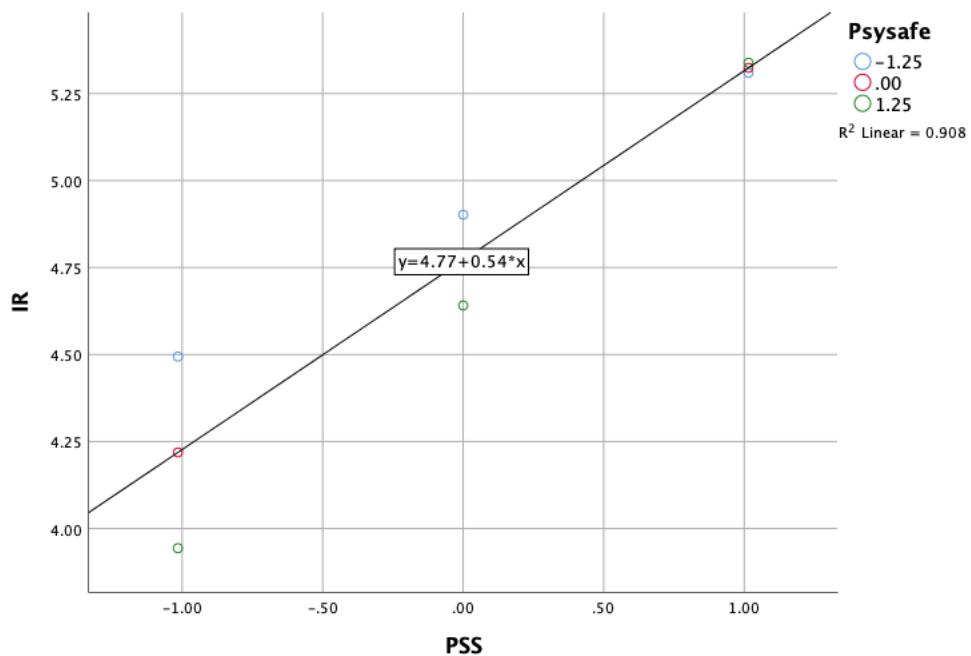
**Figure 14:** Visualising the conditional effect of the focal predictor for Hypothesis 6



**Table 40:** Conditional Effects of the Focal Predictor at Values of the Moderator for H6

Conditional Effects of the focal predictor at values of the moderator:						
Psysafe	Effect	SE	T	P	LLCI	ULCI
-1.2468	.0415	.0576	.7200	.4718	-.0717	.1547
.0000	.1769	.0406	4.3593	.0000	.0972	.2567
1.2468	.3124	.0475	6.5738	.0000	.2191	.4057

I then assessed the moderating role of Psysafe on the relationship between PSS and IR. The results revealed a positive and significant moderating impact of Psysafe on the relationship between POS and IR ( $b = .1144$ ,  $t = 2.7743$ ,  $p = .005$ ), supporting hypothesis 7. Results of simple slope analysis conducted to better understand the nature of the moderating effects are shown in Figure 15. Further Analysis into the conditional effect of the moderator can be seen in Tables 41 and 42. As demonstrated, the impact of Psysafe on the relationship between PSS and IR is statistically insignificant at extremely low levels of Psysafe. While the boundary condition of Psysafe gradually exists in this instance, it is less strict than its presence in the previous hypothesis.

**Figure 15:** Visualising the conditional effect of the focal predictor for Hypothesis 7


**Table 41:** Conditional Effects of the Focal Predictor at Values of the Moderator for H7

Conditional Effects of the focal predictor at values of the moderator:						
Psysafe	Effect	SE	T	P	LLCI	ULCI
-1.2468	.4016	.0761	5.2790	.0000	.2522	.5510
.0000	.5443	.0559	9.7394	.0000	.4345	.6540
1.2468	.6869	.0758	9.0617	.0000	.5381	.8358

**Table 42:** Conditional effect of focal predictor at values of the moderator for H7 – extended.

TPSY	Effect	se	t	p	LLCI	ULCI
-3.6872	.1224	.1622	.7546	.4508	-.1962	4410
-3.3872	.1567	.1506	1.0403	.2986	.1391	.4526
-3.0872	.1910	.1392	1.3722	.1705	-.0824	.4645
-2.7872	.2254	.1280	1.7608	.0788	-.0260	.4768
-2.6481	.2413	.1229	1.9640	.0500	.0000	.4826
-2.4872	.2597	.1170	2.2198	.0268	.0299	.4895
-2.1872	.2940	.1063	2.7664	.0058	.0853	.5028
-1.8872	.3284	.0960	3.4210	.0007	.1398	.5169
-1.5872	.3627	.0862	4.2062	.0000	.1933	.5320
-1.2872	.3970	.0772	5.1412	.0000	.2453	.5487
-.9872	.4313	.0693	6.2275	.0000	2953	.5674
-.6872	.4657	.0628	7.4205	.0000	.3424	.5889
-.3872	.5000	.0582	8.5941	.0000	.3857	.6142
-.0872	.5343	.0560	9.5388	.0000	.4243	.6443
.2128	.5686	.0565	10.0574	.0000	.4576	.6797
.5128	.6030	.0597	10.1029	.0000	.4857	.7202
.8128	.6373	.0651	9.7946	.0000	.5095	.7651
1.1128	.6716	.0722	9.3037	.0000	.5298	.8134
1.4128	.7059	.0806	8.7595	.0000	.5477	.8642
1.7128	.7403	.0899	8.2328	.0000	.5637	.9168
2.0128	.7746	.0999	7.7533	.0000	.5784	.9708
2.3128	.8089	.1104	7.3286	.0000	.5921	.1.0257

I then assessed the moderating role of Psysafe on the relationship between PCS and IR. The results revealed no moderating impact of Psysafe on the relationship between PCS and IR ( $p=.3041$ ), rejecting hypothesis 8.

I then assessed the mediating role of Psysafe on the relationship between POS and IR. The results revealed a significant indirect effect of POS on IR ( $b=.022$ ,  $t=5.1706$ ) supporting hypothesis 9. Furthermore, the direct effect of POS on IR in the presence of the mediator was also found to be significant ( $b= .2085$ ,  $p= .0000$ ). Hence, Psysafe partially mediated the relationship between POS and IR. Mediation analysis summary is presented in Table 43.

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I assessed the mediating role of Psysafe on the relationship between PSS and IR. The results revealed a significant indirect effect of PSS on IR ( $b=.0414$ ,  $t=9.6952$ ) supporting hypothesis 10. Furthermore, the direct effect of PSS on IR in the presence of the mediator was also found to be significant ( $b=.5448$ ,  $p=.0000$ ). Hence, Psysafe partially mediated the relationship between PSS and IR. Mediation analysis summary is presented in Table 43.

I assessed the mediating role of Psysafe on the relationship between PCS and IR. The results revealed a significant indirect effect of PCS on IR ( $b=.0368$ ,  $t=5.7816$ ) supporting hypothesis 11. Furthermore, the direct effect of PCS on IR in the presence of the mediator was also found to be significant ( $b=.3193$ ,  $p=.0000$ ). Hence, Psysafe partially mediated the relationship between PCS and IR. Mediation analysis summary is presented in Table 43.

**Table 43:** Mediation analysis summary for Hypotheses 9, 10, 11

<u>Relationship</u>	<u>Total Effect</u>	<u>Direct Effect</u>	<u>Indirect Effect</u>	<u>Confidence Interval</u>		<u>T-Statistics</u>	<u>Conclusion</u>
				<u>Lower Bound</u>	<u>Upper Bound</u>		
POS > Psysafe > IR	.1859	.2085	-.0225	-.0471	-.0022	5.1706	Partial Mediation
PSS > Psysafe > IR	.5035	.5448	-.0414	-.0682	-.0172	9.6952	Partial Mediation
PCS > Psysafe > IR	.2825	.3193	-.0368	-.0697	-.0069	5.7816	Partial Mediation

Hypothesis 5 through 11 concluded the second study chapter. Table 44 provides a summary of path coefficients and significant levels of study chapter 2.

**Table 44:** Hypothesis Results: Summary of Path Coefficients and Significant Levels (Study Chapter 2)

<u>Study Chapter</u>	<u>#</u>	<u>Hypothesis</u>	<u>Sign</u>	<u>Path Coefficient (<math>\beta</math>)</u>	<u>T-Value</u>	<u>Support for Hypothesis?</u>
2	H5	Psysafe is positively related to IR.	+	-.021	P = .6101	No
	H6	Psysafe will moderate the relationship between POS and IR.	+	.1086	4.01	Yes

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Defining the Influence of Internal Factors on Individual Resilience: Psychological Safety as a Boundary Condition	H7	Psysafe will moderate the relationship between PSS and IR.	+	.1144	2.77	Yes
	H8	Psysafe will moderate the relationship between PCS and IR.	+	.0462	P = .3041	No
	H9	Psysafe will mediate the relationship between POS and IR.	+	.022	5.1706	Yes
	H10	Psysafe will mediate the relationship between PSS and IR	+	.0414	9.6952	Yes
	H11	Psysafe will mediate the relationship between PCS and IR	+	.0368	5.7816	Yes

I tested Hypothesis 12, which suggested that FCOVID-19 will have a significant negative impact on IR. The dependent variable (IR) was regressed on predicting variable (FCOVID-19) to test the hypothesis (H12). FCOVID-19 had a significant and negative impact on IR ( $b = -.026$ ,  $P = .000$ ), accepting hypothesis 12. The results of this study indicate that there is a statistically significant difference between the mean test scores of the two variables. Specifically, the independent variable ( $M = 3.341$ ,  $SD = 1.421$ ) and dependent variable ( $M = 4.81$ ,  $SD = 1.453$ ). A t-test revealed a t-statistic of  $-4.445251$ , with  $df = 599$  ( $p < .001$ ). The effect size was large, with a Cohen's d of  $1.020567$ .

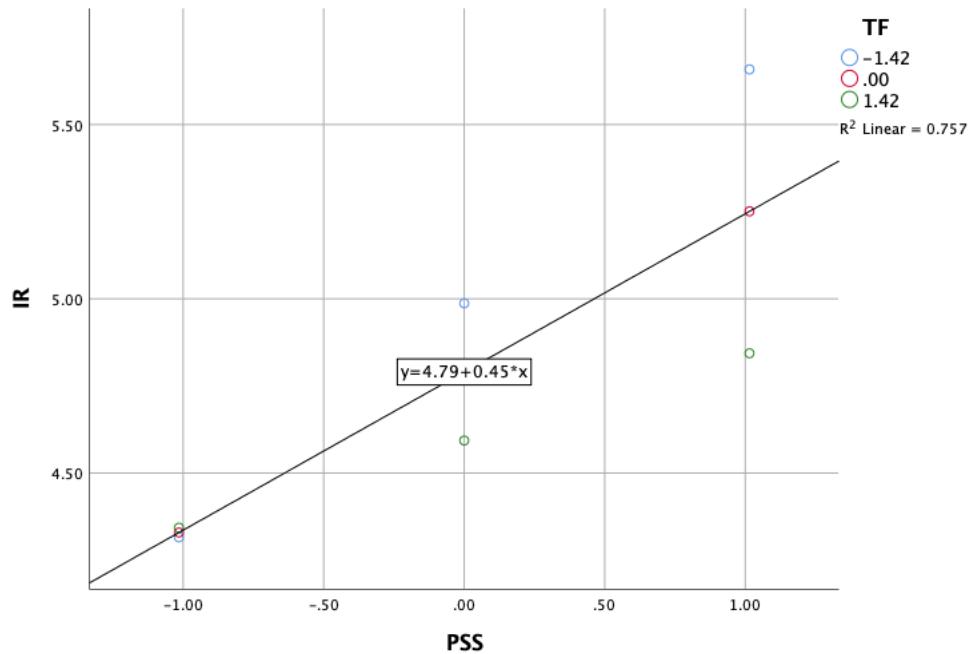
I assessed the moderating role of FCOVID-19 on the relationship between POS and IR. The results revealed no moderation impact of FCOVID-19 on the relationship between POS and IR ( $p = .9998$ ), rejecting hypothesis 13.

I assessed the moderating role of FCOVID-19 on the relationship between PSS and IR. The results revealed a negative and significant moderating impact of FCOVID-19 on the relationship between PSS and IR ( $b = -.1460$ ,  $t = -3.3184$ ,  $p = .0010$ ), supporting hypothesis 14. Results of simple slope analysis conducted to better understand the nature of the moderating effects are shown in Figure 16. As can be seen in Figure 16, the line is much steeper for low FCOVID-19. This shows that at low level of FCOVID-19, the impact of PSS on IR is much stronger in comparison to high levels of FCOVID-19. As shown in Figure 16, as the level of FCOVID-19 increased, the strength of the relationship between PSS and IR decreased. Further assessing the moderating impact, and as demonstrated in Tables 45 and 46, it is shown that the moderating impact of FCOVID-19 on PSS and IR is stronger the

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lower the level of fear of COVID-19. In fact, at certain time when fear is too high, the moderating impact of FCOVID-19 on PSS and IR becomes insignificant.

**Figure 16:** Visualising the conditional effect of the focal predictor for Hypothesis 14



**Table 45:** Conditional effect of focal predictor at values of the moderator for Hypothesis 14

Conditional Effects of the focal predictor at values of the moderator:						
FCOVID-19	Effect	SE	T	P	LLCI	ULCI
-1.4207	.6613	.0755	8.7586	.0000	.5130	.8096
.0000	.4539	.0547	8.3011	.0000	.3465	.5613
1.4207	.2465	.0900	2.7407	.0063	.0699	.4232

**Table 46:** Conditional effect of focal predictor at values of the moderator for Hypothesis 14 - Extended

FCOVID-19	Effect	se	t	p	LLCI	ULCI
-2.3412	.7957	.1078	7.3789	.0000	.5839	1.0075
-2.0412	.7519	.0966	7.7818	.0000	.5621	.9417
-1.7412	.7081	.0860	8.2357	.0000	.5392	.8770
-1.4412	.6643	.0761	8.7249	.0000	.5148	.8138
-1.4412	.6205	.0675	9.1988	.0000	.4880	.7530
-.8412	.5767	.0604	9.5435	.0000	.4580	.6954
-.5412	.5329	.0557	9.5691	.0000	.4236	.6423
-.2412	.4891	.0539	9.0832	.0000	.3834	.5949
.0588	.4453	.0552	8.0686	.0000	.3369	.5537
.3588	.4015	.0595	6.7477	.0000	.2847	.5184

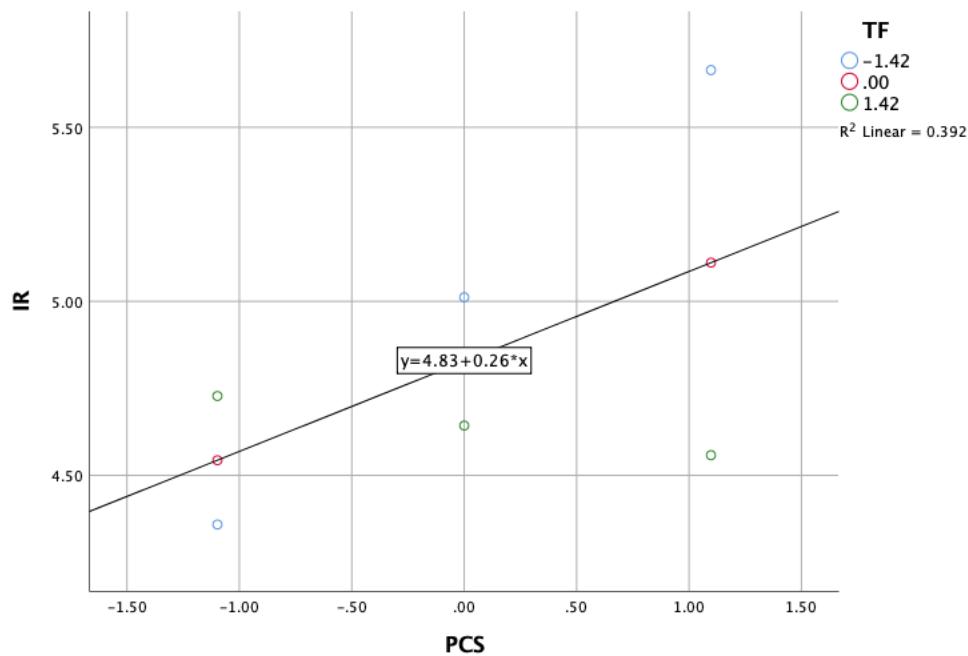
## Individual Resilience in a Global Crisis

.6588	.3578	.0662	5.4029	.0000	.2277	.4878
.9588	.3140	.0747	4.2045	.0000	.1673	.4606
1.2588	.2702	.0844	3.2027	.0014	.1045	.4358
1.5588	.2264	.0949	2.3856	.0174	.0400	.4127
1.7422	.1996	.1016	1.9640	.0500	.0000	.3992
1.8588	.1826	.1060	1.7221	.0856	-.0256	.3908
2.1588	.1388	.1176	1.1803	.2384	-.0921	.3697
2.4588	.0950	.1295	.7338	.4634	-.1593	.3492
2.7588	.0512	.1416	.3616	.7178	-.2268	.3292
3.0588	.0074	.1539	.0481	.9616	-.2948	.3096
3.3588	-.0364	.1663	-.2189	.8268	-.3630	.2902
3.6588	-.0802	.1788	-.4484	.6540	-.4314	.2710

I assessed the moderating role of FCOVID-19 on the relationship between PCS and IR. The results revealed a negative and significant moderating impact of FCOVID-19 on the relationship between PCS and IR ( $b = -.2366$ ,  $t = -5.8424$ ,  $p = .0010$ ), supporting hypothesis 15. Results of simple slope analysis conducted to better understand the nature of the moderating effects are shown in Figure 17. As can be seen in Figure 17, the line is much steeper for low FCOVID-19. This shows that at low level of FCOVID-19, the impact of PCS on IR is much stronger in comparison to high levels of FCOVID-19. As shown in Figure 17, as the level of FCOVID-19 increased, the strength of the relationship between PCS and IR decreased. Further assessing the moderating impact, and as demonstrated in Table 47, it is shown that the moderating impact of FCOVID-19 on PCS and IR is stronger the lower the level of fear of COVID-19. In fact, at certain time when fear is too high, the moderating impact of FCOVID-19 on PCS and IR becomes insignificant.

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**Figure 17:** Visualising the conditional effect of the focal predictor for Hypothesis 15



**Table 47:** Conditional Effects of the Focal Predictor at Values of the Moderator for H15

Conditional Effects of the focal predictor at values of the moderator:						
FCOVID19	Effect	SE	T	P	LLCI	ULCI
-1.4207	.5948	.0719	8.2698	.0000	.4535	.7360
.0000	.2586	.0510	5.0721	.0000	.1585	.3588
1.4207	-.0775	.0815	-.9505	.3422	-.2376	.0826

The study assessed the mediating role of FCOVID-19 on the relationship between POS and IR. The results revealed a significant indirect effect of POS on IR ( $b=.038$ ). Furthermore, the direct effect of POS on IR in the presence of the mediator was also found to be significant ( $b=.1478$ ,  $t= 3.6734$ ,  $p=.0003$ ) supporting hypothesis 16. Hence, FCOVID-19 partially mediated the relationship between POS and IR. Mediation analysis summary is presented in Table 48.

The study assessed the mediating role of FCOVID-19 on the relationship between PSS and IR. The results revealed a significant indirect effect of PSS on IR ( $b=.0178$ ). Furthermore, the direct effect of PSS on IR in the presence of the mediator was also found to be significant ( $b=.4857$ ,  $t= 8.9457$ ,  $p=.0000$ ) supporting hypothesis 17. Hence, FCOVID-19 partially mediated the relationship between PSS and IR. Mediation analysis summary is presented in Table 48.

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Finally, the study assessed the mediating role of FCOVID-19 on the relationship between PCS and IR. The results revealed no significant indirect effect of PCS on IR as indicated by a bootstrapping CI that does comprise zero (lower 95% CI= -.0371, upper 95% CI = .0045), P=.1877. However, the direct effect of PCS on IR in the presence of the mediator was found to be significant ( $b=.296$ ,  $t= 5.6971$ ,  $p=.0000$ ) indicating full mediation and supporting hypothesis 18. Hence, FCOVID-19 fully mediated the relationship between PCS and IR. Mediation analysis summary is presented in Table 48.

**Table 48:** Mediation analysis summary for Hypotheses 16,17

Relationship	Total Effect	Direct Effect	Indirect Effect	Confidence Interval		T-Statistics	Conclusion
				Lower Bound	Upper Bound		
POS > FCOVID-19 > IR	.1859	.1478	.0381	.0130	.0674	3.6734	Partial Mediation
PSS > FCOVID-19 > IR	.5035	.4857	.0178	.0022	.0380	8.9457	Partial Mediation
PCS > FCOVID-19 > IR	.2825	.2961	-.0136	-.0372	.0045	5.6971	Partial Mediation

Hypothesis 12 through 18 concluded the third and final study chapter. Table 49 provides a summary of path coefficients and significant levels of study chapter 3.

**Table 49:** Hypothesis Results: Summary of Path Coefficients and Significant Levels (Study Chapter 3)

Study Chapter	#	Hypothesis	Sign	Path Coefficient ( $\beta$ )	T-Value	Support for Hypothesis?
3 Defining the Influence of External Factors on Individual Resilience: Fear of COVID-19	H12	FCOVID-19 is negatively related to IR	-	-.026	-4.445251	Yes
	H13	FCOVID-19 moderate the relationship between POS and IR.	-	.0000	P=.9998	No
	H14	FCOVID-19 will moderate the relationship between PSS and IR.	-	-.1460	-3.3184	Yes
	H15	FCOVID-19 will moderate the relationship between PCS and IR.	-	-.2366	-5.8424	Yes
	H16	FCOVID-19 will mediate the relationship between POS and IR.	-	.1478	3.6734	Yes
	H17	FCOVID-19 will mediate the relationship between PSS and IR.	-	.4857	8.9457	Yes
	H18	FCOVID-19 will mediate the relationship between PCS and IR.	-	.2961	5.6971	Yes

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Table 50 provides a summary of path coefficients and significant levels of all study chapters.

**Table 50: Hypothesis Results: Summary of Path Coefficients and Significant Levels**

Study Chapter	H#	Hypothesis	Sign	(β)	T-Value	Support for Hypotheses?
1 Individual Resilience as a Behavioural Outcome Influenced by the Social Exchange Theory	H1	POS is positively related to IR	+	.192	4.798**	No
	H2	PSS is positively related to IR	+	.352	9.193**	Yes
	H3	PCS is positively related to IR	+	.213	5.343**	Yes
	H4	The direct effect of PSS on IR will be stronger than the direct effect of PCS and POS on IR.	+	POS=.083 PSS=.295 PCS=.168	2.05* 7.17** 4.41**	Yes
2 Defining the Influence of Internal Factors on Individual Resilience: Psychological Safety as a Boundary Condition	H5	Psysafe is positively related to IR	+	-.021	P = .6101	No
	H6	Psysafe will moderate the relationship between POS and IR	+	.1086	4.01**	Yes
	H7	Psysafe will moderate the relationship between PSS and IR	+	.1144	2.77**	Yes
	H8	Psysafe will moderate the relationship between PCS and IR	+	.0462	P = .3041	No
	H9	Psysafe will mediate the relationship between POS and IR	+	.022	5.1706**	Yes
	H10	Psysafe will mediate the relationship between PSS and IR	+	.0414	9.6952**	Yes
	H11	Psysafe will mediate the relationship between PCS and IR	+	.0368	5.7816**	Yes
3 Defining the Influence of External Factors on Individual Resilience: Fear of COVID-19	H12	FCOVID-19 is negatively related to IR	-	-.026	-4.445251	Yes
	H13	FCOVID-19 moderate the relationship between POS and IR.	-	.0000	P=.9998	No
	H14	FCOVID-19 will moderate the relationship between PSS and IR.	-	-.1460	-3.3184	Yes
	H15	FCOVID-19 will moderate the relationship between PCS and IR.	-	-.2366	-5.8424	Yes
	H16	FCOVID-19 will mediate the relationship between POS and IR.	-	.1478	3.6734	Yes

	H17	FCOVID-19 will mediate the relationship between PSS and IR.	-	.4857	8.9457	Yes
	H18	FCOVID-19 will mediate the relationship between PCS and IR.	-	.2961	5.6971	Yes

### 6.3.5. Multiple Regression Analysis

Study 1 assesses individual resilience as a behavioural dynamic influenced by the social exchange theory and motivational theories by analysing the impact of perceived support on IR. The results revealed significant and positive impact of POS, PSS, and PCS on IR. Accordingly, the following table (Table 51) shows the regression analysis of POS, PSS, and PCS on IR across all samples. The department demographic scale was added originally to analyse the level of resilience within the population across different departments. Thus, it is not included in the analysis. Results indicated that Psysafe showed no significant impact on IR, thus no multiple regression analysis was included for this relationship. Study chapter 3 assesses the impact of fear of COVID-19 on individual resilience. The results revealed significant and negative impact of fear of COVID-19 on IR. Accordingly, the following table (Table 52) shows the regression analysis of fear of COVID-19 on IR across all samples. The analysis across the population leaded to interesting results which will be discussed in depth in the discussion section.

**Table 51: Regression Analysis of Perceived Support on Individual Resilience (All Samples)**

Individual Resilience	$\beta$ (B, S.E.)	$\Delta R^2$
<b>Sample 1: Male N=276</b>		
POS	.157* (.160, .061)	.024*
PSS	.272** (.373, .080)	.074**
PCS	.379** (.522,.077)	.144**
<b>Sample 2: Female N=324</b>		
POS	.225** (.199, .048)	.051**
PSS	.411** (.591,.073)	.169**
PCS	.129* (.160,.069)	.017*
<b>Sample 3: 18-22 years old N=120</b>		
POS	.346** (.391, .098)	.120**
PSS	.072 (0.118, .150) P=.434	.005
PCS	.462** (.708, .125)	.213**
<b>Sample 4: 23-38 years old N=394</b>		
POS	.306* (.280, .111)	.094*
PSS	.355** (.486, .064)	.126**

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PCS	.251* (.410, .201)	.063*
<b>Sample 5: 39-54 years old N=64</b>		
POS	.169** (.153, .045)	.028**
PSS	.474** (.700, .165)	.225**
PCS	.143*. (.173, .060)	.020*
<b>Sample 6: 55-60 years old N=22</b>		
POS	-.260 (-.034, .028) P=.242	.068
PSS	.917** (1.38, .135)	.840**
PCS	-.134 (-.060, .099) P=.553	.018
<b>Sample 7: bachelor's degree N= 342</b>		
POS	.142* (.143, .054)	.020*
PSS	.306** (.419, .070)	.093**
PCS	.470** (.558, .057)	.221**
<b>Sample 8: master's degree N= 221</b>		
POS	.319** (.313, .063)	.102**
PSS	.441** (.664, .091)	.195**
PCS	-.186** (-.319, .114)	.035**
<b>Sample 9: Doctorate N= 37</b>		
POS	-.079 (-.063, .133) P=.641	.006
PSS	.106 (.316, .502), P=.533	.011
PCS	.297* (.674, .366)	.088*
<b>Sample 10: Technology, Telecommunications N= 201</b>		
POS	.372**(.478, .084)	.138**
PSS	.093 (.138, .104), P=.187	.004
PCS	.285**(.426, .101)	.081**
<b>Sample 11: Education N= 198</b>		
POS	.066 (.062, .066) P=.354	.004
PSS	.460** (.772, .106)	.208**
PCS	.140* (.229, .119)	.019*
<b>Sample 12: Financial Services N= 201</b>		
POS	.153* (.122, .056)	.023*
PSS	.556** (.663, .070)	.305**
PCS	.519** (.551, .064)	.270**
<b>Sample 13: 1-3 years of experience N=183</b>		
POS	.252** (.232, .065)	.064**
PSS	-.002(-.005, .135) P=.972	.000
PCS	.389** (.492, .086)	.151**
<b>Sample 14: 4-6 years of experience N=187</b>		
POS	.170* (.215, .092)	.029*
PSS	.092 (.120, .107) P=.262	.008
PCS	.232* (.295, .101)	.054*
<b>Sample 15: 7-10 years of experience N=150</b>		
POS	.049(.046, .077) P= .551	.002
PSS	.630** (.815, .074)	.396**
PCS	.133* (.168, .092)	.018*
<b>Sample 16: 10-14 years of experience N=34</b>		
POS	.138 (.141, .178) P= .436	.019
PSS	.693** (1.71, .267)	.481**
PCS	-.224(-.434, .333) P=.202	.050
<b>Sample 17: 15 or more years of experience N=46</b>		
POS	.226 (.233, .151) P= .130	.051
PSS	.939** (2.77, .179)	.882**
PCS	.187 (.348, .276) P=.213	.035
<b>Sample 18: Salary Between 3000 and 5900 EGP N=23</b>		
POS	.460** (.441, .085)	.211**

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PSS	.151(.152, .216) P=.489	.023
PCS	.909** (1.56, .156)	.826
<b>Sample 19: Salary Between 6000 and 8900 EGP N=102</b>		
POS	.129* (.111, .064)	.017*
PSS	.207(.368, .218) P=.097	.043
PCS	.837** (.595, .040)	.701**
<b>Sample 20: Salary Between 9000 and 14,900 EGP N=182</b>		
POS	.218 (.200, .195) P=.317	.048
PSS	.125 (.121, .102) P=.236	.015
PCS	.187* (.217, .085)	.035*
<b>Sample 21: Salary Between 15,000 and 20,900 EGP N=92</b>		
POS	-.015 (-.010, .070) P=.890	.000
PSS	.191* (.434, .205)	.036*
PCS	-.106 (-.166, .156) P=.289	.011
<b>Sample 22: Salary Between 21,000 and 40,0000 EGP N=121</b>		
POS	.003 (.004, .116) P=.969	.000
PSS	.450** (.509, .075)	.202**
PCS	.002 (.005, .196) P=.978	.000
<b>Sample 23: Salary Above 40,000 EGP N=65</b>		
POS	-.105 (-.072, .086) P=.406	.011
PSS	.527** (.700, .113)	.278**
PCS	.149 (.219, .184) P=.237	.022

**Table 52:** Regression Analysis of fear of COVID-19 on Individual Resilience (All Samples)

Individual Resilience	$\beta$ (B, S.E.)	$\Delta R^2$
<b>Sample 1: Male N=276</b>		
FCOVID-19	-.177**(-.236, .079)	.0312**
<b>Sample 2: Female N=324</b>		
FCOVID-19	-.058 (-.055, .053) P=.295	.003
<b>Sample 3: 18-22 years old N=120</b>		
FCOVID-19	-.542** (-.677, .097)	.293**
<b>Sample 4: 23-38 years old N=394</b>		
FCOVID-19	-.376** (-.305, .095)	.141**
<b>Sample 5: 39-54 years old N=64</b>		
FCOVID-19	-.081(-.078, .048) P=.106	.006
<b>Sample 6: 55-60 years old N=22</b>		
FCOVID-19	.236 (.057,.053) P=.291	.055
<b>Sample 7: bachelor's degree N= 342</b>		
FCOVID-19	-.295**(-.325, .057)	.087**
<b>Sample 8: master's degree N= 221</b>		
FCOVID-19	-.029 (-.029, .067) P=.662	.001
<b>Sample 9: Doctorate N= 37</b>		
FCOVID-19	-.191 (-.211, .183) P=.257	.037
<b>Sample 10: Technology, Telecommunications N= 201</b>		
FCOVID-19	.041 (.048, .082) P=.559	.002
<b>Sample 11: Education N= 198</b>		
FCOVID-19	-.241** (-.252, .072)	.058**
<b>Sample 12: Financial Services N= 201</b>		
FCOVID-19	-.329** (-.302, .061)	.108**
<b>Sample 13: 1-3 years of experience N=183</b>		
FCOVID-19	-.669** (-.762, .149)	.448**

<b>Sample 14: 4-6 years of experience N=187</b>		
FCOVID-19	. -531** (.438, .105)	.282**
<b>Sample 15: 7-10 years of experience N=150</b>		
FCOVID-19	. -240** (-.216, .064)	.057**
<b>Sample 16: 10-14 years of experience N=34</b>		
FCOVID-19	. -236**(-.293, .089)	.056**
<b>Sample 17: 15 or more years of experience N=46</b>		
FCOVID-19	. -142*(-.149, .086)	.020*
<b>Sample 18: Salary Between 3000 and 5900 EGP N=23</b>		
FCOVID-19	. -986**(-.618, .023)	.972**
<b>Sample 19: Salary Between 6000 and 8900 EGP N=102</b>		
FCOVID-19	. -447** (-.487, .097)	.191**
<b>Sample 20: Salary Between 9000 and 14,900 EGP N=182</b>		
FCOVID-19	. -249* (.178, .087)	.062*
<b>Sample 21: Salary Between 15,000 and 20,900 EGP N=92</b>		
FCOVID-19	. -180* (-.272, .136)	.032*
<b>Sample 22: Salary Between 21,000 and 40,0000 EGP N=121</b>		
FCOVID-19	. -102 (-.088, .064) P=.168	.010
<b>Sample 23: Salary Above 40,000 EGP N=65</b>		
FCOVID-19	.043 (.030, .075) P=.685	.002

### 6.3.6. Model Testing

Presenting three separate models for examining the impact of perceived organisational support, perceived supervisor support, and perceived co-worker support on individual resilience, instead of combining them into one model, is justified by several compelling reasons. Firstly, each type of support represents a distinct aspect of the social environment within an organisation, and they may have unique effects on individual resilience. By analysing them separately, we can gain a comprehensive understanding of the specific contributions and nuances that each form of support brings to the resilience of employees (Jehn & Jonsen, 2010; Podsakoff et al., 2010). Secondly, combining all types of support into a single model might lead to multicollinearity issues, where the variables are highly correlated, making it difficult to discern the individual influence of each factor. By utilising separate models, we can avoid this problem and maintain the statistical integrity of the analysis. Additionally, focusing on one form of support at a time allows for a more in-depth exploration of potential moderating or mediating variables that might operate differently across different sources of support. This approach enhances the rigor and precision of the investigation, enabling a more granular examination of the underlying mechanisms at play. Furthermore, from a practical standpoint, presenting separate models enables organisations to tailor their intervention strategies based

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on the specific support aspect they wish to enhance, leading to more targeted and effective efforts in promoting individual resilience among employees. Overall, adopting a segmented approach with distinct models underscores the complexity of the social support system in organisations, promotes clearer and more interpretable results, and facilitates practical applications for organisational improvement.

Not including control variables in the final discussion but analysing them separately for each variable can be strongly justified for several reasons. Firstly, control variables, such as age, gender, education, salary, sector, years of experience, department, and job title, often represent individual demographic characteristics that may have diverse and complex relationships with the main constructs under study, i.e., perceived support and individual resilience (Berry et al., 2012; Freedman, 2007; Kausel, 2015). By analysing them separately, I can explore how each demographic factor uniquely influences the variables of interest, avoiding potential confounding effects in the final model. Secondly, presenting separate analyses for each control variable allows for a more comprehensive understanding of their individual contributions to the research, emphasising the nuanced nature of their impacts. Additionally, the decision to exclude control variables from the final model can enhance the interpretability and simplicity of the main results, allowing readers to focus on the key relationships without getting bogged down in extraneous details. Moreover, this approach fosters transparency and robustness, as it showcases the intention to meticulously investigate the effects of each demographic factor independently, promoting confidence in the findings. Overall, not including control variables in the final discussion while conducting separate analyses for each variable offers a more focused, informative, and reliable exploration of the complex interplay between perceived support and individual resilience, thus strengthening the overall quality and impact of the research.

In this section, I will present three separate models to investigate the impact of perceived support on individual resilience from organisational, supervisor, and co-worker perspectives. The data is organised in a nested format across three sectors: technology, education, and financial services. While the suggestion to perform a multilevel check to assess nesting effects is valid, I have decided that it might not be applicable in this particular research. The reason for this decision is that I have

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already conducted separate analyses for each sector, which allows for a comprehensive examination of the relationships within each sector. By running individual analysis for the technology, education, and financial services sectors, I can thoroughly explore how perceived support influences individual resilience in each specific organizational context. However, performing a multilevel analysis requires a sufficient number of level 2 units (in this case, sectors) to produce meaningful and reliable results. If there is an imbalance in the number of organizations or participants across the three sectors, it could potentially lead to biased outcomes or limit the generalisability of the findings. Given the potential limitations regarding the number of level 2 units, a multilevel check might not be the most appropriate approach in this study. Instead, the focus remains on conducting separate analyses for each sector, which enables a targeted and detailed investigation of the impact of perceived support on individual resilience within the distinct sectors, ensuring robust and context-specific conclusions for each sector independently. In addition to the decision not to perform a multilevel analysis, utilising multiple regression analysis in the previous section allowed me to explore the impact of the nested sector on the relationship between variables in a manner that is more relatable and informative to my research objectives. By incorporating sector as a predictor variable in the regression models, I was able to directly examine its influence on the associations between perceived support and individual resilience, providing a more well-rounded assessment of the interplay within each sector. This approach facilitated the identification of any sector-specific variations, strengths, or limitations in the relationships, enriching the depth and context of the findings. Analysing the impact of sectors individually through regression also allowed me to consider potential sector-specific factors that may contribute to the observed correlations, offering valuable insights for tailored strategies and interventions within the distinct organisational environments of technology, education, and financial services.

Accordingly, this section presents three separate models with three different leading independent variables: perceived organisational support, perceived supervisor support and perceived co-worker support.

### **Model 1 Analysis Breakdown: POS as main independent variable**

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POS has a significant impact on Psysafe, ( $b = .2354$ ,  $t = 7.2440$ ,  $p < 0.001$ ) as indicated by a bootstrapping CI that does comprise zero (lower 95% CI = .1716, upper 95% CI = .2992). Similarly, POS has a significant impact on FCOVID-19 ( $b = -1.9510$ ,  $t = -7.5530$ ,  $p < 0.001$ ) as indicated by a bootstrapping CI that does comprise zero (lower 95% CI = -2.46, upper 95% CI = -1.4437). POS has a significant and direct impact on IR ( $b = .1721$ ,  $t = .0412$ ,  $p < 0.001$ ) as indicated by a bootstrapping CI that does comprise zero (lower 95% CI = .0912, upper 95% CI = .2530). Psysafe has a significant impact on IR ( $b = -.1230$ ,  $t = -2.5211$ ,  $p < 0.001$ ) as indicated by a bootstrapping CI that does comprise zero (lower 95% CI = -.2187, upper 95% CI = -.0272). FCOVID-19 has a significant impact on IR ( $b = -.0219$ ,  $t = -3.5757$ ,  $p < 0.001$ ) as indicated by a bootstrapping CI that does comprise zero (lower 95% CI = -.0340, upper 95% CI = -.0099).

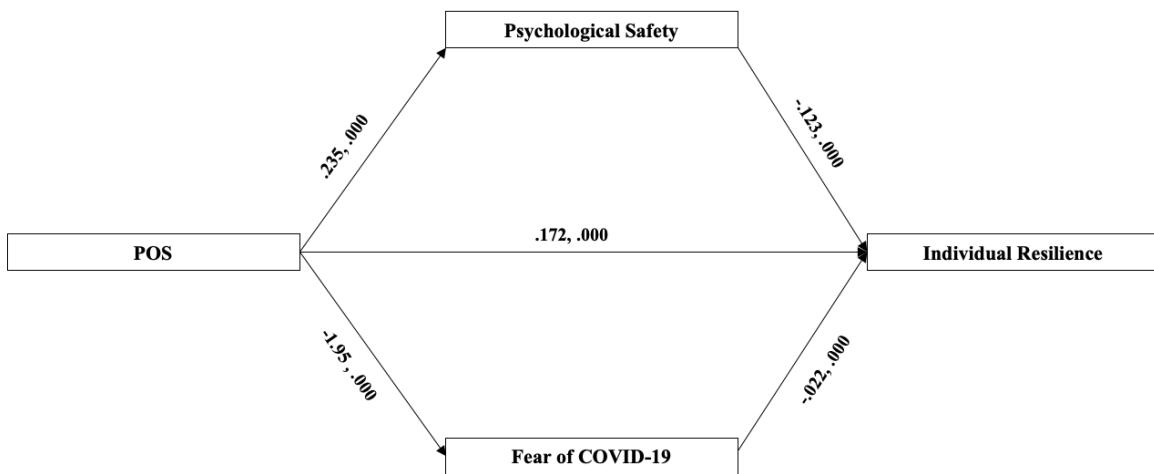
The study assessed the mediating role of Psysafe and FCOVID-19 on the relationship between POS and IR. The results revealed a significant indirect effect of impact of POS on IR through Psysafe ( $b = -.0289$ ). The study also found a significant and indirect effect of impact of POS on IR through FCOVID-19 ( $b = .0428$ ). Furthermore, the direct effect of POS on IR in the presence of the mediators was found to be significant ( $b = .1721$ ,  $t = .0412$ ,  $p < 0.001$ ). Hence, both Psysafe and FCOVID-19 partially mediated the relationship between POS and IR. Mediation summary analysis is presented in Table 53. Figure 18 shows the Statistical Diagram for Model 1.

**Table 53: Mediation summary analysis Model 1**

<u>Total Effect (POS &gt; IR)</u>	<u>Direct Effect (POS &gt; IR)</u>	<u>Relationship</u>	<u>Indirect Effect</u>	<u>Confidence Interval</u>		<u>Conclusion</u>
				<u>Lower Bound</u>	<u>Upper Bound</u>	
.1859(.000)	.1721(.000)	Path 1: POS > Psysafe > IR Path 2: POS > FCOVID-19 > IR	-.0289 .0428	-.0555 .0169	-.0080 .0724	Partial Mediation Partial Mediation

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**Figure 18: Statistical Diagram for Model 1**



### **Model 2 Analysis Breakdown: PSS as main independent variable**

PSS has a significant impact on Psysafe, ( $b= .306$ ,  $t= 6.300$ ,  $p<0.001$ ) as indicated by a bootstrapping CI that does comprise zero (lower 95% CI= .211, upper 95% CI = .402). Similarly, PSS has a significant impact on FCOVID-19 ( $b= -.809$ ,  $t= -2.027$ ,  $p<0.001$ ) as indicated by a bootstrapping CI that does comprise zero (lower 95% CI= -1.593, upper 95% CI = -.025). PSS has a significant and direct impact on IR ( $b= .538$ ,  $t= 9.73$ ,  $p<0.001$ ) as indicated by a bootstrapping CI that does comprise zero (lower 95% CI= .429, upper 95% CI = .646). Psysafe has a significant impact on IR ( $b= -.182$ ,  $t= -3.954$ ,  $p<0.001$ ) as indicated by a bootstrapping CI that does comprise zero (lower 95% CI= -.272, upper 95% CI = -.092). FCOVID-19 has a significant impact on IR ( $b= -.027$ ,  $t= -4.775$ ,  $p<0.001$ ) as indicated by a bootstrapping CI that does comprise zero (lower 95% CI= -.038, upper 95% CI = -.016).

The study assessed the mediating role of Psysafe and FCOVID-19 on the relationship between PSS and IR. The results revealed a significant indirect effect of impact of PSS on IR through Psysafe ( $b=-.056$ ). The study also found a significant and indirect effect of impact of PSS on IR through FCOVID-19 ( $b=.022$ ).

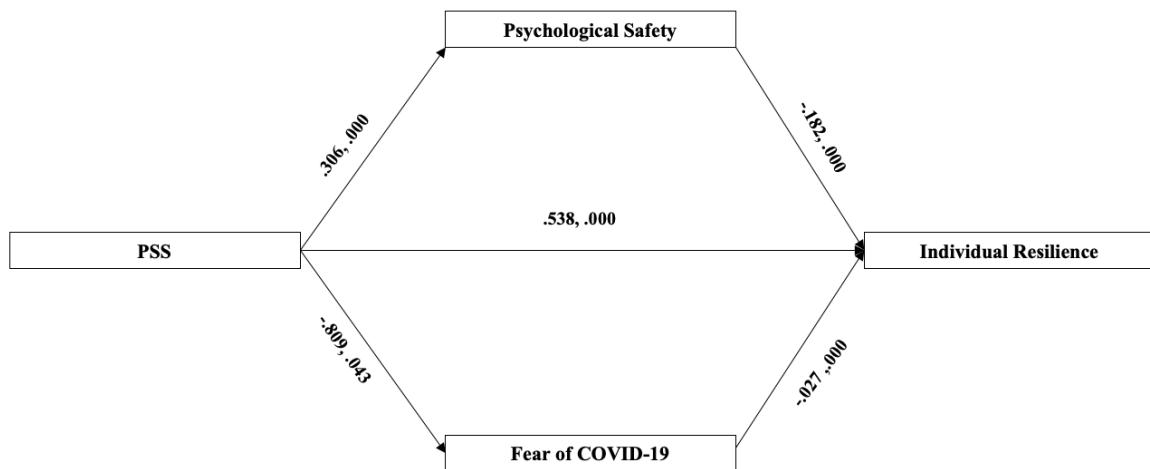
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Furthermore, the direct effect of PSS on IR in the presence of the mediators was found to be significant ( $b=.538$ ,  $t=9.735$ ,  $p<.001$ ). Hence, both Psysafe and FCOVID-19 partially mediated the relationship between PSS and IR. Mediation summary analysis is presented in Table 54. Figure 19 shows the Statistical Diagram for Model 2.

**Table 54: Mediation summary analysis Model 2**

<u>Total Effect (PSS &gt; IR)</u>	<u>Direct Effect (PSS &gt; IR)</u>	<u>Relationship</u>	<u>Indirect Effect</u>	<u>Confidence Interval</u>		<u>Conclusion</u>
				<u>Lower Bound</u>	<u>Upper Bound</u>	
.503 (.000)	.538 (.000)	Path 1: PSS > Psysafe > IR	-.056	-.087	-.029	Partial Mediation
		Path 2: PSS > FCOVID-19 > IR	.022	.003	.043	Partial Mediation

**Figure 19: Statistical Diagram for Model 2**



## Model 3 Analysis Breakdown: PCS as main independent variable

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PCS has a significant impact on Psysafe, ( $b = .3395$ ,  $t = 7.6601$ ,  $p < 0.001$ ) as indicated by a bootstrapping CI that does comprise zero (lower 95% CI = .2525, upper 95% CI = .4266). However, PCS did not have a significant impact on FCOVID-19 ( $P = .1877$ ) as indicated by a bootstrapping CI that does not comprise zero (lower 95% CI = -.2386, upper 95% CI = 1.2145). PCS has a significant and direct impact on IR ( $b = .3596$ ,  $t = 6.6238$ ,  $p < 0.001$ ) as indicated by a bootstrapping CI that does comprise zero (lower 95% CI = .2530, upper 95% CI = .4663). Psysafe has a significant impact on IR ( $b = -.1793$ ,  $t = -3.6584$ ,  $p < 0.001$ ) as indicated by a bootstrapping CI that does comprise zero (lower 95% CI = -.2755, upper 95% CI = -.0830). FCOVID-19 has a significant impact on IR ( $b = -.0334$ ,  $t = -5.6813$ ,  $p < 0.001$ ) as indicated by a bootstrapping CI that does comprise zero (lower 95% CI = -.0449, upper 95% CI = -.0218).

The study assessed the mediating role of Psysafe and FCOVID-19 on the relationship between PCS and IR. The results revealed a significant indirect effect of impact of PCS on IR through Psysafe ( $b = -.0609$ ). The study also found an insignificant indirect effect of impact of PCS on IR through FCOVID-19 ( $b = -.0163$ ) as indicated by a bootstrapping CI that does not comprise zero (lower 95% CI = -.0437, upper 95% CI = .0045). Furthermore, the direct effect of PCS on IR in the presence of the mediators was found to be significant ( $b = .3596$ ,  $t = 6.6238$ ,  $p < 0.001$ ). Hence, Psysafe partially mediated the relationship between PCS and IR, but FCOVID-19 did not partially mediate the relationship between PCS and IR. Mediation summary analysis is presented in Table 55. Figure 20 shows the Statistical Diagram for Model 3.

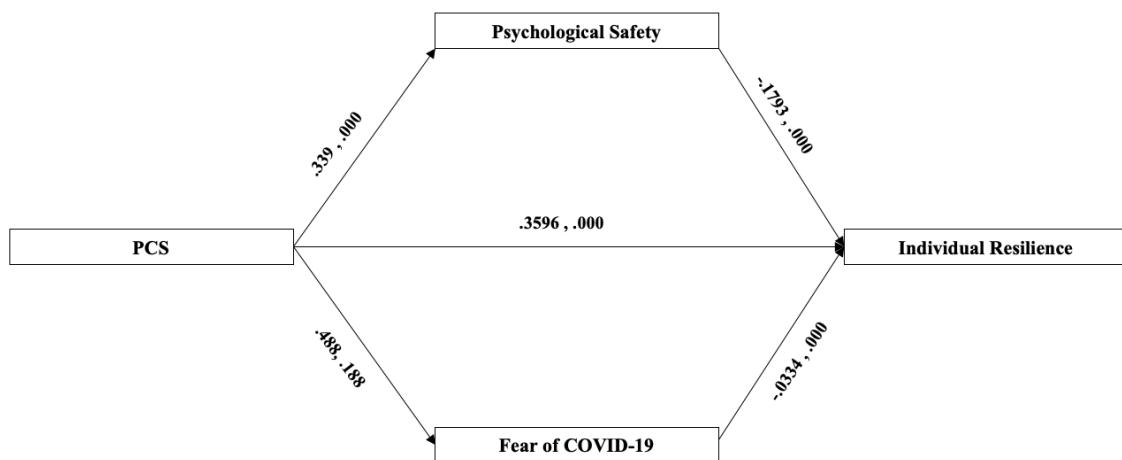
**Table 55:** Mediation summary analysis Model 3

Total Effect (PCS $\geq$ IR)	Direct Effect (PCS $\geq$ IR)	Relationship	Indirect Effect	Confidence Interval		Conclusion
				Lower Bound	Upper Bound	
.2825(.000)	.3596(.000)	Path 1: PCS $>$ Psysafe $>$ IR	-.0609	-.0946	-.0310	Partial Mediation

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		Path 2: PCS > FCOVID-19 > IR	-.0163	-.0437	.0045	No mediation
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**Figure 20: Statistical Diagram for Model 3**



### 6.4. Summary

This quantitative data analysis and findings chapter first presented the frequency analyses among all research variables. The frequency analysis revealed that the population in this investigation generally exhibited normal to high resilience, with the younger generations more oriented towards exhibiting resilience than older generations. Resilience did not seem to correlate with department as much as how the organisations reacted to crises and equated demands and resources. For the majority of the population, fear of COVID-19 was generally regarded as high, especially among younger generations.

In study chapter 1, all hypotheses were accepted, suggesting that perceived support positively impacted individual resilience, with perceived supervisor support being the most crucial facet of perceived support.

In study chapter 2, it was found that psychological safety did not directly impact individual resilience, but it did moderate and mediate the relationship between perceived support and individual resilience at certain conditions.

In study chapter 3, fear of COVID-19 was found to negatively impact individual resilience. It also moderated the relationship between perceived supervisor support, perceived co-worker support, and perceived organisational support, and individual resilience, as well as mediating the relationship between all three facets of perceived support and individual resilience.

Multiple regression analysis provided interesting findings, all of which will be discussed in the following chapter along with the implications of the study chapters' hypothesis.

## 7. Chapter Seven: Discussion

This chapter discusses the main implications from the study findings. The discussion chapter is divided into three main sectors reflecting the three main study chapters. Each study chapter includes sections discussing problem statement and literature gap, addressing the gap, hypotheses results, demographic analysis when applicable, contribution to literature and summary of the study chapter. The chapter concludes with an overall model discussion.

### 7.1. Study Chapter 1: Individual Resilience as a Behavioural Outcome Influenced by the Social Exchange Theory

#### 7.1.1. *Problem Statement and Literature Gap*

Organisations are working harder than ever to cultivate loyal employees in an effort to reduce turnover and absenteeism while enhancing individual performance and workplace values during crises. The importance of employees' favourable attitudes and perception toward their work and its impact on influencing performance and desirable work outcomes is becoming increasingly clear (Bukhari & Kamal, 2017; Kurtessis et al., 2017). Research priorities pertaining to management practise currently rank understanding the motivational underpinnings of such work attitudes and behaviours of high importance (Gould-Williams & Davies, 2005).

Understanding the motivational aspects underpinning work attitudes and behaviours becomes increasingly important during crises due to the changing nature of employee's priorities and needs (Alderfer, 1969). Employees have the capacity to shift their priorities depending on the context and situation, in this case, COVID-19 pandemic. In addition, Individuals have different understanding of the environment due to the different cultural and societal upbringings. In fact, contemporary literature started addressing the importance of individual differences when deciding what a crisis is, citing that a situation is considered a crisis when individuals believe that it costs disruptions from their desirable state of events (Denis & McConnell, 2003; Drennan & McConnell, 2012).

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Resilience is a vital notion in explaining why some individuals favourably adjust (i.e., bounce back) or even prevail tougher (i.e., bounce beyond), while others suffer from such occurrences, often irreversibly considering the individual differences (Fisher et al., 2019). No person, group, organisation, nation, or collective of any kind merely automatically moves quickly from one accomplishment to the next. Instead, failures and the encounter of unfavourable situations are a constant part of life for people and bigger structures, who must deal with a variety of possibilities, pressures, and other challenges of transitions (Hoegl & Hartmann, 2021). Therefore, three facts remain interchangeably correct. First, the presence of a crisis is a prerequisite for individuals to recognise the need to exhibit resilience and expose and overcome their vulnerabilities at work, distinguishing resilience from other coping mechanisms. Second, resilience remains the main performance connotation when organisations talk about surviving and bouncing back from catastrophes. Thirdly, and most importantly, while it is encouraging that organisations discuss building organisational resilience, it is crucial to understand that organisations can only be as successful as the people that comprise them. Resilience is a concept that does not simply appear at various organisational levels at random. Organisations will not achieve resilience unless the individuals are. Hence, unless it is sufficiently understood how resilience develops and affects work outputs at the individual level and how employees are motivated to exhibit resilience at an individual level during crisis, it will not successfully transfer to teams and organisations.

IR has been described by academics as a consistent personality attribute or trait, a state-like developable ability, an outcome, or a process. In all instances, the theoretical approach lacked the academic foundation to explain how or why resilience develops and affects work outcomes (Fisher et al., 2019; Miller-Graff, 2022). In fact, there is a lack of theory-driven empirical resilience research in the literature (Hartmann et al., 2020; Hoegl & Hartmann, 2021). Existing empirical studies have only provided a fragmentary understanding of the specific mechanisms through which resilience develops. In reality, academics have urged the need for theoretical foundations for workplace resilience research (Fisher et al., 2019; Hartmann et al., 2020; Hoegl & Hartmann, 2021; Miller-Graff, 2022). Scholars have previously attempted to use the job demands-resources theory, the conservation of resources theory, the high-quality connection theory, the self-determination theory,

and the broaden-and-build theory to explain the relationship various variables and IR, all of which do not sufficiently address the “why” and the “how” of resilience development. In summary, the main literature gap this section aims to answer is understand why and how IR develops in the workplace considering the crisis and contextual factors in hopes that it will help practitioners and academics understand the theoretical mechanisms of resilience development.

### **7.1.2. Addressing the Gap**

As it became increasingly evident that the previously exploited theoretical approaches did not provide a sufficient explanation for the specific mechanisms through which resilience develops, I began to look for other theoretical perspectives to provide more than just a fragmentary understanding of why and how resilience develops and impacts work outputs.

I first reviewed the literature in order to comprehend the resilience theory's fundamental theoretical underpinnings. The basic theoretical foundation of resilience is individuals recovering from disaster-related setbacks by acknowledging their weaknesses in the workplace and overcoming those weaknesses. I questioned why someone would voluntarily subject themselves to more stress by disclosing their workplace weaknesses in the midst of all the difficulties caused by catastrophes. What was the motivation? This train of thought led me to wonder if resilience is the result of the interaction and mutual exchange of benefits between themselves and different organisational stakeholders.

Looking for theories that supported the idea of "mutual exchange," I discovered the social exchange theory (SET). SET, which posits that the voluntary actions of individuals that are motivated by the returns they are expected to bring to and from others, is considered a motivational theory that explains the basic of human interactions and why employees act in certain manners (Blau, 2007; Bukhari & Kamal, 2017). I thought, if employees were guaranteed job stability or a pay raise, or whatever they need during a crisis as a reward for overcoming hardship, they would work harder to fulfil organisational demands by achieving resilience.

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As SET is primarily a motivational theory that emphasises individual differences, I viewed the idea with scepticism, wondering what would happen if an organisation offered rewards that its personnel did not need at the time. It soon became clear that employees receiving the benefit needed to perceive that the reward meets their immediate needs, indicating that organisational representatives should personalise rewards to meet the unique needs of each employee. I then went back to the foundational idea of motivational theories known as "the ERG theory," which suggested that people's priorities of needs may change depending on circumstances (C.-L. Yang et al., 2011) highlighting the importance of understanding employees' differences before attempting to motivate them. This conclusion falls in line with the criticism that current resilience approaches ignore individual differences. Building on this argument, I explain that in order to successfully reciprocate benefits and achieve various organisational objectives during a crisis, an employee must perceive the various benefits obtained from various organisational stakeholders as satisfactory.

In order to assess the reciprocity exchange and employees' perception of support and whether it positively or negatively affects their performance, I integrated the variable of "perceived support" assessed from three facets of organisation leaders, supervisors, and co-workers and which measures the degree to which employees believe that organisation's leaders, supervisors, and co-workers support and care about their well-being, own individual goals, and values their contribution to the organisation's success. The main premise is that if employees perceive that the support received from the three facets meet their priorities, they will reciprocate back and achieve desired outputs. I also included the three main facets of the organisation to assess and compare the degree of influence of each variable on IR to understand the importance of each.

By integrating the SET and motivational theories into the theoretical framework of resilience, this study provides a more comprehensive understanding of why and how resilience develops, and how it affects work outputs. Theoretically, the development of individual resilience in the workplace is as a result of the mutual benefit exchange between employees and respective organisational stakeholders, driven by employee motivation as explained by motivational theories.

### ***7.1.3. Hypothesis Results Discussion***

Results indicated support of Hypotheses 1 through 3 indicating a significant impact of perceived organisational support (POS), perceived supervisor support (PSS) and perceived co-worker's support (PCS) on individual resilience (IR) supporting the theoretical basis of study chapter 1 that IR develops in the workplace as a result of mutual benefit exchange between employees and respective organisational stakeholders and is subsequently a product of the SET represented by motivational theories.

The interesting finding was the degree of influence of each of the facets of perceived support IR. Results indicated that PSS had the highest influence on IR followed by PCS then POS, supporting hypothesis 4. However, many implications can be drawn from this result. The finding that PSS had a higher impact on IR as an organisational outcome than POS confirms that employees are able to differentiate between their direct supervisors and organisational leaders and that it is no longer theoretically plausible to equate both actors. It also raises the question of whether employees value and hold their direct supervisors at a higher regard than their organisational leaders during crisis only, and if so, why? There may be numerous contextual explanations for this outcome if we examine the fundamental components of the investigation. It is crucial to keep in mind that the data was gathered at the height of the pandemic in Egypt. Employees were working from home at this period, interacting with one another hardly ever in person. They primarily spoke directly online with their co-workers and immediate managers. Unless there was an urgent issue, organisational executives only communicated with employees by email forwarded to the entire organisation to update them on current actions regarding the organisation's response to the pandemic. This suggests that the outcomes might have been different if the data had been collected at a different time. It also highlights how crucial close communication is in times of crisis in building trust, influencing work outputs, and strengthening direct relationships. The importance of communication is also highlighted by the fact that PCS showed a higher impact on IR than POS. Employees turn to their close-knit networks of co-workers to clarify unclear circumstances and gain context for understanding their workplace environment (Zagenczyk et al., 2010). This constant and positive communication

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between co-workers in addition to building high-quality connections, builds trust and assists in achieving organisational outcomes. It is theorised that when co-workers' relationship is built on trust, they assist each other in achieving organisational outcomes.

This analysis led me to consider that while the SET explains why resilience develops – as a result of the mutual exchange of benefits, there is still the question of how. To explore this premise, I considered a novel theory that had not previously been introduced in this study but that might help explain the findings, the high-quality connection theory (Dutton & Heaphy, 2003). The theory explains that a connection is the dynamic, living factor that forms when two people come into contact with one another and engage in social interaction and mutual awareness. The presence of interaction indicates that the individuals have some sort of impact on one another, providing the relationship both a temporal and an emotional element. According to the theory, the relationship between leaders and followers is negotiated through time and a series of exchanges in which both parties trade resources, either increasing or weakening the bond. This theory helps explain the "how" segment of resilience development, as positive communication between different members can lead to the formation of high-quality connections that build trust – a crucial component in the reciprocity exchange - and assist in achieving organisational outcomes.

I suggest that the high-quality connection theory is conceptually similar to the SET but places a greater emphasis on the interpersonal and connection aspects of relationships. I employ the high-quality connection theory to explain how PSS had the strongest impact on IR followed by PCS and POS. While the SET explains why the relationship between perceived support and IR exists, I acknowledge that the high-quality connection theory better explains the mechanisms of the interactions or the how. It is evidently clear that the interactions between employees and their supervisors and co-workers is greater than with their organisational leaders. In addition, the interchange between employees and supervisors is fundamentally more important than between employees and co-workers since managers are able to give important benefits like pay and job security during an emergency that co-workers are powerless to control, which circles back to the importance of ERG theory and understanding the priorities and motivations of employees.

#### ***7.1.4. Demographic Variations***

In this investigation, demographic factors, including age, gender, education, sector, work experience, and salary were also explored. Accordingly, the multiple regression analysis was conducted to explore the impact of various demographic factors, as well as POS, PSS, and PCS on IR. A department scale was also originally added to analyse the level of resilience within the population across different departments. The findings concluded that the nature of the job does not determine the degree of resilience as much as how the organisation responds to the increased demands with required resources. The most interesting findings related to the demographic factors are discussed below.

**Gender.** Gender demographics analysis provided interesting results that may challenge conventional wisdom and theories established about gender differences. Results indicated that the impact across the female population was much stronger than the male population regarding the impact of PSS on IR (females ( $\beta=.411$ ) than males ( $\beta=.272$ ), and POS on IR (females ( $\beta=.225$ ) than males ( $\beta=.157$ ). This goes in line with previous research suggesting that men are frequently thought to be less agreeable than women and that women are more loving, compassionate, and altruistic than men making them more likely to be likeable among managers and cultivate good relationships (Hofstede, 2001; Weisberg et al., 2011). However, the impact of male population was much stronger than the female population regarding the impact of PCS on IR (males ( $\beta=.379$ ) than females ( $\beta=.129$ ). This goes against previous research suggesting that women tend to value their connections with their co-workers more than men (Hofstede, 2001; Sloan, 2017; Weisberg et al., 2011). This might be explained by the absence of physical contact which altered women's propensity for developing more intimate connections. This change in behaviour could have also been caused by the setting that COVID-19 put families in. In Egyptian society, the majority of the population is considered male-oriented, and men are solely in charge of managing household finances and providing for their families (Govindasamy & Malhotra, 1996; Morsy, 2013) . More people stayed at home during the COVID-19 pandemic to practise social distancing, which altered the nature of family connections at home. Given the financial strain that men were under, it might make sense that males were more likely to connect with their co-workers in order to

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understand the current uncertain environment, while females were more likely to get their tasks done with the help of their supervisors and spend more time at home.

The following demographics of Age, work experience and salary showed similar trends that could be explained in the same manner. I will first demonstrate the trends of each variable then explain the correlation.

**Age.** The analysis examined the impact of POS, PSS, and PCS on IR across different age groups with Gen Z referring to 18-22 years old, millennials referring to 23-38 years old, Gen X referring to 39-54 years old and Boomers referring to 55-60 years old. The results indicated that the impact of POS on IR decreased gradually as the population grew older: Gen Z ( $\beta=.346$ ), millennials ( $\beta=.306$ ), Gen X ( $\beta=.169$ ), with no impact on boomers. In contrast, the impact of PSS on IR increased as the population grew older showing no impact on Gen Z, millennials ( $\beta=.355$ ), a higher impact for Gen X ( $\beta=.474$ ), and the highest impact for boomers ( $\beta=.917$ ). Similar to POS, the impact of PCS on IR decreased gradually as the population grew older Gen Z ( $\beta=.462$ ), millennials ( $\beta=.251$ ), Gen X ( $\beta=.143$ ), and had no impact on the boomers. Overall, these findings suggest that the relationship between these variables and IR may vary depending on the age group, with different generations exhibiting different patterns of response. This implication can be explained by priorities and needs of members. These findings suggest that younger populations are more likely to show interest in strengthening the relationship with co-workers and organisation leaders. As they grow older and understand the organisation dynamics and become aware of how direct supervisors decide critical alterations to their rewards and benefits, they become more interested in cultivating this relationship.

**Work Experience.** The analysis examined the impact of POS, PSS, and PCS on IR across different levels of work experience, with work experience showing similar trends to age. The impact of POS on IR decreased gradually as the population grew older with experience 1-3 years of experience ( $\beta=.252$ ), 4-6 years of experience ( $\beta=.170$ ), and had no impact on employees with 7 years of experience and above. The impact of PSS on IR on the other hand increased as the population grew older with experience, showing no impact on employees between 1-6 years of experience and having impact on employees with 7-10 years of experience ( $\beta=.630$ ), 10-14

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years of experience ( $\beta=.693$ ), and above 14 years of experience ( $\beta=.939$ ). Similar to POS, the impact of PCS on IR decreased gradually as the population experience increased, 1-3 years of experience ( $\beta=.389$ ), 4-6 years of experience ( $\beta=.232$ ), 7-10 years of experience ( $\beta=.133$ ), and showed no impact on employees with 10 years of experience and more.

**Salary.** Salary range showed similar trends to work experience and age. The impact of POS on IR decreased gradually as the population earned more: for salaries between 3000 and 5900 Egyptian Pounds (EP), the impact was significant ( $\beta=.460$ ), for salaries between 6000 and 8900 EGP, it weakened ( $\beta=.129$ ), and for employees earning more than 8900 EGP, there was no impact. On the other hand, the impact of PSS on IR increased with higher salaries: there was no impact for salaries below 14,900 EGP, but for salaries between 15,000 and 20,900 EGP ( $\beta=.191$ ), between 21,000 and 40,000 EGP ( $\beta=.450$ ), and above 40,000 EGP ( $\beta=.527$ ), the impact was significant. Since co-workers have no say in salary increases, the impact of PCS on IR was not analysed. However, the implications indicate that employees become generally more aware of the impact of direct supervisors on salary increases and appreciate the relationship more.

The study found that age, years of experience, and salary ranges had similar trends in terms of their impact on IR. Specifically, the impact of POS and PCS on IR decreased as population grew in age, years of experience or salary range while the impact of PSS on IR increased as population grew in age, years of experience, or earned higher salaries. These findings have important implications for motivating employees, as they highlight the importance of understanding individual differences and needs in the workplace. First, it shows that employees' interests and relationships with organisational stakeholders change with time and experience confirming that people's priorities of needs may change depending on circumstances (C.-L. Yang et al., 2011). For example, younger employees may be more responsive to organisational policies and practices, while older employees may prioritise relationships with supervisors and monetary rewards. Second, the results show how generations take time to cultivate relationships with direct supervisors. POS and PCS had the strongest impact on IR across younger generations (Gen Z and millennials) compared to older generations while PSS had the strongest impact on IR

across older generations compared to younger generations. This shows that it becomes considerably simpler for new employees to build friendships, follow organisational policies and practises, and pay attention to organisational leaders. Building trust and enduring relationships with direct supervisors takes time. Employees begin to distinguish between organisational leaders and supervisors as they work for the company longer, and value supervisors' relationship much more. Third, employees associate salary increases as mutual exchanges with supervisors more than organisation leaders. As POS impact on IR decreased with increased salary and the impact of PSS on IR increased with increased salary, the results indicate that as employees distinguish between direct supervisors and organisational leaders, monetary rewards become more associated with direct supervisors. It also indicates that should organisations desire to have direct impact on employees' performance, they should be careful not to consider rewards to employees that they associate under supervisors' jurisdiction.

**Sector.** There were some interesting results regarding the sector demographic. Regarding the education sector, POS displayed no effect on IR, while the impact of PSS on IR was ( $\beta=.460$ ), the impact of PCS on IR was ( $\beta=.140$ ). Regarding the financial sector, the impact of POS on IR was ( $\beta=.153$ ), while the impact of PSS on IR was ( $\beta=.556$ ), the impact of PCS on IR was ( $\beta=.519$ ). Regarding the technology and telecommunication sector, PSS displayed no effect on IR, while the impact of POS on IR was ( $\beta=.372$ ), the impact of PCS on IR was ( $\beta=.285$ ). The financial sector showed the strongest impact of PSS and PCS on IR. The reason for this could be that, in contrast to the education and telecommunications sectors, employees in the financial sectors continued to go to work and have direct physical contact with co-workers, and managers. POS remained to have the weakened link to IR. On the other hand, the education sector changed the mode of delivery to online learning which explains the impact of PSS on IR ( $\beta=.460$ ), and PCS on IR ( $\beta=.140$ ). It makes sense that employees in the education sector valued their interactions with supervisors more to comprehend the policies and procedures of doing business, given the radical change in the business model. The reason why POS showed no impact on IR in the education sector might be because of how universities operate. In many cases, departments' interactions are much stronger than organisation's interactions and university educators do not necessarily view universities as

organisations. More importantly, I earlier questioned whether employees value direct supervisors more during crisis or in situations with greater alteration to the status quo. Comparing the three sectors in question, the technology and telecommunication sector was the most static sector in Egypt which is interesting considering that it is the only sector that showed POS having greater impact on IR than PSS. In fact, PSS had no impact on IR in that sector. This makes the ideology that employees turn to the organisation actors (direct supervisors) that fulfil their needs during crisis more interesting and valid.

**Education.** While the education demographics provided interesting results there seemed to be no correlation between how the impact increased or decreased. I was not able to identify any pattern regarding the data. Across bachelor's degree holders, the impact of POS on IR was ( $\beta=.142$ ), the impact of PSS on IR was ( $\beta=.306$ ), the impact of PCS on IR was ( $\beta=.470$ ). Across master's degree holders, the impact of POS on IR was ( $\beta=.319$ ), the impact of PSS on IR was ( $\beta=.441$ ), the impact of PCS on IR was ( $\beta=.186$ ). Across doctorate degree holders, the impact of PCS on IR was the only significant correlation ( $\beta=.297$ ). However, there might be a simple explanation to this dynamic. The impact of master's degree and PhD holder can be reviewed in the educational sector as it is the only sector that requires educational advancement for promotion. As employees join the educational sector and similar to previous findings, they become interested in cultivating relationships with their co-workers. They are also easily replaced which explains why they are interested in building relationship with their supervisors. As they earn their master's degree and get promoted, they become more interested in cultivating relationships across university with supervisors and organisational leaders as they are more interested in building relationships and increasing contacts to publish more work for promotions. Once they earn their PhD, they become independently strong within the university and return back to cultivating their relationship with co-workers as they please.

### **7.1.5. Contribution to Literature**

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The current study chapter provides significant contributions by attempting to fill several gaps and providing a number of conceptual and empirical advances to the literature.

First, the study expands on the limited prior research on individual resilience in the workplace and how it develops and affects work outputs by answering the question of “why” and “how” resilience initiates. This study is the first to consider approaching resilience as a behavioural outcome influenced by the mutual exchange of benefits between members. To explain “why” resilience develops, the study explains that resilience develops because of a response to meet their current needs and demands. To explain “how” resilience develops, the study explains that high quality connections between different members increase the quality of interpersonal relationships and trust which are vital components in the reciprocity exchange of benefits.

Second, in order to explain how the mutual exchange of benefits occurs, the study extends the understanding of IR by studying the impact of perceived support assessed from three facets of organisations, supervisors, and co-workers. The study is the first to consider positive perception as an important antecedent of individual resilience. The study confirms that the three facets of perceived support have positive impact on individual resilience and highlights direct supervisors as the most crucial actors to influencing resilience as an organisational outcome.

Third, the theoretical lens for the study chapter are the social exchange theory and the high-quality connection theory. SET has been found to be a compelling theory for developing an understanding of human behaviour and why employees act in certain ways (Blau, 2007). In essence a motivational theory, a key proposition for the SET is that social behaviour is the result of a trade process and mutual exchange of benefits between different parties (Blau, 2007). Finding an explanation for why people would engage in resilience, which necessitates voluntarily exposing shortcomings in the workplace in order to overcome them was the primary concern in the literature gap. Although not a primary theoretical lens, I integrate the ERG theory which also confides in motivational theories to explain why direct supervisors showed the most significant influence on IR. The study further relies on the high-

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quality connection theory in explaining the mechanisms of how the reciprocity exchange impacts resilience. While the SET explains why the relationship between perceived support and IR exists, I acknowledge that the high-quality connection theory better explains the mechanisms of the interactions or the how. Strong bonds between different organisational members increase with time and form trust. Trust is vital in ensuring a successful reciprocity exchange outcome. By combining the SET and high-quality connection theories with IR, the study would advance the theoretical understanding of resilience development by providing more than just a fragmentary understanding of the mechanisms through which resilience grows and providing theoretical rationale of why and how individual resilience develops in the workplace. This approach offers a fresh and novel perspective on how resilience develops as a result of reciprocal exchange and mutual trust.

Fourth, to the best of my knowledge and based on a search of peer-reviewed databases, no prior study has empirically examined the impact of perceived support on individual resilience in a formal workplace setting nor theoretically examined why or how individual resilience develops. Scholars have used the job demands-resources theory, the conservation of resources theory, the self-determination theory, and the broaden-and-build theory to explain the relationship between IR and various outcomes and the majority of the study in this area has been done by psychologists who work with populations of children and adolescents (Aburn et al., 2016; Fisher et al., 2019; Hartmann et al., 2020; Hoegl & Hartmann, 2021; Miller-Graff, 2022). This is the first study to consider positive perception as an important antecedent to resilience and the first study to employ the SET to explain resilience as a product of the mutual exchange of benefits as well as the first study to stress the importance of interpersonal relationships, trust, and direct supervisors in achieving resilience.

Fifth, the demographic analysis provided interesting conceptual contribution that aids in understanding how resilience develops. The results indicate that the relationships with organisational leaders, supervisors and co-workers change with age, experience, and growth. Younger generations are more prone to reacting positively to organisational leaders and co-workers while older generations are more prone to reacting positively to supervisors. In addition, the results indicated that there

are gender differences that goes against conventional understanding of gender roles showing how females are more prone to reacting positively to organisational leaders and supervisors and males are more prone to reacting positively to co-workers.

While many of these variations might be explained by COVID-19 pandemic, it confirms how individuals have different understanding of the environment due to different cultural, societal, and demographical upbringings and confirms the importance of understanding how employees' priorities shift based on circumstances and how individual differences affect motivation and perception.

The current study chapter combines three theoretical stances to explain the findings of this study chapter (i.e., Motivational theories covering SET and ERG and the high-quality connection theories). By integrating these theories, the current study expands previous research on individual resilience as an employee-related outcome by examining the motivational mechanisms underlying the development of resilience.

### **7.1.6. *Summary of Study Chapter 1***

Study chapter 1 aimed to study the mechanisms through which resilience develops in the workplace and how it affects work outputs. The study used SET to explain how resilience develops as part of a reciprocal exchange between employees and organisational stakeholders. The study found that POS, PSS, and PCS all significantly impacted IR. High-quality connections theory was also used to explain why the direct effect of PSS on IR, was higher than PCS and POS. The demographic analysis showed that relationships between employees and their supervisors change with age and experience and how different generations value different relationships, with younger generations valuing relationships with organisational leaders and co-workers and older generations valuing relationships with supervisors. Additionally, the study found gender differences in responding to support, with females responding more positively to organisational leaders and supervisors, and males responding more positively to co-workers. The findings suggest the importance of considering demographic factors and the dynamics of support in addressing employee motivation and achieving desirable work outcomes.

## **7.2. Study Chapter 2: Defining the Influence of Internal Factors on Individual Resilience: Psychological Safety as a Boundary Condition**

### ***7.2.1. Problem Statement, Defining and Addressing the Gap***

One of the primary issues with literature on resilience was its unidimensional approach to the phenomena and lack of focus on social and cultural factors and processes that affect the growth process. The first step I took to address this issue was approach resilience as a process and account for all internal and external factors that influence the process thus understand how resilience could be a function of the context in which they take place. The first study chapter addressed all the stakeholders that interact with employees in the work environment and thus might directly or indirectly affect performance. While the introduction of perceived support helped in underpinning of resilience to a solid theoretical justification that explains why and how resilience develops, there still lacked the contextual aspect. I still needed to identify the internal and external elements that influence resilience development. This study chapter is concerned with the internal factors.

I needed to identify internal elements that impacted resilience development in order to evaluate the social environment. Employees needed to overcome and recover from the difficulties posed by disasters in order to become resilient, therefore they had to expose their workplace weaknesses and conquer them. In other words, employees would be engaging in a great deal of interpersonal risk-taking. I started looking for internal variables that assessed the concept of interpersonal risk-taking within the context of the organisation environment, and thus, the concept of psychological safety (Psysafe) was introduced. The primary benefit of Psysafe is that it enables workers to take interpersonal risks without worrying about adverse outcomes. In addition to appreciating one another's expertise, having good intentions for one another, and being capable of engaging in constructive disagreement or conflict, employees who feel psychologically at ease at work believe that their organisation's leaders, supervisors, or co-workers will support them if they speak up or take interpersonal risk (M. L. Frazier et al., 2017; Gong et al., 2020; Newman et al., 2017). I use this opportunity to highlight a common thread between IR and Psysafe. The main premise of resilience that involves the interpersonal risk of

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exposing vulnerabilities at work is supported by the main premise of a Psysafe environment, the ability to take interpersonal risk without worrying about consequences. Accordingly, I argued that the presence of a Psysafe environment should in one way or another impact, strengthen or affect the presence of IR. Hence, this study chapter measured the direct impact of Psysafe on IR while assessing the moderating and mediating impact of Psysafe on the relationship between perceived support and IR.

I took into consideration all of the advice from prior academics to develop the construct of Psysafe in parallel while scanning peer-reviewed databases on Psysafe for the literature review on how to link it to IR. There have been several recommendations to advance the Psysafe literature. Most recently, the recommendations included conducting greater research in different cultural contexts to understand if Psysafe has a stronger impact on outcomes for people different from Western context (M. L. Frazier et al., 2017; Newman et al., 2017), and theoretically employing the COR theory to explain how Psysafe develops as well as how team and individual resource investment and depletion may explain the relationships between Psysafe and job outcomes. In addition, previous research also recommended investigation into the negative sides of too much psychological safety.

Simultaneously, I worked on achieving the main aims of the study chapter as well as responding to scholarly calls to develop Psysafe research by integrating the contributions of two theories: the SET and the COR theory. The core tenet of the SET theory is that a process of cost-benefit analysis results in the development of a relationship and the mutual exchange of benefits between two people (Blau, 2007; Gould-Williams & Davies, 2005). According to the reciprocity theory and the aim of this investigation to theoretically and empirically demonstrate that resilience is a product of motivational theories explained as the result of reciprocity exchange, if organisations provide a psychologically safe environment through policies and cultural practices that is deemed safe for interpersonal risk taking, they can expect employees to reciprocate by engaging in resilience, exposing their vulnerabilities, and doing so without fear of repercussions. The core tenet of COR theory is that people try to acquire resources in order to guard against resource loss (Hobfoll & Lerman, 1989). Resources can be given or taken away by an organisation, a

manager, a team, or an individual, and may include social support, rewards, autonomy, or job security (Hobfoll & Lerman, 1989). Supportive workplace resources create a psychologically safe environment that protects against resource loss, which is linked to unfavourable individual results like stress and strain as well as unfavourable team outcomes like conflict (Newman et al., 2017). As employees are motivated to invest resources (such as through communication and knowledge sharing), resulting in positive work outcomes like learning, innovation, and performance and the creation of a climate of Psysafe that sets high performing teams apart from their counterparts. Using the same premise, I argue that the presence of Psysafe environment as a result of response to resources loss due to COVID-19 will both positively moderate and mediate the impact of perceived support on IR. Finally, the Egyptian geographical context of this research automatically answers the call to examine Psysafe in cultural context different than the Western region.

### ***7.2.2. Hypothesis Results Discussion***

The results were surprisingly, as they indicated that Psysafe did not have a significant impact IR. Many implications could be drawn from this result. The non-significant correlation could be attributed to the methodological approach selected to assess Psysafe. I adopted Edmondson's approach to defining and measuring Psysafe as a common conviction held by members of a team that the team is safe for interpersonal risk taking (A. Edmondson, 1999; Nemphard & Edmondson, 2006). This approach hypothesised that Psysafe could be approached from a team's standpoint. However, I criticised this approach in the literature review based on the emphasis of the need of not to discount individual variances and cautioned scholars when combining all of employees' experiences, as people have varying perspectives because of their upbringings, social and cultural influences. Thus, a possible explanation for the non-significant correlation might be using a methodology that combines the collective ideology of a team to measure an individual organisational outcome. Another explanation might be using Psysafe as an exchange benefit. The argument that Psysafe would have a positive impact on IR was based on the SET and monetary or non-monetary exchange of benefits between employees and organisations stakeholders. However, the reciprocity exchange process is about

assessing the benefits received from different representatives and responding accordingly. It might be the case that employees cannot assign the presence of a Psysafe environment to a certain representative. It is a phenomenon that while might be encouraged by policies, procedures and cultural values assigned by the organisation, is in fact enacted by co-workers, supervisors, and organisations simultaneously. It is a phenomenon encouraged when employees feel psychologically at ease at work and believe that their organisation's leaders, supervisors, or co-workers will support them if they speak up (M. L. Frazier et al., 2017; Gong et al., 2020; Newman et al., 2017). Thus, considering the multi-faceted nature of the construct, it might be hard to pinpoint who is responsible for its existence, making it difficult to reciprocate accordingly. These analyses further confirm the assumption that psychological safety is treated as a resource within the organisation rather than a benefit directly aimed at fulfilling employee needs. Its presence or absence within the organisation either hinders or improves organisational outcomes but it is not considered as compensation.

Building on this argument, I utilise the conservation of resource theory to assess psychological safety as a resource rather than a benefit. A Psysafe environment can lead to desirable outcomes such as taking interpersonal risks without worrying about consequences (Boyer & Edmondson, 2015; A. C. Edmondson & Lei, 2014; Mayer & Gavin, 2005), improving communication and knowledge sharing (Leroy et al., 2012; Mu & Gnyawali, 2003), expressing opinions, increasing commitment, work engagement, innovation, and creativity (Brinsfield, 2013; C. Chen & Tang, 2018; Mayer & Gavin, 2005; Sanner & Bunderson, 2013). These outcomes are all enablers and prerequisites to other desirable organisational outcomes. Accordingly, it makes sense that Psysafe partially mediates the relationship between POS, PSS, and PCS, and IR. It was highlighted as partial mediation as a direct relationship between the perceived support and IR exists. In other words, Psysafe only accounts for some of the relationship between the perceived support and IR. Despite the significant direct impact of perceived support on IR, and the insignificant impact of Psysafe on IR, the presence of Psysafe and its desirable outcomes still partially explains the relationship between perceived support and IR. However, since the relationship still exists without Psysafe as the mediator, a moderation analysis was also conducted to analyse the strength of impact of Psysafe on the model.

The results of the moderation analysis were interesting, revealing a positive and significant moderating impact of Psysafe on the relationship between POS, PSS, and IR. Further analysis indicated that the strength of the relationship between POS and IR decreased as the level of Psysafe decreased. The moderating impact of Psysafe on POS and IR is only statistically significant at medium and high levels of Psysafe, suggesting that a moderate to high level of Psysafe might be considered a boundary condition for the moderating effect. The impact of Psysafe on the relationship between PSS and IR is also statistically insignificant at extremely low levels of Psysafe, although the boundary condition of Psysafe was less severe than its presence in POS. Therefore, to strengthen the relationship between POS, PSS, and IR, the level of Psysafe should be regarded as medium to high, indicating a boundary condition. Interestingly, Psysafe did not exert any significant moderating impact on the relationship between PCS and IR.

In summary, Psysafe did not directly impact IR but moderated and mediated the relationship between perceived support and IR confirming that Psysafe is a resource in organisations that enables or hinders organisational performance rather than a benefit that could be exchanged. Moreover, the moderation analysis was only successful when at moderate to high levels of a psychologically safe environment indicating that a boundary condition for Psysafe to impact resilience is that it exists at more than just a low level.

### **7.2.3. Contribution to Literature**

The current study provides significant contributions by attempting to address several gaps.

First, this study chapter extends the limited research on the understanding of psychological safety and its impact on individual resilience. This study is among the first to consider psychological safety as an important antecedent of individual resilience. No previous study to the best of my knowledge and through search in peer-reviewed databases has empirically explored the effects of psychological safety on individual resilience in a work setting. Existing research on psychological safety has primarily focused on its impact on team resilience. This is one of the earlier

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studies to assess psychological safety and its impact on resilience on an individual level.

Second, despite previous research stressing the direct impact of psychological safety on team resilience, this research suggested that psychological safety does not have the same direct effect on individual resilience. In the process of drawing theoretical implications from this finding, the study added to the theoretical contribution of the social exchange theory by explaining how in order for the reciprocity action to occur successfully, clear actors must be assigned as responsible for the exchange process. More importantly, the findings suggests that variables were employees cannot assign clear responsible actors, but impact work outcomes act as organisational resource rather than benefit. In other words, their presence hinders or improves organisational outcome but does not cause it.

Third, in order to assess how psychological safety impacts work outputs as a resource, conservation of resource theory was employed to measure the moderating and mediating impact of psychological safety on the relationship between perceived support and individual resilience. Results indicated that the presence of a psychologically safe environment partially mediates the relationship between all facets of perceived support and individual resilience. In other words, it partially explains why this relationship exists highlighting the importance of the presence of psychological safety as an organisational resource and explaining the mechanism through which perceived support could influence individual resilience. Fourth, researchers have longed to understand the boundary conditions that impacts individual resilience and psychological safety independently and co-dependently (M. L. Frazier et al., 2017; Mokline & Ben Abdallah, 2021). The findings of investigating the moderating impact of psychological safety adds to the theoretical development by highlighting this boundary condition. Psychological safety positively moderated the relationship between POS, PSS, and IR. This indicates that in order for psychological safety to positively strengthen the relationship between POS, PSS, and individual resilience, the boundary condition dictates that psychological safety has to be present at medium to high degrees. In other words, psychological safety won't help to improve the exchange process of mutual benefits between organisational leaders, supervisors, and employees if the environment shows only

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minimal psychological safety, where the advantages are barely noticed and the indications of no ramifications for interpersonal risk-taking are not highlighted, underlining the importance of psychological safety to encourage desirable workplace outcomes.

Fifth, the theoretical lens for this study chapter were the social exchange and the conservation of resource theories. While the social exchange theories were used to explain the direct influence of psychological safety on individual resilience, the conservation of resource theories were used to explain the mediating and moderating impact of psychological safety on the relationship between perceived support and individual resilience. In other words, the social exchange theory addressed psychological safety as an exchange benefit while the conservation of resource theory addressed psychological safety as a resource. The core tenet of COR theory is that people try to acquire resources in order to guard against resource loss (Hobfoll & Lerman, 1989). The creation of a climate of Psysafe that sets high performing teams apart from their counterparts and allows employees to invest resources (such as through communication and knowledge sharing), which in turn results in positive work outcomes like performance and (Newman et al., 2017). The conservation of resource theory has been found to be a more compelling theory for developing an understanding of the role of psychological safety in shaping different organisational behaviours including individual resilience. The integration of COR theory and successful utilisation of it to explain how psychological safety moderated and mediated the relationship between perceived support and individual resilience add to the theoretical development of the theory and the constructs and answer the call of researchers to use the theory in explaining how psychological safety interacts within the work environment. Hence, based on the COR theory, the study chapter intends to ascertain the importance of psychological safety in shaping desirable organisational outcomes despite having no direct impact.

Finally, no prior study has empirically examined the impact of psychological safety as a resource utilising the conservation of resource theory in a formal workplace setting on desirable work outcomes.

#### **7.2.4. Summary of Study Chapter 2**

Study chapter 2 aimed to take the first step in analysing how individual resilience could be a function of the context in which it takes place by investigating the impact of the internal environment and the workplace on individual resilience through psychological safety. The results showed that while psychological safety did not directly impact individual resilience, it exhibited a moderating and mediating impact on the relationship between perceived support and individual resilience. The findings added to the theoretical development of both individual resilience and psychological safety. First, by highlighting the importance of accountability when addressing individual resilience and the strengthening the argument that social exchange theories are key to understanding how individual resilience develops and second, by utilising the conservation of resource theory to explain how psychological safety impacts desirable work outputs and indicating the boundary conditions that hinders psychological safety from achieving its purpose.

### **7.3. Study Chapter 3: Defining the Influence of External Factors on Individual Resilience: Fear of COVID-19**

#### **7.3.1. Problem Statement, Defining and Addressing the Gap**

As mentioned previously, one of the primary issues with literature on resilience is its unidimensional approach to the phenomena and lack of focus on social, cultural, and external factors and processes that affect the growth process. The first step I took to address this issue was approach resilience as a process and account for all internal and external factors that influence the process thus understand how resilience could be a function of the context in which they take place. The first study chapter addressed all the stakeholders that interact with employees in the work environment and thus might directly or indirectly affect performance. While the introduction of perceived support helped in underpinning of resilience to a solid theoretical justification that explains why and how resilience develops, there still lacked the contextual aspect. I still needed to identify the internal and external elements that influence resilience development. The second study chapter thus focused on the internal aspect of the context taking place and assessed the

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psychological safety of the environment in which resilience is supposedly occurring. This study chapter concludes the study chapters and focuses on assessing how external environment impacts the environment in which resilience is supposedly occurring. The external element that governs this research is COVID-19. As this research focuses on the individual, the main goal was to assess how fear of COVID-19 impacted the individual's ability to perform in the workplace.

Emotions are essential to human existence (An et al., 2017; Gu et al., 2019). Previously, emotions were categorised as either positive or negative, unpleasant, or pleasant, activated or deactivated, etc. Researchers now understand that human emotions work in harmony rather than opposition to one another. Thus, despite the classical emotional paradigm, which conceptualises emotions as singular dimension, the evidence suggests that a more flexible approach is required. In literature, the six primary emotions that people experience are frequently categorised as sadness, joy, fear, anger, surprise, and disgust (Ekman, 1999). Research indicated that the main emotion that elevated with COVID-19 and affected individuals was fear (Belen, 2022a; De los Santos & Labrague, 2021; Dymecka et al., 2021; Elemo et al., 2020; Humphrey et al., 2022). In addition to individuals fearing of catching the virus and affecting their health, they were also afraid of the drastic measures that organisations were taking and effectively losing their jobs and financial income.

Fear serves as an adaptive reaction that alerts individuals to impending risks or danger (Elemo et al., 2020). Employees' level of trust in the organisation representative's ability to act in their best interest was subsequently impacted by their confidence in their continued employment in their organisations. The operative word here is trust. Employees are less likely to go above and beyond when there is a lack of trust between them and their employers. Survival is regarded as a priority by both organisations and employees. Employees want to make sure they stay with the company a long time, and companies want to make sure they stay in the market. When this occurs and the fear of both circumstances not occurring is high, the reciprocity exchange of benefits is damaged as it is difficult to focus on taking care of each other's needs in order to perform well when fear is high.

This study chapter is also based on the theoretical premise of social exchange theories. Both SET and reciprocity are built on the principle of trust (Blau, 2007). I make use of the SET to explain how the COVID-19-related increase in fear affects employees' attitudes, behaviours, and performances. The ability of a person to react to external hazards like COVID-19 and bounce back to increased performance is a key component of resilience. Employees must be honest about their weaknesses at work if they want to improve them and surpass expectations. However, when outside variables like COVID-19 enter the equation, they heighten people's anxiety and worry (Bakioğlu et al., 2021; Kardaş, 2021; Khudaykulov et al., 2022), impairing their ability to concentrate and adding to their stress by drawing attention to their workplace faults. Moreover, increased level of fear impairs the trust level between employees and accordingly affect the reciprocity exchange of benefits. The study contends that as people's fear of COVID-19 grows, their capacity to start building resilience decreases. In addition, as people's fear of COVID-19 grows, their trust in organisation's representative controlling the consequences decreases, so does the impact of perceived support on IR.

This study chapter assesses the impact of fear of COVID-19 on individual resilience, as well as the moderating and mediating effect of fear of COVID-19 on the relationship between perceived support and IR in the hopes that the finding would bring literature a step closer to understanding the impact of external environment on IR and understanding the multi-dimension interactions of human emotions.

### **7.3.2. Hypothesis Results Discussion**

As expected, the findings indicated that fear of COVID-19 significantly and negatively affected employees' ability to become resilient. This has many theoretical implications. First, the significant and negative impact of fear of COVID-19 on individual resilience confirms that resilience as a construct is impacted by the triggers from the external environment. Second, this result confirms the importance of not confusing emotional intelligence with the mere presence of emotions. While emotional intelligence is normally considered as a resource that improves performance (Hobfoll, 2001), it should not negate emotions with their mature and immature presence. Third, just because employees don't express their concerns and

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anxieties doesn't mean that they don't exist. This leads to the conclusion that organisations should react to outside threats that cause unfavourable feelings in the workplace, regardless of whether those feelings have obvious consequences.

Analysing the moderating impact of fear of COVID-19 on individual resilience indicated that while fear of COVID-19 moderated the relationship between PSS, PCS, and individual resilience, it did not exert any moderating impact on the relationship between POS and individual resilience. Many implications can be drawn from this result. First, it is now clear more than ever that employees are unilaterally able to signify and differentiate between organisational leaders and direct supervisors. It is no longer scientifically plausible for future researchers to combine organisational leaders and direct supervisors as one variable. In fact, it is clear from the analyses of the three study chapters that direct supervisors are the key and most significant influencers on organisational outcomes. It is evident that employees are more concerned with stakeholders who they are able to hold accountable for presenting intangible or intangible benefits. Second, closer looks into the moderating impact of PSS, and PCS on individual resilience show that at extremely high levels of fear, the variable no longer negatively impacts the relationship between PSS, PCS, and individual resilience. Due to the nature of the methodology being quantitative in nature, it is unclear what happens when the level of fear increases between employees to the maximum. While I will include it as a possible direction for future qualitative research, some subjective analyses could be induced. The increased level of fear could indicate that organisational leaders were not successful in maintaining and controlling the spread of panic, fear and stress that resulted from COVID-19. It is plausible that when employees recognise that the organisation is no longer concerned with answering their anxieties, the trust between them is completely broken, and thus employees are no longer interested in performing even at a minimum level. This highlights the importance of organisations not downplaying external threats even if they have no control over them occurring.

It is important to highlight that when fear of COVID-19 decreased, individual resilience increased. This indicates that fear although labelled as a negative emotion, is a resilience inhibitor that can be controlled. As at certain level when fear is not too high, it still also moderated the relationship between perceived support and

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individual resilience. Thus, it could be concluded that the mere presence of a negative emotion should not be regarded as a negative job output as the right HR interventions could translate it into positive work outputs.

The results indicated that the presence of a fear of COVID-19 partially mediates the relationship between all facets of perceived support and individual resilience. In other words, it partially explains why this relationship exists highlighting the importance of understanding the extent of impact of external elements like fear of COVID-19 and explaining the mechanism through which perceived support influence on individual resilience could be impacted by external threats.

The findings from this study chapter in fact posed more questions than answers. If the mere presence of fear as a negative trigger negatively impacts individual resilience as an outcome, is emotional intelligence a significant predictor to individual resilience? Could future research focus on emotions as a resource that organisation could control in order to influence the organisational results they aspire? What happens to employees when the level of fear increases to the maximum? All these questions and further propositions will be discussed further in the direction for future research section. Despite the meaningful questions posed, this analysis confirms the importance of analysing resilience as a function of the context and within the presence of adversity in order to understand in-depth how it develops and opened a gateway for future researchers to study emotions in organisations during crisis.

### ***7.3.3. Demographic Variations***

In this investigation, demographic factors, including age, gender, education, sector, work experience, and salary are explored. Accordingly, the multiple regression analysis was conducted on the impact of fear of COVID-19 on IR across all samples. The department scale was added originally to analyse the level of resilience within the population across different departments. Thus, it is not included in the analysis.

**Gender.** Gender demographics analysis provided interesting results that may challenge conventional wisdom and theories established about gender differences,

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which on the other hand confides with the standard social practices in the Middle East and North Africa. Results indicated that the impact of fear of COVID-19 on individual resilience did not present any influence on the females in this population while showed significant and negative correlation across the males in the population (male ( $\beta=-.177$ )). This could be explained using the both the basic and orthodox motivational theories in additional to the societal and cultural influences. In the Egyptian society, the males are considered the sole provider of financial support to their household, while any support females bring in is considered supplementary. As COVID-19 imposed social distancing and work from home, this indicated further adaptation of regular Eastern household responsibilities. Females were more oriented to staying at home and supporting their families while males were more concerned about fulfilling increased financial obligations and their survivability in their respective organisations. Thus, looking at Maslow's hierarchy of needs, men were needing more safety level needs of security while women were looking at love and belonging with family. Accordingly, considering the family obligations formed by the Egyptian society, even if the women were to lose their jobs and financial security, they did not need to worry about their financial obligations as whether they were married or at their parent's home, they had their husbands and parents to support them. Thus, the implications of fear of COVID-19 in addition to the pressing need to exhibit resilience were not as significant with women as they were with men.

**Age.** Multiple regression analysis into how fear of COVID-19 impacts individual resilience differently though age groups indicated that fear of COVID-19 negatively impacts individual resilience across Gen Z ( $\beta=-.542$ ) and Millennials ( $\beta=-.376$ ) and expressed no significant impact on the boomers and Gen X groups. In other words, up to the age of 39 the outcomes of fear of COVID-19 such as stress and anxiety were elevated and negatively affected performance. Beyond the age of 40, fear of COVID-19 had no impact on individual resilience. It could be because older people have less anxiety and worry, which is a revelation that has been discussed in previous research multiple times (Bryant, 2010; Jorm, 2000; Yildirim et al., 2021).

**Years of Experience and Salary.** The impact of fear of COVID-19 on individual resilience across years of experience remained negatively significant across the

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years. No matter how much experience the participant had, fear of COVID-19 increased stress and anxiety and accordingly, affected performance. However, the pattern did show significantly less impact as employees gain more experience. However, the impact of fear of COVID-19 on individual resilience across different salary brackets showed similar indications to the age group. The impact of fear of COVID-19 on individual resilience remained significant increasing until 21,000 EGP. Participants earning 21,000 EGP and above indicated that fear of COVID-19 had no impact on their ability to exhibit resilience. This could be also attributed to the fact that older people have less anxiety and worry (Bryant, 2010; Jorm, 2000; Yildirim et al., 2021). It might be that the more profit an individual brings in, the less worried they are about COVID-19 consequences.

**Sector.** The implications of fear of COVID-19 on individual resilience across sectors showed interesting but logical results. The impact of fear of COVID-19 on individual resilience was strongest across the financial sectors ( $\beta=-.302$ ), followed by the education sector ( $\beta=-.252$ ), and exhibited no impact on the technology sector ( $P=.559$ ). The financial sector specially the banking industry remained following their regular working conditions. While there might have been some rotational schedules in place, employees still faced customers on a daily basis and interacted with people in a time where social distancing was recommended, and COVID-19 was increasing rapidly. At the very least, it is natural that fear of COVID-19 was very high among financial sector employees due to the risk of contracting the virus. The education sector included dealing with students at a large number. While the business model of the education sector was changed from face-to-face to hybrid teaching, there was still physical contact, but less than financial sector. The technology sector experienced the most stable environment in comparison to the financial and education sectors. There was no direct contact with customers as most job duties entailed office responsibilities that were shifted to online.

**Education.** Multiple regression regarding the impact of fear of COVID-19 on individual resilience showed interesting results that could be attributed to the educational sector. This is because further analyses into the participants holding master's and PhD degrees indicated that they all work in the education sector. The educational sector is the only sector across the three that requires further education

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to guarantee promotion. Accordingly, the results showed that bachelor's degree holders are the only participants were fear of COVID-19 showed significant impact on individual resilience. This indicates that across sectors, education did not reduce fear of COVID-19 among participants and COVID-19 implicated all participants similarly. However, in the educational sector, fear of COVID-19 showed no significant impact on master's and PhD degrees holders. This could be explained by the fact that in Egypt, the turnover rate among bachelor's degree holders who work as teaching assistants is high in addition to the fact that teaching assistants could easily be replaced. However, as educators earn further degrees and get promoted, they become hard to replace in terms of degrees and work experience, thus their job security feeling is increased. In other words, the more secure their job and salary are, the less likely they are to be impacted by external threats and their performance is more likely to remain stable.

### **7.3.4. Contribution to Literature**

The current study provides significant contributions by attempting to address several gaps.

First, the study extends the limited research on the understanding of external environment and its impact on the development of individual resilience. This study is among the first to consider fear of COVID-19 as an important antecedent and potential inhibitor of individual resilience by analysing the direct, moderating, and mediating impact of the variable on individual resilience.

Second, results indicated that fear of COVID-19 significantly and negatively impact individual resilience. These results highlight important theoretical implications. First, the outcomes emphasises the importance external triggers in impacting work outputs and confirms along with previous study chapter that resilience is a behaviour outcome continuously affected by external and internal environment. Second, theoretically, it highlights the importance for academic scholars to not confuse emotional intelligence with the mere presence of emotions. While emotional intelligence is regarded by many scholars as a positive resource that impacts work

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performance, it does not negate the presence of emotions at mature and immature levels.

Third, results indicated that the presence of a fear of COVID-19 partially mediates the relationship between all facets of perceived support and individual resilience. In other words, it partially explains why this relationship exists highlighting the importance of the presence of fear of COVID-19 as an external factor and explaining the mechanism through which perceived support influence on individual resilience could be impacted by external threats. In other words, the exchange process between organisational members to achieve individual resilience is impacted by external triggers.

Fourth, results showed that while fear of COVID-19 moderated the relationship between PSS, PCS, and individual resilience, it did not exhibit the same moderating effect on the relationship between POS and individual resilience. This signified that it is not recommended for future researchers to combine organisational leaders and direct supervisors as one variable. It is clear that employees are able to distinguish between the responsibilities of their direct supervisors with respect to organisational leaders and it is evident that employees are more concerned with stakeholders who they are able to be held accountable for presenting intangible or intangible benefits. Further, deeper analyses into the moderating effect of fear of COVID-19 on the relationship of PSS, and PCS on individual resilience show that at extremely high levels of fear, the variable no longer negatively impacts the relationship between PSS, PCS, and individual resilience. Whether the lack of impact is due to the employees' lack of motivation to work due to extreme level of fear or other justification, it is a situation that organisations strive to avoid, signalling the importance of monitoring the degree of fear should a crisis occurs in order to manage and control the counter effects as soon as possible. Hence, the most significant conclusion from the direct, moderating, and mediating impact of fear of COVID-19 indicates that fear of COVID-19 is an inhibitor to resilience, however, it is an inhibitor that could be controlled with the right managerial practices. In other words, the mere presence of negative emotions should not be regarded as an unsolvable difficulty.

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Fifth, multiple regression analysis into the demographic variations regarding the impact of fear of COVID-19 on individual resilience yielded interesting results. Results indicated that gender differences regarding their response to external threats were limited by societal and cultural pressures. Findings showed that younger generations were more likely to exhibit the highest level of fear from external threats. Findings also suggested that older generations are more likely to experience performance issues in response to external threats as they grow older in age and work experience. Finally, employees working in sectors that experience regular stability are less likely to be afraid as a result of COVID-19 impact their performance. These implications indicates the importance of understanding the societal, cultural, job nature, and demographic variances when analysing the impact of external threats on performance within organisations.

Sixth, previous study to the best of my knowledge and through search in peer-reviewed databases has empirically explored the negative effects of fear of COVID-19 on various organisational outcomes. The implications of fear of COVID-19 on increasing stress and anxiety and thus reducing performance is well-known in literature (Bakioğlu et al., 2021; Kardaş, 2021; Khudaykulov et al., 2022; Okan, 2021; Yıldırım et al., 2021). However, to the best of my knowledge, this is the first investigation to examine fear of COVID-19 as a potential inhibitor and antecedent to individual resilience.

Finally, the theoretical lens for the study is the social exchange theory that supports the explanation of exchange of benefits in order to achieve desirable work outputs. Results indicated that increase in fear, stress, and anxiety impacts the trust and exchange of benefits between direct supervisors and employees the most showing the importance of investing in improving the relationship between direct supervisors and employees.

### **7.3.5. Summary of Study Chapter 3**

Study chapter 3 aimed at further developing the approach of analysing how individual resilience could be a function of the context in which it takes place by investigating the impact of the external environment and the workplace on individual

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resilience through fear of COVID-19. Results indicated that fear of COVID-19 negatively affected individual resilience, partially mediated the relationship between perceived support and individual resilience and moderated the relationship between PSS, PCS, and individual resilience. The results indicated that younger generations are more prone to experience the negative consequences of fear of COVID-19 than older generations and highlighted that societal differences impacted the way in which communities react to external threats.

### **7.4. Overall Model Discussion and Summary**

The section summarises the discussion and analysis of previous study chapters and concludes the implications into one bigger study. I discuss the implications of the findings regarding individual resilience with respect to general findings from overall model, demographic and cultural implications.

#### **7.4.1. General Discussion**

This study attempted to address the lack of empirical data regarding the elements that foster or hinder individual resilience in the workplace during crisis and the challenges the limited perspective that acknowledges only personality traits as antecedents to individual resilience poses on understanding the phenomenon by aiming to provide a strong theoretical and empirical justification to why and how individual resilience develops in the workplace.

The study mixes the social exchange theory with the high-quality connection theory to answer the questions "why" and "how" individual resilience develops respectively. Individual resilience develops as a result of the reciprocal exchange of advantages between employees and various organisational representatives. The social exchange hypothesis is used to explain why employees incur interpersonal risks at work in order to develop resilience, and the solution is organisations responding to their own wants and priorities. The high-quality connection theory is used to describe how mutual benefit trade or reciprocity exchange works. Continuous contacts and interpersonal interactions among organisational members foster trust, which is essential for a successful reciprocal exchange. To put it simply,

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if organisational leaders want members to go above and beyond to help them recover amid a crisis, they must reciprocate and provide something in return.

The direct influence of perceived support on individual resilience, as well as the analysis from the three models individually, show that direct supervisors are the most essential players in instilling individual resilience as an organisational result. The explanation for this might be linked back to the fact that direct supervisors are the key decision-makers when it comes to determining the perks workers receive depending on their performance. This research confirms that the decision-makers in charge of reacting to employees' wants and desires during a crisis are the most important actors in attaining performance. Another important indication is that positive perception is a key predictor of individual resilience.

As individual resilience does not operate in a vacuum, this study examined the surrounding internal and external environments, allowing boundary conditions to emerge. Psychological safety was a substantial contribution to the internal environment, but it had no direct influence on the development of individual resilience. It did, however, moderate the association between POS, PSS, and individual resilience, as well as mediate the relationship between all aspects of perceived support and individual resilience. Numerous implications have been made from this result. First, there was no direct impact despite psychological safety offering considerable cues for employees to safely take interpersonal risks and gain resilience. One of the primary causes for this was the lack of a single accountable actor for psychological safety as a construct. To ensure the effectiveness of the exchange process, one person must be held accountable for the reciprocity process. These results supported the premise that individual resilience is a result of social exchange theories and emphasised the significance of accountability for the exchange process's performance. Furthermore, the moderating effect of psychological safety on the relationship between perceived support and individual resilience reinforced the decision to use conservation of resource theory to explain how psychological safety as a resource within the organisation influences work outputs rather than as a benefit enacted by the reciprocity exchange. Psychological safety is viewed as a resource rather than an antecedent or benefit that, when present at medium to high levels, as suggested by the boundary conditions found in

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the discussion, improves job performance. Individual resilience was unaffected by psychological safety at low levels, suggesting the necessity of having a psychologically secure setting. Above all, any variable inside the organisation that is not implemented by a single person cannot be exchanged as a benefit. Certain factors, such as psychological safety, are resources that, depending on their presence, can aid or impede performance.

The external environment surrounding this research concentrated on COVID-19 and the impact of the pandemic on performance. The primary implication of this study was fear of COVID-19. Fear of COVID-19 had a significant and negative influence on resilience development, as well as moderated and mediated the impact of perceived support on individual resilience. In other words, when fear of COVID-19 diminished, individual resilience increased. The analysis of how fear of COVID-19 moderates the association between perceived support and individual resilience shows that at extremely high levels of fear, fear of COVID-19 no longer moderates the relationship. While it is unclear whether it is a positive or negative phenomena, it is more likely to be considered a negative reaction to organisations failing to address employees' needs. This suggests that, while fear of COVID-19 as a variable may be an inhibitor to individual resilience, the direct impact suggests that it is a barrier that can be regulated and lowered by managerial practises. As a result, the simple presence of unpleasant emotions should not be seen as an intractable issue. Most significantly, organisations should constantly respond to external threats, whether or not the ramifications for workers are obvious.

The ramifications of the internal and external environments demonstrate that resilience does not operate in a vacuum. It is a construct that is constantly influenced by internal and external factors. Even when the factors do not directly affect resilience, they operate as facilitators or inhibitors in the link between resilience and other variables. As a result, I can confidently state that resilience should no longer be addressed as just a collection of personality attributes. While personality qualities can aid with resilience, they are not to be considered the primary factor. It is hard to comprehend how resilience develops without first comprehending the contextual element in which it operates.

#### ***7.4.2. Demographic Implications***

Reviewing the departments under consideration concluded one of the important findings to analysing the demographic implications of the study on individual resilience. For a long time, researchers thought that departments or positions that face the most stress, such as firemen or police officers, had the highest levels of resilience (Herrman et al., 2011). Nonetheless, the findings revealed that even the most static divisions, such as finance officers, demonstrate resilience. As a result, I can confidently guarantee that whether or not a person demonstrates resilience has little to do with the department in which they work, but rather with how the organisation responds to external threats by creating a balance between demands and resources. This conclusion also strengthens the hypothesis that resilience is a behavioural outcome resulting from the mutual exchange of benefits.

Findings from the frequency analysis indicated that males were more likely to achieve high resilience than females. The cultural and sociological consequences that males being the sole financial providers for families in Egypt were continually explained throughout the inquiry to account for this implication and the phenomenon continuously appeared throughout multiple regression analyses. For example, multiple regression analysis into the impact of fear of COVID-19 on individual resilience across gender indicated that despite the presence of fear across the female population, fear of COVID-19 did not impact females indicating that females did not worry about achieving resilience. Most significantly, multiple regression into the impact of perceived support on individual resilience revealed that although research indicated that females were more likely to care about interpersonal relationships at work (Hofstede, 2009), perceived co-worker support impacted males more than females.

One of the most interesting findings from the multiple regression analysis was the response of age, years of experience and salary to the impact of perceived support on individual resilience. Across the three control variables, results indicated that the impact of perceived organisational support and perceived co-worker support on individual resilience decreased as members grew in age, years of experience and salary ranges. On the contrary, the impact of perceived supervisor support on

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individual resilience increased as members grew in age, years of experience and salary ranges. These implications indicated that employees' interest in relationships with different stakeholders within the organisation changes with times and experience, so does their priorities and needs. Despite the fact that data show that direct supervisors are the most important players in enacting resilience, demographic research shows that developing trust and good relationships with direct supervisors takes time. With regards to the impact of perceived support on individual resilience, multiple regression analysis across sector also showed interesting results. The assumptions that direct supervisors are the primary players in enacting resilience were validated throughout the sectors that demonstrated the largest changes in their business models (financial sector and educational sector). Nevertheless, in the technology and telecommunication industry, which is static in compared to the other sectors, perceived supervisor support had no effect on individual resilience. Surprisingly, perceived organisational support showed more impact on individual resilience than perceived co-worker support. This raises the question of whether direct supervisors are crucial in enacting resilience due to the contextual nature of COVID-19 pandemic. It is important to remind readers that the presence of a crisis is a prerequisite to exhibiting resilience. The fact that employees turn to direct supervisors in the sectors that have seen the most changes to the status quo to achieve resilience not only strengthens the investigation's main premise, but also raises the question of whether the investigation would yield the same result under normal circumstances. It is important to highlight that perceived organisational support showed no impact on individual resilience in the educational sector indicating the importance of understanding the dynamics and structure of the organisation before attempting to motivate employees. Academics are commonly recognised to be more intimately tied to their department than their organisation, or at the very least, that assumption depends on the strength of organisational culture.

According to the results of the frequency study, Gen Z and Millennials had the most fear of COVID-19, but they also had the greatest individual resilience despite the multiple regression analysis of the impact of fear of COVID-19 on individual resilience indicating that both generations were most likely to be impacted. This indicates that younger generations are more likely to bounce back regardless of the challenges they face. This also suggests that organisations should pay better

attention to the needs of older generations and how they respond to the challenges imposed while addressing any catastrophe.

COVID-19 pandemic changed conventional wisdom concerning demographic orientations to performance. Implications from this section suggests more than ever that organisation needs to pay close attention to how external threats impacts the dynamics within the work environment and accordingly impacts performance. Most importantly, it emphasises the significance of recognising individual variances in motivation.

### ***7.4.3. Cultural Implications***

One of the objectives of this investigation was to analyse if culture responses to resilience varies based on the region in question. Recently, researchers used Hofstede's model of national culture in NAFTA region representing Canada, United States of America, and Mexico to mirror the similar characteristics between each dimension of national culture and resilience characteristics (Fietz et al., 2021). This approach assumes that researchers can use historical data to offer important insights for current research if the work is based on private/ specific/original data from several years ago but for which the phenomenon researched is still of current interest (Zimmerman, 2008). The findings indicated that national culture affects resilience, and that resilience is context-specific in this particular region (Fietz et al., 2021). The authors suggested that companies that operate internationally should be aware of the cultural characteristics that influence the mechanisms of resilience in order to reinforce the competencies, procedures, and resources that result in resilience. This section responds to this request.

According to the recent cultural investigation of resilience within the NAFTA region, resilience would be negatively associated with high power distance and power acceptance due to low power distance index characteristics being more favourably associated with resilience such as fostering shared leadership that strengthens communication and strong relationships, increased trust, and network (Fietz et al., 2021). However, their results indicated that high power distance is positively associated with resilience prompting them to urge to examine the construct

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in cultures with high power distance. Following this conclusion, the results in this investigation indicated that Egyptians achieved high power distance whilst labelled as high in power distance confirming that the characteristics of a high-power distance culture including acceptance of power and hierarchy fosters resilience.

Two of the cultural indexes collaborated with the findings of the previous research on NAFTA and this investigation. Research on NAFTA region argued that the higher the individualistic score, the lower the resilience score. They also argued that the higher uncertainty avoidance score, the higher the resilience score. Given that Egypt is characterised as collectivist and high in uncertainty avoidance, the findings of this investigation confirms that both collectivism and high uncertainty avoidance are positively related with high resilience.

However, research on NAFTA region indicated that the higher the long-term orientation and indulgence score, the higher the resilience score. Although the Egyptian culture was characterised as being a short-term and conservative culture, Egyptians scored highly on resilience. In the initial analysis, I argued that Egyptian workers' highly restrained culture will aid in the development of resilience because people in indulgent cultures generally tend to be more upbeat and content as they make their own decisions as opposed to feeling vulnerable. I further assumed that the short-term orientation that demonstrates a respect for customs, a modest predisposition to save for the future, and an emphasis on getting things done quickly will foster resilience as it falls in line with the high-power distance characteristics (Hofstede, 2001). While the feminist index was initially not investigated in the original NAFTA research, the findings fall in line with the collectivism analysis given the similar characteristics of nations of both indexes.

The cultural analysis confirms several implications. Across both significantly different nations, both analyses confirmed the importance of high-power distance in fostering resilience. It confirms that in times of crises, employees accept distribution of power due to the ambiguity of the situation and the need for leadership to overcome the challenges imposed by the adversities. The findings of both cultures also confirms that importance of the culture characteristics of collectivist nations and this review also adds to it the feminist culture characteristics. The phenomenon of

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resilience requires continuous support and care, where everyone takes responsibility for fellow members of their group in order to support each other to overcome weaknesses and bounce back. Both cultures confirmed that high uncertainty avoidance fosters resilience on accounts that cultures with a high uncertainty avoidance index plan for a variety of scenarios and outcomes, as well as an uncertain future, by building thorough frameworks and standards.

Two culture indexes provided contradictory findings that calls for future investigation. Despite earlier NAFTA study demonstrating that an indulgent and long-term focused culture fosters resilience, Egypt scored high in resilience whilst being labelled as restrained and short-term oriented. This could indicate that both those indexes do not independently and directly foster resilience as both low and high levels of both indexes did not hinder the variable. It might also indicate that there are other factors with internal or external to the environment that affects the relationship between both indexes and resilience. It might also be the fact that both indexes are not important indicators to resilience as remaining cultural indexes. In which cases, each conclusion requires future researchers to further investigate both phenomena.

### **7.5. Summary**

This chapter provided discussion and analysis into the main findings of the research. Each study section was tackled separately before analysing the overall discussion in the final section. The following chapter discusses a brief revisit of the literature review.

## 8. Chapter Eight: Revisiting the Literature and Theoretical Framework

This section aims to summarise certain areas in the literature related to concepts or methodologies that need revisiting or have been proven in this investigation as opposing to conventional wisdom. It includes two sections: the first section revisits the key new concepts related to certain constructs, and the second section revisits the theoretical framework and explains new theories addressed in the discussion section.

### 8.1. Revisiting Literature Review

#### 8.1.1. Defining Resilience

One of the most important contributions this study made to the literature on resilience is providing a theoretical explanation for why and how resilience develops. The findings rely on the social exchange theory to explain the formation of resilience as a behavioural consequence emerging from the reciprocal exchange of benefits. The high-quality connection theory was also used to describe how resilience develops as strong interpersonal interactions foster trust, which aids in the development of a successful exchange process.

In order to assess the exchange process, the impact of perceived support on individual resilience was investigated. The findings confirmed the positive and significant impact of all three facets of perceived support on individual resilience. These findings confirmed three main implications. First, direct supervisors are the key players in instilling individual resilience as a performance outcome. Second, positive perception is a key predictor of individual resilience. Third, the success of the exchange of benefits process indicates the importance of trust and accountability during crisis. Members must hold a specific representative accountable for transferring advantages if they are successful in creating resilience. This roughly translates to any organisational factor that has more than one dynamic contributing to its development, such as psychological safety, where supervisors, organisational leaders, and employees all contribute to its presence, act as an enabler or inhibitor to the development of resilience. In other words, if the contributor does not provide a

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specific demand from a specific representative in return for member performance, this contributor becomes an automated resource rather than a benefit within the organisation that either allows or inhibits the construct.

The research studied the influence of psychological safety and fear of COVID-19 on individual resilience in an attempt to analyse the internal and external environment surrounding resilience development. Despite the fact that psychological safety and individual resilience have many parallels, psychological safety had no direct influence on individual resilience. It did, however, moderate and mediate the link between perceived support and individual resilience, underlining the relevance of accountability and the need to theoretically distinguish between resources and benefits when addressing social exchange theory and the reciprocity process. Most significantly, the moderation analysis confirmed psychological safety as an enabler to individual resilience and highlighted boundary conditions for psychological safety to influence the construct as psychological safety needed to be present at medium to high levels in order to efficiently improve resilience. Fear of COVID-19 exhibited negative and significant impact on individual resilience and moderate and mediated the relationship between perceived support and individual resilience. While the analyses confirms that fear of COVID-19 can be viewed as an inhibitor to resilience, the moderation and mediation analysis confirms that it is an inhibitor that can be controlled through the correct managerial practices. The mere presence of negative emotions handled efficiently can result in positive outcomes in the long run.

Multiple regression analysis across all variables and individual resilience and the cultural implications demonstrated the significance of recognising individual differences in motivation and the need to pay attention to how external and internal environments and demographics characteristics impact the dynamics within the work environment and, as a result, performance. This conclusion signifies that it is an obsolete idea to consider resilience as a product of just personality traits. While personality traits are contributors to a certain extent to the development of resilience, they're not the only antecedents. Thus, approaching resilience as a list of personality trait should either be viewed as orthodox literature, be used as to explain how authors reached the current stances to explaining resilience or be utilised considering other surrounding elements.

One of the most interesting revelations is understanding how resilience as a construct develops. Literature has often viewed resilience as opposing constructs of optimum to a continuum defining it as either a process, outcome, or a list of personality traits (Fietz et al., 2021; Herrman et al., 2011; Miller-Graff, 2022). This conclusion is rejected from the findings of this investigation as resilience was designated as both an outcome and a process simultaneously, will contemplating all psychological, social, and cultural elements that could be attributed to the individual traits and learning capabilities. Accordingly, I propose that resilience should not be understood as a result of a singular factor rather as a product of all potential contributions to the construct. In other words, resilience could result from the combination of being viewed as a process, an outcome and a list of learnable qualities and personality traits. It does not have to be either/or. I argue that confining one's knowledge of resilience to one trait limits one's comprehension of resilience.

Finally, in this study, the framing of resilience goes beyond traditional perspectives by considering both surface-level and deep-level forms of resilience, as well as resilience as a performative motivational response. Surface-level resilience encompasses observable behaviours and actions, reflecting the ability to bounce back and recover from adversity. It emphasises the outward manifestations of resilience, such as perseverance and determination. By acknowledging surface-level resilience, I highlight the importance of visible actions and behaviours that indicate an individual's ability to bounce back from setbacks. This may include behaviours like maintaining a positive attitude, seeking social support, and persisting in the face of obstacles. Understanding and assessing surface-level resilience provides insights into how individuals or groups respond to challenges and recover from adversity. On the other hand, deep-level resilience delves into the underlying psychological processes, beliefs, and attitudes that drive individuals or groups to overcome challenges. I emphasise the significance of deep-level resilience, which explores the underlying psychological processes, beliefs, and attitudes that contribute to resilience. Deep-level resilience involves delving into the internal mechanisms and cognitive processes that individuals or groups employ to navigate and overcome adversity. By considering deep-level resilience, I recognise the internal resilience resources that individuals can tap into to cope effectively with challenges.

Furthermore, the study acknowledges resilience as a performative motivational response. This perspective highlights the active and dynamic nature of resilience, viewing it as an ongoing process influenced by motivation and performance. It recognises that individuals and groups engage in deliberate behaviours and actions to navigate challenges and achieve desired outcomes. Resilience, in this sense, is not just a passive trait but a continuous process that involves active engagement and responses to adversity. By considering both surface and deep-level resilience, as well as resilience as a performative motivational response, the study provides a more comprehensive understanding of resilience. It acknowledges that resilience is not solely determined by static personality traits but is influenced by a combination of individual characteristics, learning capabilities, and various psychological, social, and cultural factors. This broader framing allows for a more nuanced exploration of resilience and highlights the need to consider the interplay between internal and external environments in its development.

In summary, in this study, I take a clear and comprehensive position on the definition of resilience, challenging the notion that it is solely determined by personality traits. While personality traits may contribute to resilience to some extent, they do not provide a complete understanding of this complex construct. Resilience is viewed as a multifaceted phenomenon that arises from a combination of factors, including individual traits, learning capabilities, and various psychological, social, and cultural elements, including those related to the specific workplace context. By considering resilience as both an outcome and a process, this study recognises the dynamic nature of resilience and acknowledges the interplay between internal and external environments in its development. This broader perspective allows for a more nuanced understanding of resilience and highlights the need to explore the full range of factors that contribute to its formation. By embracing this comprehensive definition, researchers and practitioners can better comprehend resilience and devise effective strategies to enhance individuals' capacity to overcome challenges and thrive in the face of adversity. For the organizational context, I suggest the following definition, explaining what resilience is, whether approached by individuals, teams, or an entire organisation:

*“Resilience is the capacity of individuals, teams, and organisations to withstand, adapt, and recover quickly from adversity that goes beyond regular workplace stressors utilising mechanisms that go beyond successful individual coping mechanisms”.*

### 8.2. Revisiting Theoretical Framework

#### 8.2.1. Social Exchange Theories

I have criticised the SET for failing to describe how the environment influences the exchange process. The exchange appears to have been theorised as one individual providing a benefit to another, and that advantage being repaid with improved performance with no obstacles occurring (Blau, 2007). This view is problematic since, even in the most commonplace situations, the internal and external environments continually influence performance behaviour. The findings from this investigation indicate that several factors influence the exchange process. First, demographics appear to influence the needs and priorities of the workforce. Organisations must be mindful of their workforce's gender, age, and experience variations before granting any perks. Second, culture influences how individual responds to rules and regulations as Individuals are put under pressure by societal and cultural values, depending on how strong the values are. Third, catastrophes influences the priorities of employees. For example, one person may not generally be concerned with financial needs, but they may be if a catastrophe threatens their financial stability. Most importantly, one of the key revelations for the social exchange theory is to distinguish between resources and benefits. Accountability surfaced as a key indicator to the success of the exchange process, as employees need to be aware of who is responsible for the success of the reciprocity. Practitioners and academics need to be aware of the underlining differences between what a resource compromise and what a benefit compromises. In the simplest terms, if a variable occurs as a result of an interaction between more than one party, it is not a benefit, rather a resource that influences the strength of performance. In summary, while the latter goal of SET is correct, it does not operate in a vacuum and needs to consider all possible factors that affect the exchange process, whether internal or external to the organisation and the employees.

### ***8.2.2. Conservation of Resources Theory***

The first contribution to the list of resources listed in Table 12 is the confirmation of research findings that both psychological safety and human emotions should be listed as a resource that either improves or hinders organisation performance. I specifically mention improve or hinder as a response to the frequent criticism to the conservation of resource is that almost anything beneficial can be viewed as a resource (Halbesleben et al., 2014). First, the term "value" confuses the resource with its result by implying that a resource must produce a beneficial result in order to be a resource. Controversially, research is increasingly demonstrating that even great things can result in negative results (Halbesleben, 2010, 2012; Halbesleben et al., 2014). I advance this train of thought by assuming that even negative things can result in positive results. The reason for this hypothesis is the fact the premise of the conservation of resource theory involves the literary concept of resource gain and loss which can benefit or hinder performance. Accordingly, this resource can either be a positive or a negative construct or have a positive or negative outcome. As signalled from the psychological safety moderation analysis, despite the benefits of a psychologically safe environment, it does not always positively moderate performance. For example, at low levels of psychological safety, the construct does not impact job performance. The presence of emotions in itself is a resource that could either hinder or improve performance. This abstract is different than emotional intelligence which is listed as a resource. The mere presence of emotions, whether at a mature or immature level can still influence performance either positively or negatively depending on the individual. Accordingly, it is important for future researchers to understand that a resource does not necessarily indicate positive outcomes. It is just a construct that can either positively or negatively influence work outcomes, and that can either be positive or negative.

### ***8.2.3. High-quality Connection Theory***

The theory explains that a connection is the dynamic, living factor that forms when two people come into contact with one another and engage in social interaction and mutual awareness (Dutton & Heaphy, 2003). The presence of

interaction indicates that the individuals have had some sort of impact on one another, providing the relationship both a temporal and an emotional element. An interaction, whether brief or long, can lead to connection, which can also grow and evolve with time. A poor connection, on the other hand, can cause harm. According to the theory, the relationship between leaders and followers is negotiated through time and a series of exchanges in which both parties trade resources, either increasing or weakening the bond.

**Using High-quality Connection Theory.** While the SET explains why the relationship between perceived support and IR exists, I acknowledge that the high-quality connection theory better explains the mechanisms of the interactions or the how. The high-quality connection theory indicates that strong interpersonal relationships between organisation members increase trust, which is listed as a key contributor to the success of the reciprocity exchange of benefits.

### 8.3. Summary

This chapter gave a review of the main disclosures in the debate that enhances the definition and approach to resilience, as well as the theoretical approaches to the theories used in the research. The next chapter concludes the thesis by discussing the implications for theory and practise, potential limitations, and future research directions.

## 9. Chapter Nine: Conclusion and Future Research

This section aims to conclude the main findings of this investigation by discussing the theoretical and practical implications, highlighting the limitations concerning the research and suggesting directions for future research.

### 9.1. Summary of Research

This study was set up to explore the critical factors that facilitates or hinders the development of individual resilience (IR) in Egyptian organisations. It attempted to address the lack of empirical data regarding the elements that foster IR in the workplace and the challenges the limited perspective that acknowledges personality traits as the only personality traits to individual resilience by investigating individual resilience within the context it operates in and recognising internal and external elements that affect the construct.

To accomplish this objective, this research proposed a new conceptual model which tackled individual resilience as a process continuously promoted or hindered by the internal and external environment and composed of perceived support (perceived organisational support, perceived supervisor support, perceived co-worker support), psychological safety, and fear of COVID-19 within the cultural context of Egypt. To validate the proposed model, this study adopted a quantitative approach through employing online surveys to measure the research variables (perceived support, psychological safety, individual resilience, and fear of COVID-19). The pragmatic methodological approach allowed to further input subjective interpretation of how Egyptian national culture linked to resilience development based on previous studies. In order to analyse the 600 responses received from employees working across the financial, education and technology and telecommunication service sectors in Egypt, multiple regression in addition to various analytical procedures were applied using SPSS.

The most significant finding from this investigation was understanding why and how individual resilience develops. The social exchange theory was used to describe how individual resilience develops via the reciprocal exchange of benefits among

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members and other organisational stakeholders. The high-quality connection hypothesis was used to describe how interpersonal connections between members assist in improving trust, which boosts the efficiency of the exchange process.

The direct effect of the three facets of perceived support should significant and positive impact on individual resilience. The overall model analysis should show the direct supervisors are the most significant players in affecting resilience development and confirmed that positive perception is a key predictor of individual resilience. While psychological safety did not directly impact individual resilience, it moderated and mediated the relationship between perceived support and individual resilience highlighting the relevance of accountability in the effectiveness of the reciprocity exchange of benefits and the necessity of knowing the distinction between resources and benefits when addressing reciprocity. More importantly, the moderation analysis signified boundary condition where psychological safety only impacts performance at moderate to high levels. Fear of COVID-19 significantly and negatively impacts individual resilience and moderates and mediates the relationship between perceived support and individual resilience indicating that while fear of COVID-19 might be an inhibitor to resilience development, it is an inhibitor that could be controlled with the right managerial practices. Multiple regression analysis across all variables and individual resilience and the cultural implications demonstrated the significance of recognising individual differences in motivation and the need to pay attention to how external and internal environments as well as the demographics impact the dynamics within the work environment and, as a result, performance.

This conclusion signifies that it is an obsolete idea to consider resilience as a product of just personality traits. While personality traits are contributors to a certain extent to the development of resilience, they're not the only antecedents. Thus, approaching resilience as a list of personality trait should either be viewed as orthodox literature, be used as to explain how authors reached the current stances to explaining resilience or be utilised considering other surrounding elements. Accordingly, I propose that resilience should not be understood as a result of a singular factor rather as a product of all potential contributions to the construct. In other words, resilience could result from the combination of being viewed as a process, an outcome and a list of learnable qualities and personality traits. It does

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not have to be either/or. While approaching resilience as a process helped advance the understanding of resilience, I argue that confining one's knowledge of resilience to one trait limits one's comprehension of resilience. Table 56 summarises how the investigation met all the objectives of the research.

**Table 56: Objectives Review**

Objectives	Achieved	Answer
To develop theoretical underpinnings for research on workplace individual resilience.	Yes	Individual resilience develops as a result of the mutual exchange of benefits between members and organisational representatives and requires trust and accountability as explained by the social exchange and the high-quality connection theories.
To place a major emphasis on internal and external elements and processes that influences workplace individual resilience.	Yes	The study measured the impact of perceived support and psychological safety (internal to employees and organisations) and fear of COVID-19 (external to employees and organisations)
To account for sociocultural factors that influence workplace individual resilience.	Yes	The study investigated the cultural impact in addition to the societal and demographic implication of the participants on the study outcomes providing interesting results.
To understand how individual resilience could be a function of the context in which they take place.	Yes	The study analysed how individual resilience develops within the contextual element and analysed the surrounding internal and external factors that hinders or improves individual resilience. Several elements were identified as enabling or hindering the development of individual resilience.
To provide a more comprehensive theoretical advancement outside the Western region.	Yes	The study was carried out in Egypt, a country that contrasts Western societies in terms of its sociocultural background and cultural implications are discussed.

## 9.2. Theoretical Contributions

The present study addresses multiple gaps and in doing so makes several theoretical contributions. The major theoretical contributions of this investigation are:

First, one of the primary goals of this study was to establish theoretical foundations for research on workplace individual resilience. To the best of my knowledge, this is the first study to use social exchange theory to describe how resilience emerges as a result of mutual benefit exchange between members and diverse organisational stakeholders. Understanding why individuals would intentionally engage in interpersonal risk-taking in order to gain resilience was one of the key issues I uncovered in resilience literature. The social exchange theory, which is based on motivational theories, offers a straightforward solution: the accommodation of employees' particular wants and priorities. This research further utilises the high-quality connection theory to explain how trust as a main contributor to the success of the reciprocity exchange cultivates through interpersonal relationships. Consequently, by including theories that have never been used previously to explain the mechanisms through which resilience develops, this investigation gives a detailed knowledge of how and why resilience emerges.

Second, the second goal of this investigation was to place a major emphasis on internal and external elements and processes that influences workplace individual resilience. The study measured the impact of perceived support – a construct defined as psychological and occurring within the individual, psychological safety – a construct defined as social and internal to the organisation as it occurs within the work environment, and fear of COVID-19 – a construct defined as external to both the employees and organisations. To the best of my knowledge, perceived support has never been empirically investigated in relation to individual resilience. In addition, psychological safety and fear of COVID-19 has never been investigated as potentials enablers and inhibitors respectively to individual resilience. Moreover, all constructs have never been investigated before in relation to individual resilience outside the Western world.

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Third, it is highlighted in the literature review that it is crucial for future empirical research on resilience in the workplace to acknowledge temporal difficulties and the role of adversity. The fact that the presence of a crises is a prerequisite to developing resilience concluded in a lack of empirical data regarding the elements that foster individual resilience in the workplace. In order to understand how resilience develops within the construct of adversity, this investigation takes place during COVID-19 pandemic. Within the last decade, COVID-19 pandemic is identified as the most recent catastrophe to place a challenge on individuals and organisations alike to survive (Donthu & Gustafsson, 2020; Fischhoff, 2020), providing this research a rare opportunity to understand the dynamics of individual resilience within the temporal difficulties of a crisis – in this case, COVID-19 pandemic.

Four, the analysis indicates that the development of resilience is constantly influenced by internal and external factors that either directly affect the construct or change the interaction between it and its variables. This finding implies that seeing resilience as a consequence of only personality qualities is an outdated notion. While personality traits contribute to the development of resilience to some extent, they are not the only antecedents. Consequently, viewing resilience as a list of personality traits should be treated as orthodox literature, utilised to elucidate how authors arrived at the present views on explaining resilience. In the literature, resilience has frequently been considered as opposing constructions of optimal to a continuum, describing it as either a process, a result, or a set of personality attributes (Fietz et al., 2021; Herrman et al., 2011; Miller-Graff, 2022). This conclusion is denied by the outcomes of this inquiry since resilience was classified as both an outcome and a process at the same time, considering all psychological, social, and cultural aspects that may be ascribed to individual qualities and learning capacities. As a result, I propose that resilience be viewed as a product of all potential contributions to the construct rather than as a result of a single element. Thus, in response to the Multidimensional Taxonomy of Individual Resilience (MTIR) which groups resilience as either generative and manifested representing the process and outcome approaches and requiring further explanations to how both aspects are related (Miller-Graff, 2022), resilience might be defined as a process, an outcome, and a set of learnable characteristics and personality traits. It is not necessary to choose

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between the two options. I contend that limiting one's understanding of resilience to one attribute restricts one's understanding of resilience.

Five, scholars have urged researchers to provide cohesive definition for resilience and adversity (Fisher et al., 2019; Herrman et al., 2011). The primary issues with both definitions were their overly broad scope and a lack of organisational context. For adversity, I suggest that when referring to organisational crises, I suggest the term as “organisational adversity” and propose the following definition: *“Organisational adversity is the effect of unexpected events accompanied by undesirable demands and threats that occur as a result of events that are internal or external to the organisation that disrupts the status quo”*. For resilience, I suggest the following definition, within the organisational context. This definition explains what resilience is whether approached by individuals, teams, or an entire organisation: *“Resilience is the capacity of individuals, teams, and organisations to withstand, adapt, and recover quickly from adversity that goes beyond regular workplace stressors utilising mechanisms that go beyond successful individual coping mechanisms”*.

Six, statistical analysis confirmed positive perception as a key predictor to individual resilience. Previous research has never indicated perception as possible antecedent to the development of resilience. Moreover, statistical analysis further confirmed that during crisis, direct supervisors are the most crucial players in instilling individual resilience as they are the key decision makers when it comes to determining the benefits that employees receive.

Seven, one of the most important revelations that complements to the literature on social exchange theory, motivational theories and psychological safety was initiating the need to differentiate between a resource and a benefit. A key finding from this investigation was the importance of accountability. In order for the reciprocity process to be successful, members need to assign specific members accountable for the success or failure of the exchange process. As a result, any variable with no apparent being responsible for its occurrence, such as psychological safety, cannot be used as a benefit. On the contrary, it is regarded as a resource that, depending on its availability, either inhibits or promotes performance.

Eighth, this investigation advanced psychological safety literature by emphasising the significance of a psychologically safe environment. The development of boundary conditions after further exploring the moderating influence of psychological safety on the research variables confirms the significance. The findings demonstrated how psychological safety only positively impacts work performance when present at moderate to high levels. Scholars have previously indicated that negative aspects of psychological safety needed further investigations (Newman et al., 2017). While the study did not highlight the negative effects of too much psychological safety, the findings do indicate that psychological safety may have a negative effect on job outputs if it is absent or present at very low levels.

Nine, the demographic analysis provided new insights to resilience literature. The findings suggest that younger generations are more acceptable or changing environments and adapting than older generations. The findings also suggest that the industries that experience more changes to the business model of their regular work structure experience more difficulties to adapt to changes than more structured industries. Moreover, demographic analysis indicated that whether a person demonstrates resilience is not related to specific departments rather to do with how organisations responds to external threats and maintaining balance between demands and resources. Finally, to place a major emphasis on sociocultural elements and processes, the investigation contributes to the development of all research variables in the continent of North Africa represented by Egypt. This is critical in literature due to the lack of empirical knowledge on the research variables in this region. Furthermore, the cultural and societal implications of Egypt are used to explain several revelations within the demographics analysis further indicating the importance of addressing demographics, cultural and societal impacts on performance and specifically resilience.

### **9.3. Implications for Practice**

Conclusions and implications drawn from the investigation and data analysis of this research are presented below.

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First, the investigation work suggests that resilience is explained through the mutual exchange of benefits between members and different organisational actors. This indicates that organisation actors must provide benefits that motivate employees to achieve resilience. One-way leaders can foster resilience and support performance in the face of disaster and personal loss during crisis is to provide rewards tailored to individual requirements. Employees have multiple demands that shift according to changing circumstances that need to be met. The sooner management learns of employee needs and priorities, the more quickly action can take to meet those requirements. Resilience cannot be fostered through a one-size fits all approach. While it may be challenging to tailor requirements to individual requirements in large organisations, there are several practices that could help HR managers grasp the general needs of employees. For example, frequent focus groups and surveys sent out to employees to understand their concerns and needs will assist in that matter (Saari & Scherbaum, 2011).

Second, one of the critical findings is that the concept of bouncing back is not practically defined for practitioners and employees. I believe that urging employees to "bounce back to a greater performance" is imprecise and would simply increase their stress. I also recognise that it's unclear whether the company or the employee should decide what "an enhanced level" is or what it signifies. Uncertain employee performance expectations risk undercutting outstanding performance, which is critical during times of crisis (Fischhoff, 2020). As this investigation paves the way for management to consider resilience as a behavioural outcome resulting from the reciprocity exchange process, employees will only feel motivated to persevere at work in the face of crisis if they feel that they have the sufficient managerial level support. Frequent meetings and 360-degree feedback between managers and staff are a good place to start for building resilience (Fleenor et al., 2020). People learn how to concentrate on possibilities for progress when they develop the practice of assessing their strengths and limitations. It is a good managerial practice to have employees and direct supervisors agree on performance expectations. Guidelines, manuals, workshops, staff training, a code of conduct, a clear mission and communication of business values and goals are all management tools that can also be helpful in this regard as they align organisations and supervisor's expectations (Fleenor et al., 2020; Oghojafor et al., 2011; Saari & Scherbaum, 2011). Achieving

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this will reduce the stress resulting from expectations when demands exceed resources available in the organisation. Organisations should take proactive action and make an active effort to modify their corporate environment to improve business conditions and support resilience. Moreover, trust and accountability are key factors in ensuring the exchange process takes place successfully. The benefits need to be clearly assigned to an actor who can be held accountable in case the exchange process fails.

Third, crises disrupts the status quo for employees and leaders and supervisors should be aware of the emotional, psychological and performance toll the adversity has taken on their staff. The presence of ambiguous situations creates stress, anxiety, and fear (Kardaş, 2021). Managers and leaders should immediately boost regular contact with employees in order to continuously update them about the pandemic's impact on the organisation and response measures. Increased communication of updates and guidance to employees about the organisation's crisis response can increase trust, which improves the reciprocity exchange efficiency (Eldridge et al., 2020).

Fourth, organisation leaders and direct supervisors should understand that resilience is a construct that operates within the frame of an internal and external environment which creates enabling and inhibiting conditions for resilience. It is no secret that COVID-19 has had its negative effects on employees' mental health and performance (Belen, 2022b; Yousaf et al., 2021). This investigation shows how COVID-19 increased the level of fear among the population. In fact, it highlights that when fear is reduced, performance standards increase. This suggests to practitioners that the presence of negative emotions in the workplace should not be indicated as a negative variable. While in essence fear is considered an inhibitor to achieving resilience, this study shows that it is an inhibitor that can be controlled through different management practices. These management practices can include regular communication, affirmation, and feedback to ensure employees that their performance is meeting organisational standards and that their needs are being addressed by organisation leaders (Forster et al., 2020; Ratzan et al., 2020). These management practices also include regular analysis and understanding of the level of fear among employees and why it exists (Elemo et al., 2020). It also includes an

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understanding of what employees understand about the threat to correct any misinformation (Trevors & Duffy, 2020). This investigation also confirmed that having a psychologically safe environment is a resource that paves the way to resilience. It is understandable that organisations may need to take extraordinary measures to survive disasters, but it's crucial to make sure staff members are not afraid to express their thoughts and vulnerabilities. Results indicated that psychological safety does not affect work outputs at low levels demonstrating possible negative effects of low levels of psychological safety that practitioners may wish to avoid. A psychological safe environment could be enabled by management practices such as enforcing values and a culture that makes it safe to take interpersonal risks (M. L. Frazier et al., 2017).

Fifth, the demographic characteristic of an enterprise is central to its success in building resilience. It is important to realise that individual differences are not limited to personal needs and priorities but also demographic differences. Practitioners should be cognizant of the context in which their organisation is operating and understand that different age groups, genders, and distinctive experiences react differently to crises. Generally speaking, results indicated that younger generations are more likely to exhibit resilience and accept changes in the work environment whether technological or otherwise. Practitioners should understand the age variations in their workforce to analyse the degree of impact changes have on their performance. Thus, practitioners should provide training and development workshops to the workforce should the crisis in place force drastic changes to business model that require new competences rather than simply depend on learning curve.

Finally, the success of resilience is influenced by national cultural differences. Analysis into different cultures indicated the importance of the characteristics of a high-power distance, uncertainty avoidance and collectivist. This suggests that practitioners who operate in countries where their national culture values go against the above might find themselves working harder to imprint organisation values that enable resilience. Cultural differences also affect the demographic response to resilience needs, as indicated in this investigation's analysis showing how societal

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and cultural pressures can make males more inclined to experience the negative effects of crises and prioritise the need to achieve organisational goals.

In summary, the findings from this investigation have several implications for practice that can help organisations foster resilience in the face of crises. Firstly, leaders should provide tailored benefits and rewards to motivate employees, acknowledging their individual needs. Conducting frequent focus groups and surveys can assist HR managers in understanding employee concerns and adapting support accordingly. Secondly, the concept of "bouncing back" should be defined more precisely, avoiding vague expectations that may increase stress. Instead, managers should focus on building resilience through regular communication, feedback, and agreement on performance expectations with employees and supervisors. Creating a psychologically safe environment and addressing fear can also enhance resilience. Thirdly, managers should recognise the emotional and psychological toll of crises and maintain regular contact with employees, providing updates and guidance to foster trust. Fourthly, organisations should understand that resilience operates within internal and external environments and should address factors such as fear through effective management practices. Additionally, demographic characteristics and cultural differences play a role in resilience, and practitioners should consider individual and contextual variations in their workforce. Finally, understanding national cultural values and cultural differences can help organisations adapt their practices to promote resilience effectively. By implementing these strategies, organisations can support their employees and enhance their ability to navigate and thrive in times of crisis. Table 57 summarises implications for practice discussed.

**Table 57: Implications for Practice**

Title	Explanation
<b>Tailored Support:</b>	Leaders should provide benefits and rewards that cater to individual employee needs, as resilience is fostered through the mutual exchange of benefits. Regular focus groups and surveys can help HR managers understand employee concerns and adjust support accordingly.
<b>Clear Performance Expectations:</b>	The concept of "bouncing back" needs to be defined more precisely to avoid vague expectations and increased stress. Managers should focus on building resilience through regular communication, feedback, and agreement on performance expectations. This can be supported by guidelines, training, and clear communication of business values and goals

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<b>Communication and Trust:</b>	During crises, managers should be aware of the emotional and psychological toll on employees. Regular contact and increased communication of updates and guidance about the crisis response can enhance trust and improve the reciprocity exchange process.
<b>Managing Fear and Creating a Safe Environment:</b>	Crises, such as the COVID-19 pandemic, can increase fear among employees, affecting their mental health and performance. Management practices like regular communication, affirmation, and feedback can help reduce fear and ensure employees feel supported. Understanding the level of fear, correcting misinformation, and creating a psychologically safe environment are also crucial.
<b>Demographic Considerations:</b>	Individual and demographic differences, such as age and gender, play a role in how employees react to crises. Practitioners should be aware of these variations and provide appropriate training and development workshops to support employees during times of change.
<b>Cultural Differences:</b>	National cultural values, such as high-power distance, uncertainty avoidance, and collectivism, can influence the success of resilience-building efforts. Practitioners operating in cultures that go against these values may need to work harder to instil organisational values that promote resilience.

The following table (Table 58) provides more recommendations for enhancing support from organisations, managers, and co-workers that are aligned with study findings.

**Table 58: Practical Implications: How to Enhance Support from Organisations, Supervisors and Co-workers**

Title	Recommendation
<b>Enhancing Supervisor Support:</b>	<ul style="list-style-type: none"> <li>Encourage open communication: Create an environment where employees feel comfortable discussing their concerns and seeking support from their supervisors.</li> <li>Provide regular feedback and recognition: Offer constructive feedback and recognise employees' efforts and achievements, which can boost their sense of support and motivation.</li> <li>Establish a supportive leadership style: Encourage supervisors to be approachable, empathetic, and responsive to employees' needs, fostering a sense of trust and support.</li> </ul>
<b>Strengthening Co-worker Support:</b>	<ul style="list-style-type: none"> <li>Foster teamwork and collaboration: Promote a cooperative work culture where employees support and assist each other, fostering a sense of camaraderie.</li> <li>Encourage social connections: Create opportunities for employees to build relationships and interact socially, both within and outside of work hours, to strengthen the support network among co-workers.</li> <li>Facilitate peer mentoring: Implement programs or initiatives that allow more experienced employees to mentor and support their colleagues, sharing knowledge and offering guidance.</li> </ul>
<b>Promoting Organisational Support:</b>	<ul style="list-style-type: none"> <li>Develop employee support programs: Establish support programs, such as employee assistance programs or counselling services, to provide employees with resources and assistance in managing personal and work-related challenges.</li> <li>Enhance communication channels: Ensure that channels for communication within the organisation are accessible and effective, enabling employees to voice their concerns and receive timely updates and information.</li> </ul>

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	<ul style="list-style-type: none"><li>Provide resources for self-care: Offer resources and initiatives that promote well-being and self-care, such as workshops on stress management, mindfulness, and work-life balance.</li></ul>
<b>Addressing Psychological Safety:</b>	<ul style="list-style-type: none"><li>Encourage open dialogue: Foster a culture of psychological safety where employees feel safe expressing their opinions, ideas, and concerns without fear of negative consequences.</li><li>Implement feedback mechanisms: Establish systems for providing regular feedback to employees, allowing them to receive constructive input on their performance and offering opportunities for growth and development.</li><li>Train managers in supportive leadership: Provide training to managers on how to create psychologically safe environments and promote supportive interactions with their team members.</li></ul>
<b>Managing Fear of COVID-19:</b>	<ul style="list-style-type: none"><li>Communicate transparently: Regularly update employees on the organisation's response to the pandemic, including safety measures, guidelines, and any changes that may impact their work.</li><li>Provide accurate information: Ensure that employees have access to accurate and reliable information about COVID-19, dispelling any misconceptions or misinformation that may contribute to fear.</li><li>Offer emotional support: Provide resources for employees to seek emotional support, such as access to counselling services or mental health resources, to help them cope with their fears and anxieties.</li></ul>

By implementing these practical suggestions, organisations can enhance support among supervisors, co-workers, and the overall organisational culture, promoting individual resilience in the face of challenges such as the COVID-19 pandemic.

The impact of the COVID-19 context on these practical implications is significant. The pandemic has brought about unique challenges and uncertainties that have affected individuals and organisations worldwide. Here are some reflections on the impact of the COVID-19 context on the practical implications:

The pandemic has created heightened levels of stress, anxiety, and fear among employees. The need for support from supervisors, co-workers, and organisations has become even more critical. The implications emphasise the importance of providing support mechanisms to help employees navigate the challenges posed by the pandemic. During the COVID-19 pandemic, employees have faced numerous personal and professional challenges. The heightened uncertainty, remote work arrangements, and limited social interactions may have amplified the need for immediate and personal support. In times of crisis, supervisors often become the frontline support for their team members. They play a crucial role in providing guidance, clarifying expectations, and addressing individual concerns. The COVID-

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19 context has placed supervisors at the forefront of managing and supporting their teams through unprecedented challenges. As a result, their support may have a more direct and immediate impact on individual resilience compared to broader organisational support. The COVID-19 pandemic has disrupted organisational operations, leading to uncertainties and resource limitations. In such times, organisations may face challenges in delivering comprehensive and consistent support to all employees. Organisational support, while important, may be more difficult to operationalise and implement effectively during a crisis. This could contribute to the relative effectiveness of perceived supervisor support over perceived organisational support in influencing individual resilience. The findings suggest that organisations should prioritise equipping supervisors with the necessary skills and resources to provide effective support to their employees. Training programs, coaching, and regular communication channels can help supervisors better understand the unique needs of their team members and provide the support required to enhance individual resilience. Additionally, organisations should strive to create a supportive organisational culture that encourages supervisors to prioritise and actively engage in supporting their employees. While perceived organisational support may not be as directly impactful as perceived supervisor support on individual resilience, it remains a crucial component of a supportive work environment. Organisations should aim to create structures, policies, and resources that reinforce a culture of support and resilience. This may include clear communication channels, access to resources for employee well-being, and flexibility in work arrangements. Overall, the COVID-19 context highlights the vital role of supervisors in providing immediate and personalised support to enhance individual resilience. While organisational support remains important, the challenges and uncertainties posed by crises may make the impact less immediate. Organisations should consider these dynamics when designing and implementing support strategies, focusing on equipping supervisors and fostering a supportive organisational culture that collectively enhances individual resilience in times of crisis. Finally, the following table (Table 59) suggests COVID-19 specific recommendations for future catastrophes that might follow similar routes.

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**Table 59: COVID-19 Specific Recommendations**

Title	Recommendations
<b>Increased need for support:</b>	The pandemic has created heightened levels of stress, anxiety, and fear among employees. The need for support from supervisors, co-workers, and organisations has become even more critical. The implications emphasise the importance of providing support mechanisms to help employees navigate the challenges posed by the pandemic.
<b>Remote work and virtual support:</b>	With the widespread adoption of remote work and virtual interactions, organisations need to adapt their support strategies accordingly. Communication channels, feedback mechanisms, and support programs should be designed to cater to the remote work environment and ensure that employees still feel connected and supported.
<b>Flexibility and work-life balance:</b>	The COVID-19 context has blurred the boundaries between work and personal life for many employees. Organisations should recognise the need for flexibility and work-life balance to alleviate the additional stressors employees may be facing. Supporting employees in managing their responsibilities and providing resources for self-care can contribute to their overall well-being and resilience.
<b>Addressing specific COVID-19 concerns:</b>	The implications highlight the negative impact of fear of COVID-19 on individual resilience. Organisations should proactively address employees' concerns related to health and safety, providing clear guidelines, and implementing safety measures. Transparent communication about the organisation's response to the pandemic can help alleviate fear and enhance resilience.
<b>Adapting support mechanisms:</b>	The COVID-19 context necessitates adapting existing support mechanisms to meet the evolving needs of employees. This may include virtual support programs, increased emphasis on mental health resources, and tailored interventions to address the unique challenges posed by the pandemic.
<b>Cultural considerations:</b>	The impact of COVID-19 varies across different cultural contexts. Organisations operating in diverse cultural environments should take cultural differences into account when implementing support strategies. Cultural values, beliefs, and norms influence the effectiveness and acceptance of support initiatives, requiring organisations to tailor their approaches accordingly.

Tables 60 and 61 provide an overview of how the findings of this study contribute respectively towards advancing resilience and psychological safety theories. In each table the left column indicates the area of theoretical contribution, while the right column indicates the contribution of this study.

**Table 60: Advancing Resilience Theory**

Area of contribution to Resilience Theory	Covered	How?
<ul style="list-style-type: none"> <li>○ Theoretical underpinnings for research on workplace resilience.</li> </ul>	✓	Utilising SET and motivational theories and high-quality connection theory to explain how resilience grows and impacts work outputs
<ul style="list-style-type: none"> <li>○ It is crucial for future empirical research on resilience in the workplace to acknowledge temporal difficulties and the role of adversity.</li> </ul>	✓	The study investigates resilience within the context of COVID-19 pandemic

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○ Placing a major emphasis on sociocultural elements and processes, whose absence from earlier review work has been bemoaned.	✓	Many implications are explained through social and cultural elements and the national culture of Egypt is examined
○ Approach resilience as a process and account for all internal and environmental factors that influence the process.	✓	Internal elements of perceived support and psychological safety and external element of fear of COVID-19 is utilised.
○ Scholars have urged researchers to provide cohesive definition for resilience and adversity.	✓	New definitions for resilience and adversity are suggested in the theoretical implications
○ The criteria for performance standards of bouncing back and who sets them should be guided.	✓	It is suggested in across the investigation and specifically the practical implications that the criteria for performance standards should be guided by 360-degree feedback between employees and direct supervisors.
○ Scholars have noted the critical need for better conceptual specification in order to identify how generative and manifested aspects of resilience more precisely are interrelated.	✓	It is suggested in the theoretical framework that generative and manifested resilience do not have to result in one another. Resilience can be viewed as both manifested and generative
○ Understand how resilience could be a function of the context in which they take place.	✓	Resilience is continuously impacted by internal and external environment, and it is obsolete to consider personality traits as the only antecedents.
○ The need for a more comprehensive theoretical advancement outside the western region.	✓	Cultural implications are discussed.

**Table 61: Advancing Psysafe Theory**

Area of contribution to Psysafe Theory	Covered	How?
○ The processes by which Psysafe influences both favourable and unfavourable work outcomes, as well as the boundary circumstances that govern these interactions, are not well understood theoretically.	✓	Utilising Psysafe to understand its impact on resilience by assessing its direct impact, moderating, and mediating effect.

- |   |   |   |
|---|---|---|
| o COR theory is suggested for a more comprehensive grasp of the mechanisms by which Psysafe evolves and affects organisational results.                               | ✓ | Utilising the COR theory to explain the mechanisms by which Psysafe evolves and affects organisational results. |
| o Greater research may be done to determine whether Psysafe has a stronger impact on outcomes for people working in cultural contexts different from western context. | ✓ | Cultural implications are discussed   |
| o Understand how the negative side of psychological safety affects performance  | ✓ | It is suggested that the absence of psychological safety can negatively impact work performance.                |
- 

### ***9.3.1. Increasing the Value of Coherent Synthesis Throughout Disciplines.***

In this section, I aim to provide a practical framework that is accessible for practitioners while tightly linked to the variables included in the study. I recognise the crucial role of organisational efficiency and employee motivation systems, particularly during times of crisis. Practitioners across different types of organisations are increasingly aware of the positive correlation between employee motivation and performance. Therefore, I have developed an improved model of employee motivation during crises by integrating the theoretical foundations of social exchange theory, high-quality connection theory, conservation of resource theory, and ERG theory. By adopting this accessible and comprehensive framework, practitioners can effectively enhance employee motivation during crises.

- The model begins with organisations acknowledging their responsibility towards their employees, recognising the power and influence they hold, as well as their legal and moral obligations (Levinson, 1965). Once a crisis is identified by organisational leaders as disrupting the business environment, their first step is to inform employees about the nature of the crisis, its impact on the organisation, and how it may affect the employees in terms of their work and well-being.

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- Subsequently, leaders must seek to understand how the crisis is affecting employees and their current needs and priorities. At the organisational level, I recommend conducting surveys that capture employees' preferences and priorities, both in terms of monetary and non-monetary benefits. The responses should be analysed in alignment with the organisation's financial capabilities. Transparent communication is key, as leaders should report back to employees regarding the feasible elements, managing expectations to minimise disappointments.
- Concurrently, as organisations establish performance goals, these goals should be communicated to direct supervisors who, in turn, engage in a 360-degree feedback process with employees. This process allows for the setting of specific and smart objectives within a defined timeframe. By involving supervisors and employees in goal setting and performance standards, organisations address criticisms of the "bounce back" philosophy and alleviate anxieties regarding performance. It is essential to consider the capabilities and resources available when establishing these goals and standards.
- Before initiating the reciprocity process, organisations must gain a coherent understanding of the contextual framework. This includes awareness of the demographic characteristics of the workforce, cultural and societal implications, and factors that may influence employee motivation. Moreover, leaders should ensure the presence of an enabling environment that fosters performance outcomes, such as a psychologically safe space that encourages interpersonal risk-taking through cultural practices. Constant communication and mutual understanding between leaders and employees will allow for a better grasp of the psychological, mental, and physical impact of the crisis on employees.
- The reciprocity process is a critical step in the model. Existing literature recognises two responses to reciprocity exchange: positive or negative. However, I propose adding a third response, the "null response," which occurs when employees neither respond positively nor negatively due to benefits not meeting their current needs. A negative response may indicate that the benefit is correct but falls short of expectations, such as a

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salary increase not meeting desired levels. Positive reciprocity indicates that organisations understood employees' current needs and successfully met their demands, leading to increased performance. Negative reciprocity suggests a breakdown in communication, potentially impacting performance, and mental health. A swift response and review of employees' current needs and priorities with direct supervisors are required in such cases. A null response indicates a failure to understand employees' current needs, requiring a repetition of the process. Importantly, organisations should not rely on the same set of benefits to motivate employees if the reciprocity process is successful once. Priorities and needs shift according to the evolving circumstances. Instead, organisations should continuously strive to understand shifts and changes in employees' wants and needs to sustain motivation.

This model promotes individual resilience by incorporating key elements that support and enhance employees' ability to bounce back and thrive during crises.

Here's how the model contributes to individual resilience:

- Perceived organisational support: The model emphasises the importance of organisations providing support and care for their employees during crises. By informing employees about the crisis, understanding their needs, and taking actions to meet those needs, organisations demonstrate their commitment to supporting their workforce. This perceived organisational support contributes to individual resilience by creating a sense of belonging, trust, and confidence in employees, which enables them to navigate and overcome challenges effectively.
- Perceived supervisor support: The model recognises the significant impact of supervisor support on individual resilience. Through the 360-degree feedback process and goal-setting collaboration, supervisors play a crucial role in understanding employees' specific needs and setting objectives that align with their capabilities and resources. By fostering a supportive and empowering relationship, supervisors can enhance employees' sense of

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competence, autonomy, and control over their work, thereby strengthening their resilience in the face of adversity.

- Perceived co-worker support: Although not explicitly mentioned in the provided text, the model acknowledges the importance of co-worker support as a contributing factor to individual resilience. Cultivating a supportive and collaborative work environment, where colleagues aid, share knowledge, and offer emotional support, enhances employees' ability to cope with crises. Co-worker support creates a sense of social connectedness, which acts as a buffer against stress and fosters individual resilience.
- Psychological safety: The model acknowledges the need for a psychologically safe environment that enables interpersonal risk-taking through cultural practices. Psychological safety refers to an environment where employees feel safe to express their ideas, take calculated risks, and learn from failures without fear of retribution. By promoting psychological safety, organisations create a supportive atmosphere that encourages employees to adapt, innovate, and learn, thereby enhancing their resilience and ability to navigate challenges effectively.
- Fear of COVID-19: The model recognises that fear of COVID-19 can negatively impact individual resilience. By understanding and addressing employees' fears related to the pandemic, organisations can provide reassurance, information, and resources that help mitigate anxiety and stress. By actively addressing employee concerns and promoting a safe and healthy work environment, organisations foster resilience by supporting employees' well-being and emotional stability.

By integrating these elements into the model, practitioners can create HR interventions that promote individual resilience in organisations. Through enhanced organisational support, effective supervision, supportive work relationships, a psychologically safe environment, and addressing pandemic-related fears, employees are better equipped to adapt, recover, and thrive in the face of crises, ultimately strengthening their individual resilience.

#### 9.4. Limitations of the Research

The findings of this study are significant in the field of individual resilience, but they should be considered in light of inherent limitations. The subject area of empirical, survey-based studies on individual resilience in Egypt is still in infancy. One of the ground-breaking initial steps to a better understanding of resilience in Egyptian firms is this study. As a result, it is essential to describe some of the overall limitations of this study.

First, this study adopted quantitative methods which enhanced the validity and reliability of the research. The results of this analysis must be seen in the context of some limitations, as is the case with most investigations. First, the danger of common method bias may increase with self-reports (Podsakoff et al., 2003). However, as we were particularly interested in employees' experiences, employees themselves proved to be the greatest source for the purpose of our research. However, the research quality would progress further if more qualitative elements were mixed into the quantitative study to make it possible for a deeper knowledge of phenomena, experiences, and context and to better comprehend human experience that are difficult to answer with numbers.

Second, the study's sample was limited to the service sector, which is made up of the financial, technology and telecommunications, and educational sectors. It also concentrated on somewhat significant and profitable companies. As a result, the outcomes in various industries or small and medium-sized businesses may be somewhat different. We should look into various organisational forms to broaden the applicability of the findings.

Third, the findings are restricted to Egypt, focusing especially on Cairo, the country's capital. It may not be possible to generalise findings from an Egyptian context to researchers in other nations. As a result, the findings of this study need to be carefully considered. Additional empirical study that collects data from other nations is required. I advise researchers to use caution when extrapolating these findings to other Middle Eastern and North African countries with comparable cultural backgrounds. Although the nations might be equivalent on a cultural level, distinct

empirical findings are still needed because individual experiences can vary even within the same contextual framework.

Fourth, procedures might need to be improved. Although the majority of the scales used for the variables in this study had good levels of measurement validity and reliability, certain variables could have benefited from further instrument improvement. For instance, the psychological safety scale was evaluated from the viewpoint of the team. Although the study's conclusions benefited from that strategy, an individual scale assessment for psychological safety is still necessary. The purpose of the POS scale is to evaluate POS. However, because there was no scale that was comparable to POS, the PSS and PCS were redefined from other measurements. Future studies might find it useful to develop a valid and narrowly defined metric to evaluate both factors.

Finally, the study's individual-level measurement of the constructs must also be emphasised. We advise against extrapolating the results to teams and organisational levels. There are still several aspects to consider at each level, even if the levels work synergistically rather than in opposition to one another. The first step in comprehending how the variables function on a larger scale is to comprehend how they function at the individual level.

### **9.5. Direction for Future Research**

Based on the current findings, the study indicates the following avenues for future research.

First, I emphasise the need to continue investigating resilience as a behavioural outcome resulting from the social exchange theories. The fact that there is currently a lack of evidence to support or refute the numerous statements that individual resilience is rooted to social exchange and motivation, makes it more important to continue contributing to the existing literature in this way.

Second, prior empirical research has overemphasised the importance of measuring the advantages of individual resilience. Recently, a meta-theoretical

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principle known as the "too-much-of-a-good-thing effect," which is based on extensive and contradictory findings in some fields of management research (TMGT effect), was introduced (Pierce & Aguinis, 2013). The TMGT effect occurs when levels of usually favourable antecedents approach tipping points, at which point their connections with desirable outcomes shift from linear to curvilinear (inverted U-shape) and negative. Evidence of the TMGT effect has been found for conscientiousness and its association with performance, as well as assertiveness and its relationship with leadership effectiveness (Ames & Flynn, 2007; Whetzel et al., 2010). As a result, future research should look into look the possible negative implications of "too much" resilience at the individual, team, and organisational levels, as well as the potential curvilinear effects of resilience on outcomes at other levels of analysis. For example, resilience frequently encourages disruption and change to the status quo, which carries some risk for people (e.g., "a damaged reputation if the project fails or disapproval if it is viewed as inappropriate or intimidating") (Morrison & Phelps, 1999, p. 405). Furthermore, recent study has shown that autonomous teams perform poorly when there is a high level of trust since there is less monitoring (Langfred, 2004). As a result, I believe that individual resilience will have a detrimental influence on team performance in organisations with high levels of autonomy and trust.

Third, a cross-cultural comparison may look at which enablers are essential in certain particular nations. Investigating Egypt was a first step to understanding how non-Western nations exhibit resilience. Since there may be greater variation in members' judgements of resilience in these circumstances than in Western society, where speaking up has no social penalty, doing so will enable a more thorough examination of resilience's predictive validity. In addition, comparing countries with similar cultural backgrounds will either confirm or refute the findings of this study. The demographic analysis provided contradictory results that defied the wisdom confirmed in the western world. The comparative studies will offer more information. Additionally, these studies would be beneficial to clarify the consequences and confirm or refute the link to cultural factors. Moreover, comparing industries in detail may show how different industry sectors approach resilience.

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Fourth, in order to implement tactics that prevent individual or team resilience from impeding resilience at the organisational level, I recommend future research to examine how resilience at various levels of analysis interact with one another. Also, there has been limited research on how factors at the individual, team, and organisational levels might interact to affect resilience, which would then affect outcomes, at various levels of analysis. I encourage researchers to carry out more studies in order to further our comprehension of how factors at various levels of analysis interact to predict resilience. Organisations will be better able to design productive workplaces and procedures that support individuals and teams in their work when they have a better grasp of how cultural, organisational, and team-level elements interact to anticipate the development of resilience.

Fifth, psychological safety and fear of COVID-19 have substantial literature repercussions. Both variables revealed that their moderation and mediation impact in the study was determined to be inconsequential at particular levels where both are reported as strong, indicating boundary conditions. Although the investigation only offered a fragmentary justification in the debate as to why the boundary conditions might occur, more empirical research is necessary to fully grasp the implications.

Finally, as we enter into the final stage of COVID-19 pandemic, it will be beneficial to replicate the study and assess the post-COVID-19 findings and implications. This analysis would clarify and offer more details regarding whether resilience development varies at various stages of a crisis. It is also unclear whether the same result would indicate similar findings in a context not characterised by crisis. Additionally, supplementary in-depth investigations into the connection between resilience and culture, such as those using more precise cultural models, should be pursued in the future.

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## Appendix

### Appendix 1: Research Instruments

#### *Individual Resilience Scale*

1. I tend to bounce back quickly after hard times.
2. I have a hard time making it through stressful events.
3. It does not take me long to recover from a stressful event.
4. It is hard for me to snap back when something bad happens.
5. I usually come through difficult times with little trouble.
6. I tend to take a long-time to get over setbacks in my life.

#### *Perceived Organisational Support Scale*

1. The organisation values my contribution to its well-being.
2. The organisation fails to appreciate any extra effort from me. (R)
3. The organisation would ignore any complaint from me. (R)
4. The organisation really cares about my well-being.
5. Even if I did the best job possible, the organization would fail to notice. (R)
6. The organisation cares about my general satisfaction at work.
7. The organisation shows very little concern for me. (R)
8. The organisation takes pride in my accomplishments at work.

#### *Perceived Supervisory Support Scale*

1. My supervisor values my contribution to the well-being of our department.
2. If my supervisor could hire someone to replace me at a lower salary, he/she would so. (R)
3. My supervisor appreciates extra effort from me.
4. My supervisor strongly considers my goals and values.
5. My supervisor wants to know if I have any complaints.
6. My supervisor takes my best interests into account when he/she makes decisions that affect me.
7. Help is available from my supervisor when I have a problem.
8. My supervisor really cares about my well-being.
9. If I did the best job possible, my supervisor would be sure to notice.
10. My supervisor is willing to help me when I need a special favour.
11. My supervisor cares about my general satisfaction at work.
12. If given the opportunity my supervisor would take advantage of me. (R)
13. My supervisor shows a lot of concern for me.
14. My supervisor cares about my opinion.
15. My supervisor takes pride in my accomplishments.
16. My supervisor tries to make my job as interesting as possible.

#### *Perceived Co-worker Support Scale*

1. My co-workers listen to me when I have to get something off my chest.
2. My co-workers take time to listen to my problems and worries.
3. My co-workers take a personal interest in me.

## **Individual Resilience in a Global Crisis**

4. My co-workers show concern and courtesy toward me, even under the most trying business situations.
5. My co-workers make an extra effort to understand the problems I face.
6. My co-workers always make me feel appreciated.
7. My co-workers try to cheer me up when I'm having a bad day.
8. My co-workers compliment me when I succeed at work.
9. My co-workers take on extra responsibilities in order to help me when things get demanding at work.
10. My co-workers help me with difficult assignments, even when assistance is not directly requested.
11. My co-workers assist me with heavy workloads even when it is not part of their job.
12. My co-workers help me when I'm running behind in my work activities.
13. My co-workers help me with work when I have been absent.
14. My co-workers go out of the way to help me with work-related problems.

### **Fear of Covid-19 Scale**

1. I am most afraid of coronavirus-19.
2. It makes me uncomfortable to think about coronavirus-19.
3. My hands become clammy when I think about coronavirus-19.
4. I am afraid of losing my life because of coronavirus-19.
5. When watching news and stories about coronavirus-19 on social media, I become nervous or anxious.
6. I cannot sleep because I'm worrying about getting coronavirus-19.
7. My heart races or palpitates when I think about getting coronavirus-19.

### **Psychological Safety Scale**

1. If you make a mistake on this team, it is often held against you. (R)
2. Members of this team can bring up problems and tough issues.
3. People on this team sometimes reject others for being different. (R)
4. It is safe to take a risk on this team.
5. It is difficult to ask other members of this team for help. (R)
6. No one on this team would deliberately act in a way that undermines my efforts.
7. Working with members of this team, my unique skills and talents are valued and utilized.

### **Control Variables**

#### Gender

Male

Female

Non-binary

Prefer not to say.

#### Age (Generation)

(74-91 years old)

(55-73 years old)

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(39-54 years old)  
(23-38 years old)  
(18-22 years old)

What is the highest degree or level of school you have completed? (If you're currently enrolled in school, please indicate the highest degree you have received.)

High school degree or equivalent (e.g., GED)  
Bachelor's degree (e.g., BA, BS)  
Master's degree (e.g., MA, MBA, MS, MEd)  
Professional degree (e.g., MD, DDS, DVM)  
Doctorate (e.g., PhD, EdD)

What is your current salary range? Please indicate your net salary

Less than 3000 EGP  
Between 3000 and 5900 EGP  
Between 6000 and 8900 EGP  
Between 9000 and 14,900 EGP  
Between 15,000 and 20,900 EGP  
Between 21,000 and 40,000 EGP  
Above 40,000 EGP

Please indicate your sector

Technology, Telecommunications  
Education  
Financial Services {Banking, Insurance, Investment management}

Years of experience in your current organisation

1-3 years  
4-6 years  
7-10 years  
10-14 years  
15 years or more

Do you work in one of the following departments?

Sales  
Business development  
Customer Service  
Marketing  
HR  
Other: Please specify

## Appendix 2: Ethical Considerations

### ***Online Consent Form***

#### Online Consent Form Template

Individual Resilience, Perceived Support and Psychological Safety during a Global Crisis

HANYA EL GHETANY

APPROVAL HAS BEEN GRANTED FOR THIS STUDY TO BE CARRIED OUT  
BETWEEN 18/03/2021 AND 31/03/2023

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Please confirm the following:

	Yes	No
• I have read the Participant Information Sheet included with this questionnaire		
• I am over the age of 18		
• I understand that no personal identifying data is collected in this study, therefore I know that once I have submitted my answers, I am unable to withdraw my data from the study		
• I agree that my data can be anonymised, stored, and used in future research in line with Brunel University's data retention policies		
• I agree to take part in this study		

### ***Participant Information Sheet***

#### Study title

Individual Resilience, Perceived Support and Psychological Safety during a Global Crisis

#### Invitation Paragraph

Dear Egyptian employees,

You are being asked to take part in a research study. Before you decide, it is important for you to understand why the research is being done and what it will

## **Individual Resilience in a Global Crisis**

involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask me if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. I am conducting this questionnaire as part of a research study to increase my understanding of how your organization, supervisor, and co-workers are perceived in your organization and how this perception affects your ability to be resilient (bounce-back from crisis). I am simply trying to capture your thoughts and perspectives on being a full-time employer in Egypt. Each questionnaire completed will be completely anonymous and no personal questions that would reveal the identity of participant are included. If you are willing to participate, please proceed to complete the survey in any day/time that suits your schedule. If you have any questions, please do not hesitate to ask. Thanks!

### **What is the purpose of the study?**

The purpose of the study is to examine the impact of employee's perception of their organizations, supervisors, and co-workers on their ability to become resilient or "bounce-back" from trauma and the degree to which psychological safety impacts this equation. The questionnaire will take approximately 10-15 minutes to complete and the study itself will take up to 3 years to conclude.

### **Why have I been invited to participate?**

As a full-time employee in the private. /Service sector in Egypt, you are in an ideal position to give me valuable first-hand information from your perspective. You are being selected based on your current industry, and the fact that you are above 18 years old which is the minimum legal age for working in Egypt. Approximately 600 individuals will be invited to participate in the study.

### **Do I have to take part?**

As participation is entirely voluntary, it is up to you to decide whether or not to take part. If you do decide to take part, you will be given this information sheet to keep and you may be asked to sign a consent form. If you decide to take part, you are still free to withdraw at any time up until 31/03/2022 and without having to give a reason. Please be reminded that since this is an anonymous questionnaire once you have submitted their results, they would be unable to withdraw. I intend to submit my thesis during March of 2023, all data will have been included by then. As a voluntarily participant, you have the right to decline or withdraw from the project and this will in no way influence or adversely affect you.

### **What will happen to me if I take part?**

The questionnaire takes approximately 10-15 minutes to complete. As indicated above, I'm planning to conclude and submit my study by March 2023. However, your input in the study will only be required during the completion of the questionnaire which takes 10-15 minutes. You will not be required to visit the campus premises or meet me in person as the questionnaire will be completed online. You will not be required to participate in any further interviews, tests. The questionnaire will include statements that represent possible opinions that YOU may have about working at your organisation. You are required to indicate the degree of your agreement or

## **Individual Resilience in a Global Crisis**

disagreement with each statement. Rest assured, your responses to the questions will be kept confidential and no one will be aware of your participation in the study. Each questionnaire submitted will be completely anonymous and no personal questions that would reveal the identity of participant are included.

Are there any lifestyle restrictions?

There are not any lifestyle restrictions.

What are the possible disadvantages and risks of taking part?

There are no anticipated disadvantages or risks associated with taking part in this study. You will only be required to give me 10-15 minutes of your time to complete the questionnaire online.

What are the possible benefits of taking part?

While there are no intended benefits to the participant from taking part in the study, in order for the result to be generalisable, I will need to collect as many responses as possible. Your contribution to completing the questionnaire will make that possible. Your contribution will also possibly enrich the literature on the indicated topic.

What if something goes wrong?

You are able to withdraw your participation at any point as indicated above. If you are harmed by taking part in this research project, there are no special compensation arrangements. If you are harmed due to someone's negligence, then you may have grounds for a legal action but you may have to pay for it. If you wish to complain about the experience, please contact Collage of Business and Social Sciences Ethics Committee Chair – Professor David Gallear ([David.Gallear@brunel.ac.uk](mailto:David.Gallear@brunel.ac.uk)).

Will my taking part in this study be kept confidential?

All information which is collected about you during the course of the research will be kept strictly confidential for the duration of the study until March 2023. The data will be stored in the secure password protected Brunel network drive or locked file. Any information about you which leaves the University will have all your identifying information removed. With your permission, anonymised data will be stored and may be used in future research – you can indicate whether or not you give permission for this by way of the Consent Form. Please be insured that your responses to the questions will be kept confidential. Each questionnaire completed will be completely anonymous and no personal questions that reveal the identity of participant are included. . If you decide to take part you are still free to withdraw at any time up until 31/03/2022 and without having to give a reason. Please be reminded that since this is an anonymous questionnaire once you have submitted their results, they would be unable to withdraw. I intend to submit my thesis during March of 2023, all data will have been included by then. As a voluntarily participant, you have the right to decline or withdraw from the project and this will in no way influence or adversely affect you. If during the course of the research evidence of harm or misconduct come to light, then it may be necessary to break confidentiality. I will tell you at the time if I think I need to do this, and let you know what will happen next.

## **Individual Resilience in a Global Crisis**

Will I be recorded, and how will the recording be used?

The data collection will proceed using questionnaire. This means that nothing will be recorded whether using audio or video.

What will happen to the results of the research study?

The results of the research study will help me complete my requirements to submit my thesis as a PhD graduate student. Accordingly, the results of the research will be written up as part of my studies. The results will be further used in journal publications however, that will not be before 2023 so information about the journals is not available. However, once published, participants may be emailed a copy of the publication if requested. You will not be identified in any report or publication unless they specifically request it.

Who is organising and funding the research?

The research is being organised by myself [Hanya HossamElDeen Mohamed Saleh El Ghetany] in conjunction with Brunel University London.

What are the indemnity arrangements?

Brunel University London provides appropriate insurance cover for research which has received ethical approval.

Who has reviewed the study?

The study has been reviewed by Brunel University London Research Ethics Committees: College of Business, Arts and Social Sciences Research Ethics chaired by Professor David Gallear

Research Integrity

Brunel University London is committed to compliance with the Universities UK Research Integrity Concordat. You are entitled to expect the highest level of integrity from the researchers during the course of this research.

Contact for further information and complaints

Researcher name and details:

Researcher Name: Hanya El Ghetany

Contact: [1939850@brunel.ac.uk](mailto:1939850@brunel.ac.uk)

Supervisor name and details:

Principal Supervisor Name: Dr. Ace Simpson

Contact: [ace.simpson@brunel.ac.uk](mailto:ace.simpson@brunel.ac.uk)

For complaints, Chair of the Research Ethics Committee:

CBAS Ethics Committee Chair, Prof. David Gallear: [David.Gallear@brunel.ac.uk](mailto:David.Gallear@brunel.ac.uk)

## **Individual Resilience in a Global Crisis**

Thank you for reading the document.