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Resiliency's Correlations to Autonomy, Competence, Relatedness, and Meaning in Life for the Trucking Industry During Covid-19

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This is to certify that the doctoral dissertation by

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has been found to be complete and satisfactory in all respects,
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the review committee have been made.

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Walden University
2025

Abstract

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by

Rhonda Reneé Wood

MPhil, Walden University, 2022

MS, Walden University, 2020

BS, Bob Jones University, 1986

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Industrial Organizational Psychology

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Abstract

COVID-19 depleted multiple subsystems, took human lives, impaired mental health, and induced economic devastation. The trucking occupation was and continues to be impacted by adverse working conditions, and the pandemic's limitations intensified the stress that truckers experience. COVID-19 resilience for trucking employees may stratify to other supply chains. Therefore, the quantitative cross-sectional study aimed to assess the research questions of how meaning in life, autonomy, competence, and relatedness correlated to each other and preceded resilience. The theoretical framework included Viktor Frankl's meaning in life and Ryan and Deci's self-determination theories. Connect Cloud Research was the platform for data retrieval from a purposive sample of (N = 107) trucking participants who completed the meaning in life questionnaire, the work-related basic needs satisfaction scale, and the Connor-Davidson's resilience scale. Pearson's correlation and multiple linear regression statistical analyses indicated that autonomy held the strongest correlation (r = .344, p = .001) and a predictive value (β = .238, p = .020) with statistical significance for meaning in life. Competence was the most robust statistically significant association (r = .535, p = .001) and the more decisive influence (β = .396, p = .001) on resilience for truckers, followed by meaning's correlation (r = .478, p = .001) and prediction (β = .321, p = .001) of resilience. The findings may contribute to industrial best practices. The trucking sector may be the backbone of the U.S. industry, and its recovery may ripple to multiple subsystems holding exciting resilience potential. The implications for positive social change include the potential for trucking industry leaders to express consistent kindness from humanitarian hearts for truckers' resilience.

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Dedication

Love may be the most potent motivator that inspired me through the research. Firstly, I dedicate my study to my greatest loves, the two halves of my heart: my sons- Wesley and Spencer. I am proud of them every minute of every day. Also, I am grateful to my parents, who instilled a love for learning, and my four siblings for their bright minds and inspiring achievements. Specifically, I devote the study to my brother Jonathan Mark Wood (1967-2015), a knowledgeable, wise man and trucker. He was a devoted husband and father to his greatest loves: his wife and their two sons. Spending time exploring the trucking industry was a visit to Jonathan's world and helped me miss him just a little less.

Furthermore, I dedicate the research to all drivers who worked tirelessly to deliver critical supplies throughout the pandemic, without whom progress through the crisis may have been extremely limited. I am thankful for their committed service. COVID-19 was a piercing reminder of the fragility of life and may encourage us to treasure those we love attentively.

Acknowledgments

My dissertation committee has been a dream team. Dr. Jesus Tanguma can break complex quantitative operations into digestible parts. His patience and dedication are remarkable. I am continuously amazed at how Dr. Tanguma can portray an entire narrative through the language of numbers. Still, his character of kindness, respect, honor, and excellence surpasses his brilliance.

With a focus on resilience, I hit the PhD Chair lottery in receiving the assignment of Dr. Ed Naggiar. Dr. Naggiar's life work and Industrial Organizational Psychology practice focus on resilience. The balanced discipline of a Navy Seal with his authenticity, love for his family, and dedicated service are inspiring. He introduced me to aspects of resilience through Dr. Viktor Frankl's works, bringing my dissertation study to life.

My deepest gratitude is to my father, W. Preston Wood (1938-2012). He had an insatiable curiosity for learning, which he shared with his children. Integrity, compassion, humility, and moderation were the unbreakable threads woven throughout his character. He was a man of faith. The wisdom he imparted in my youth has supported me. His unassuming, clever sense of humor sprinkled joy onto the canvas of my life. I am deeply thankful for Dad's love and nurture. He will forever be my most excellent teacher.

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Chapter 1: Introduction to the Study

During the devastation of COVID-19, trucking employees delivered critical supplies (Lemke et al., 2020a). Yet truckers were vulnerable to the contagion and suffered more losses per capita than other industries (Lemke et al., 2020a). Even though the public's perception of drivers improved, work conditions were disparaging due to CDC-mandated shutdowns (Sperry et al., 2022). However, pandemics can be opportunities for progress (Simonetti et al., 2021). COVID-19 provides an occasion to expand resiliency understanding, which scholars have noted as a critical need (Vinkers et al., 2020).

According to terror management theory, individuals seek meaning and relatedness to others when faced with an existential threat such as COVID-19 (Pyszczynski et al., 2021). Relatedness and meaning are elements of self-determination and meaning in life theories. There is a need for sense-making through meaning (Chater & Loewenstein, 2016). Since motivation antecedes resilience (Resnick, 2018), the purpose of the study was to assess the correlations of self-determination theory's autonomy, competence, relatedness (Deci & Ryan, 1985), and Viktor Frankl's meaning in life (Chater & Loewenstein, 2016) to resilience (den Hartigh & Hill, 2022; McEwen, 2022; Southwick et al., 2018) for trucking employees in the context of Covid-19. Supporting resilience for the trucking industry may ripple to numerous supply chains (Mittal et al., 2018), rendering the potential for positive social change.

The chapter now continues, including a synopsis of the literature on trucking during COVID-19 and variables used to predict resilience: autonomy, competence,

relatedness, and meaning in life. Based on gaps in the literature, I addressed the problem, followed by the problem and purpose statements. Then, I articulated my research questions, hypotheses, conceptual framework, theoretical framework, and nature of the study, which supported my rationale and methodology. I concluded the chapter with the study's definitions, boundaries, limitations, and the significance of how the research may contribute to further understanding of the need for resilience from COVID-19 for the trucking industry. The findings may facilitate recovery in multiple supply chains.

Background

Trucking employees deliver goods and services, which is critical in supply chain efficacy (McCain, 2023). Without truckers, grocery stores would be depleted in three days. In the industry's absence, gas stations would run dry, ATMs would be empty, garbage would accumulate, retail inventory would be non-existent, and treatment plants could not purify water because of the lack of chemicals drivers deliver. In 2021, truckers moved 72.5% of US freight, which weighed 10.93 billion tons and accounted for $875.5 billion (about $2,700 per person in the US) in revenue. Companies employed approximately 3.5 million US truckers in 2021 (McCain, 2023), but COVID-19 decreased the number of active drivers by 42% (Lemke et al., 2020a). Workers transported critical cargo and maintained systemic continuity during the pandemic, though their role was noxious (Sperry et al., 2022).

The trucking industry had a higher infection rate than other sectors because of their interaction with suppliers and consumers (Sperry et al., 2022). During the crisis, two million US truckers were essential workers who distributed lifelines of healthcare

equipment, medications, and food (Lemke et al., 2020a). CDC mandates caused grievous working conditions with the lack of access to public restrooms and limited food provisions, yet drivers pressed forward (Sperry et al., 2022). Regardless of a freight's original mode of transport, vendors depend on truckers to deliver goods to the journey's end (Mittal et al., 2018).

Trucking is the cornerstone of the US industry (Calatayud et al., 2022). Therefore, commercial drivers may be the nidus for systemic recovery (Mittal et al., 2018). While scholars have researched resilience extensively, the impact and recovery of the trucking industry from COVID-19 remains unknown. The study contributes to the conceptualization of truckers' resiliency from COVID-19 by considering gaps in the empirical literature. Through exploring the motivational precursors of Ryan and Deci's self-determination theory: autonomy, competence, relatedness (Deci & Ryan, 1985), and their correlations to Viktor Frankl's meaning in life theory (Chater & Loewenstein, 2016), one may assess how the suppositions intertwine to predict resilience (den Hartigh & Hill, 2022; McEwen, 2022; Southwick et al., 2014).

Covid-19

COVID-19 brought the world to its knees and was a piercing reminder of the fragility of human life (Bunkers, 2020; Sturmberg, 2020). The pandemic incited collective agony from unparalleled death rates, physical anguish, psychological maladies, and financial distress (Jha et al., 2022; Li, 2020; Lu & Lin, 2021; Naseer, 2023; Pak et al., 2020;). Covid-19 was the greatest threat to humanity since World War II/Spanish Flu and the most profound health catastrophe of the century (Naseer et al., 2023). Millions

perished from the current virus (Jha et al., 2022). Protective measures deprived deceased loved ones' survivors of the closure that funerals, cultural rituals, and religious practices bring (Mortazavi et al., 2021), leaving 20% of those spared with complicated grief disorder whereby they could not resume healthy function six months post-trauma (American Psychiatric Association, 2020). Over one million children witnessed parental death and are considered COVID orphans (Chu et al., 2022). The losses continued to accumulate.

COVID-19 Systemic Ramifications

COVID-19's physical and mental health disparities led to financial havoc (Pak et al., 2020). The monetary losses added another layer of wounds. The pandemic's intrusion stymied production, rendering remarkable income losses from unemployment. Steep depletions in oil and service industries were cataclysmic (Pak et al., 2020). The economic collapse accounted for a 9 trillion-dollar loss throughout the world (Naseer et al., 2023). Ravages of the virus defrauded multiple societal systems (Li, 2020).

Researchers noted a knowledge gap and need for resilience research in the current ecology (Vinkers et al.,2020), which my study addressed through the structure of general systems theory (Tramonti, 2021). Bertalanffy's general systems theory defines a *system* as a sequence of structured relationships that influence the whole. Systems entail multiple subsystems embedded in broader consolidated entities (Tramonti, 2021). COVID-19 highlighted society as a complex adaptive system (CAS; Sturmberg, 2020). However, the virus destabilized individual, financial, and collective units. The crisis produced complexity, volatility, uncertainty, and ambiguity throughout CAS's multiple

subsystems. Any model that fails to consider the interconnectedness to other subsystems will produce an inaccurate paradigm. All systems need a central core (Sturmberg, 2020). The trucking industry may be the nucleus of occupational recovery (Calatayud et al., 2022; Tramonti, 2021). COVID-19 had a powerful ripple effect on disruptions of workforce productivity, but the CAS may benefit from the trucking industry's resilience (Brusset et al., 2022; Sturmberg, 2020).

While scholars have researched resilience extensively, the impact and recovery of the trucking industry from COVID-19 remains unknown. Future research is needed on strategy development grounded in intrinsic motivation and its influence on resilience (Martela & Riekki, 2018). The study contributes to the conceptualization of truckers' resiliency from COVID-19 by considering gaps in the empirical literature. Through exploring the motivational precursors of Ryan and Deci's self-determination theory: autonomy, competence, relatedness (Deci & Ryan, 1985), and their correlations to Viktor Frankl's meaning in life theory (Chater & Loewenstein, 2016), one may assess how the suppositions intertwine to predict resilience (den Hartigh & Hill, 2022; McEwen, 2022; Southwick et al., 2014). The study addressed gaps by assessing the correlations of meaning in life, autonomy, competence, and relatedness. Second, I investigated how intrinsic motivations of Frankl's meaning in life, SDT's autonomy, competence, and relatedness predicted resilience for the trucking industry from COVID-19.

Systems: Macro Business Logistics to the Micro Trucking

A practical approach toward solutions includes mapping impediments while assessing interdependencies, which may inform interventions for the whole (Sturmberg,

2020). Covid-19 unearthed business coordination worldwide (Brusset et al., 2023). The pandemic halted product manufacturing and distribution. The interconnected nature of impediments in supply chains was the origin of the dysfunction. The *ripple effect* describes major disruptions that initiate simultaneous upstream and downstream obstacles. Global lockdowns and employee absences interrupted labor distributions, decreased profits, and led to raw material deficits (Brusset et al., 2023). Progress bottlenecked, prohibiting the delivery of necessities (Sturmberg, 2020). Considering shutdowns, trucking employees may have been the linchpin to a future orientation during the most significant COVID-19 obstacles (Calatayud et al., 2022).

Gaps in Research

Vinkers et al. (2020) noted increased resilience when employees possessed autonomy and relatedness. Scholars conveyed the exigency for resilience research (Vinkers et al., 2020). Practitioners stressed the requisite for empirically tested insights on the intrinsic motivation of meaning and explored how company resources might mediate autonomy, competence, and relatedness toward purposeful work. The authors encouraged future research on strategy development grounded in intrinsic motivation and its influence on resilience (Martela & Riekki, 2018), which my study investigates. Chater and Loewenstein (2016) noted the underappreciated urge for sense-making and meaning. Self-determination theory (SDT) is under-researched in the workplace and merits additional exploration to enable employers to create environments that facilitate needs satisfaction (Szulawski et al., 2021). The study addressed gaps by assessing the correlations of meaning in life, autonomy, competence, and relatedness. Second, I

investigated how intrinsic motivations of Frankl's meaning in life, SDT's autonomy, competence, and relatedness predicted resilience for the trucking industry from COVID-19.

Study's Impact on Gaps

The study addressed additional research gaps. Scholars reported a knowledge breach in individual resilience and organizational best practices (Kuntz, 2020). My research may inform strategic development in interventions to nurture an adaptive mentality for future preparedness. Specifically, researchers may continue to explore how meaning in life, autonomy, competence, and relatedness predict resilience (Pak et al., 2020; Whitfield & Wilby, 2021). The mediations may include devising measures to encourage psychological and organizational resilience as they sequentially enhance employee recovery and work engagement (Wut et al., 2022). Finally, a deeper study is needed to grant guidelines that fortify employees to develop their mission statements through the power of meaning, which may fuel self-determination, producing resilience (Whitfield & Wilby, 2021). The trucking industry may be the breeding ground for recovery, considering its interconnectedness to numerous supply chains (Calatayud et al., 2022; Sturmberg, 2020; Tramonti, 2021). Therefore, transport employees' resilience may serve as a conduit to the matrix of their interconnections throughout the U.S. industry, rendering long-reaching positive social recovery.

Problem Statement

As of May 2022, the estimated COVID-19 death toll exceeded 18 million people; however, the findings were incomplete because 45 countries failed to provide mortality

data (Jha et al., 2022). Many survivors contracted the disease, grieved family fatalities, struggled with mental health hurdles, and lost their livelihoods (Mortazavi et al., 2022). The pandemic rendered devastating economic outcomes (Pak et al., 2020), which prompted mental health deterioration (Lu & Lin, 2021). Researchers noted the need for resilience-focused research to recover from the multi-faceted traumas of the global crisis (Vinkers et al., 2020).

The U.S. government classified trucking employees as essential workers (Sperry et al., 2022). Truckers experienced higher death rates per capita than other industries. The transport employees were especially vulnerable to the COVID-19 virus. Truckers delivered critical supplies through dedicated service to sustain human function during COVID-19 (Sperry et al., 2022). Commercial drivers reported decreased quality of work conditions through enhanced isolation and inaccessibility to needs fulfillment en route (Lemke et al., 2020a). Practitioners have noted the need for a resilience focus so that trucking employees may practice their occupations with a sense of well-being, positively impacting various subsystems (Vinkers et al., 2020).

Purpose

COVID-19 ravaged the global economy, inflicting a 9 trillion-dollar deficit (Naseer et al., 2023). However, the trucking sector is the backbone of the U.S. industry and may be the nidus of recovery (Calatayud et al., 2022; Tramonti, 2021). Deci and Ryan (1985) discussed self-determination theory, highlighting the innate need for autonomy, competence, and relatedness. Intrinsic motivations may predict resilience (Resnick, 2018). However, the power of sense-making or meaning is underestimated

(Charter & Lowenstein, 2016). Therefore, this quantitative study assessed the correlations among intrinsic motivations: meaning in life, autonomy, competence, and relatedness. Then, I evaluated how these motivations correlated to and predicted resilience from COVID-19 for the trucking industry.

Research Questions and Hypotheses

For Research Questions 1-3, I used Pearson's correlation analysis for self-determination theory's autonomy, competence, and relatedness as measured by Work-Related Basic Need Satisfaction (W-BNS; Chiniara & Bentein, 2016) and their relationships to meaning/meaning in life as measured by the Meaning in Life Questionnaire (MLQ; Steger et al., 2006). I evaluated the variables individually, one at a time, as noted in Figure 1. Then, Figure 2 portrays Research Question 4, with which I used multiple linear regression analysis and deduced how autonomy (X1), competence (X2), and relatedness (X3) predicted meaning in life (Y).

Figure 1

Research Questions 1-3

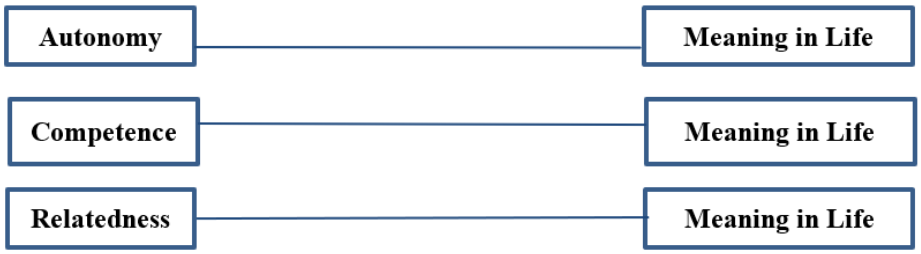
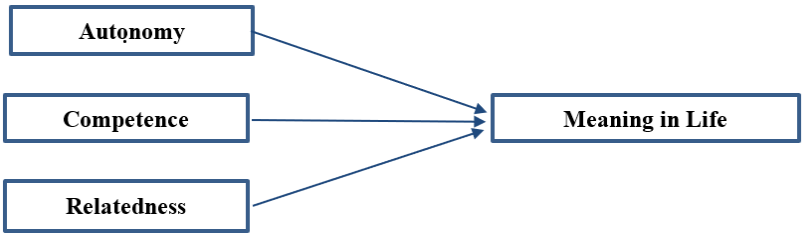


Figure 2

Research Question 4



RQ 1: To what extent does autonomy correlate to meaning in life for trucking employees during COVID-19?

$H_0$1: Autonomy is not significantly correlated to meaning in life for trucking employees during COVID-19.

H_a1: Autonomy is significantly correlated to meaning in life for trucking employees during COVID-19.

RQ 2: To what extent does competence correlate to meaning in life for trucking employees during COVID-19?

$H_0$2: Competence is not significantly correlated to meaning in life for trucking employees during COVID-19.

H_a2: Competence is significantly correlated to meaning in life for trucking employees during COVID-19.

RQ 3: To what extent does relatedness correlate to meaning in life for trucking employees during COVID-19?

$H_0$3: Relatedness is not significantly correlated to meaning in life for trucking employees during COVID-19.

H_a3: Relatedness is significantly correlated to meaning in life for trucking employees during COVID-19.

RQ 4: To what extent do autonomy, competence, and relatedness predict meaning in life independently or in linear combination for trucking employees during COVID19?

$H_0 4$: Autonomy, competence, and relatedness do not significantly predict meaning in life independently or in linear combination for trucking employees during COVID-19.

$H_a 4$: Autonomy, competence, and relatedness significantly predict meaning in life independently or in linear combination for trucking employees during COVID-19.

For Research Questions 5-8, I used Pearson's correlation analysis. I assessed how meaning in life, autonomy, competence, and relatedness correlated to resilience as measured by the Connor-Davidson Resilience Scale (CDRS; Notario-Pacheco et al., 2014) for trucking employees during COVID-19. I evaluated the variables independently, one at a time, as indicated in Figure 3. Finally, Figure 4 depicts Research Question 9, noting a multiple linear regression analysis that determined how meaning in life (X1), autonomy (X2), competence (X3), and relatedness (X4) predicted resilience (Y).

Figure 3

Research Questions 5-8

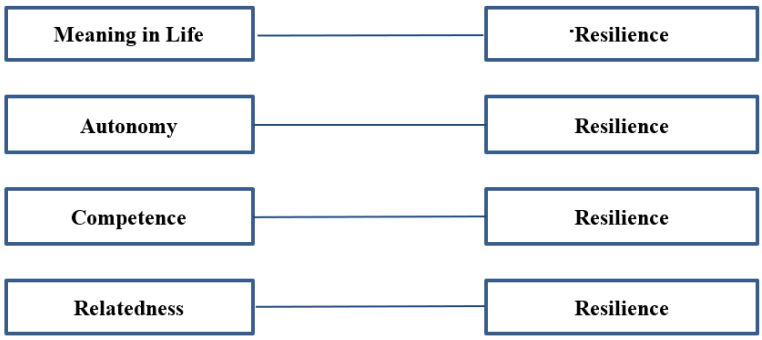
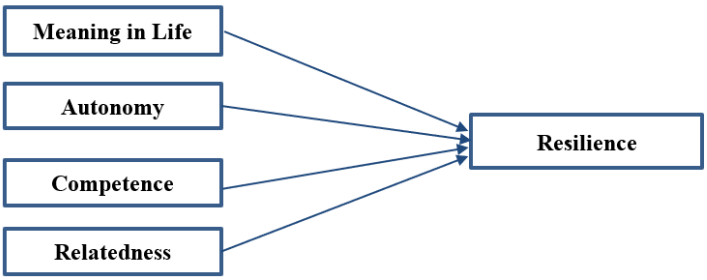


Figure 4

Research Question 9



RQ 5: To what extent does meaning in life correlate to resilience for trucking employees during COVID-19?

$H_0$5: Meaning in life does not significantly correlate to resilience for trucking employees during COVID-19.

H_a5: Meaning in life is significantly correlated to resilience for trucking employees during COVID-19.

RQ 6: To what extent does autonomy correlate to resilience for trucking employees during COVID-19?

$H_0$6: Autonomy does not significantly correlate to resilience for trucking employees during COVID-19.

H_a6: Autonomy is significantly correlated to resilience for trucking employees during COVID-19.

RQ 7: To what extent does competence correlate to resilience for trucking employees during COVID-19?

$H_0$7: Competence does not significantly correlate to resilience for trucking employees during COVID-19.

H_a7: Competence is significantly correlated to resilience for trucking employees during COVID-19.

RQ 8: To what extent does relatedness correlate to resilience for trucking employees during COVID-19?

$H_0$8: Relatedness does not significantly correlate to resilience for trucking employees during COVID-19.

H_a8: Relatedness is significantly correlated to resilience for trucking employees during COVID-19.

RQ 9: To what extent do meaning in life, autonomy, competence, and relatedness, independently or in linear combination significantly predict resilience for trucking employees during COVID-19?

$H_0$9: Meaning in life, autonomy, competence, and relatedness independently or in linear regression do not significantly predict resilience for trucking employees during COVID-19.

H_a9: Meaning in life, autonomy, competence, and relatedness independently or in linear regression significantly predict resilience for trucking employees during COVID19.

Conceptual Framework

Resilience

Resilience theory provides a conceptual framework by highlighting the internal features of individual traits and the external environment, which may have neutralized damaging risks (Ledesma, 2014; Zimmerman, 2013). Researchers depicted resiliency as a healthy adaptation to challenges. When facing a significant disturbance, individuals experience desperation, stagnation, or recuperation (Southwick et al., 2014). However, intrinsic motivations significantly influence recovery (Mostafa & Lin, 2020). Resilience includes the ability to regain balance following a shock. Researchers often perceived the construct as binary: an individual was or was not resilient. However, studies portrayed resilience on a gradient continuum permitting modification through external supports (Southwick et al., 2014), which my study informed.

Scholars noted the need for future research on how intrinsic motivation fosters resilience (Mostafa & Lim, 2020). Kuntz (2020) called for further study into the gap between individual resilience and optimal organizational procedures. Wut et al. (2022) stressed the need to continue studying how company strategies may sustain employee resilience and work engagement after COVID-19. Lu and Lin (2021) emphasized the exigency of creating procedures for future preparedness. While interventions supported external measures for recovery, intrinsic motivation was a potent force directing a

forward orientation and facilitated personal efficacy (Busse et al., 2018). Therefore, I assessed the intrinsic motivations and explored their link to resilience as measured by the Conner Davidson Resilience Scale (CDRS; Notario-Pacheco et al., 2014).

Theoretical Framework

The study's theoretical framework included self-determination and meaning in life theories (Busse et al., 2018; Martela & Riekki, 2018). Ryan and Deci's self-determination theory (SDT) carries the second-order constructs of autonomy, competence, and relatedness (Martela & Riekki, 2018; Szulawski et al., 2021; Vinkers et al., 2020). Viktor Frankl's meaning in life (MIL) theory posited that meaning may be more potent than the drives of hunger, thirst, or sex and may hold strong recovery potential (Busse et al., 2018; Martela & Riekki, 2018). SDT and MIL are robust intrinsic motivations that predicted the resilience conceptual framework for trucking employees during COVID-19.

Self-Determination Theory

Ryan and Deci subdivided self-determination into three second-order constructs: autonomy, competence, and relatedness (Deci & Ryan, 1985; Ryan & Deci, 2014). Researchers reported increased resilience through self-determination (Vinkers et al., 2020). Furthermore, SDT was under-researched in the workplace and merited future study to enable employers to create work ecologies that grant needs satisfaction (Szulawski et al., 2021). A supportive environment fosters intrinsic motivation even though it is a separate construct from the extrinsic motivation of rewards or punishments, which are conditional. Other scholars noted that contingent external motivation alone

diminishes impetus (Harlow, 1949; Martela & Riekki, 2018; Szulawski et al., 2021). In his work with primates, Harlow deduced that the need to achieve surpassed hunger or thirst (Harlow, 1949). I used the Work-Related Basic Need Satisfaction (W-BNS) and assessed self-determination in trucking employees employed during COVID-19 (Chiniara & Berkin, 2016).

Meaning in Life Theory

Dr. Viktor Frankl was a neurologist/psychiatrist who survived concentration camps during the Holocaust, though his wife, brother, and parents perished there (Frankl, 1992). Frankl posited that when a person endures trauma, they may seek meaning or sink into an existential abyss (Silveira & Mahfoud, 2008). Frankl's theory of meaning in life conveyed a powerful intrinsic motivation influencing mental health and overall well-being (Busse et al., 2018; Russo-Netzer & Ameli, 2021; Vos et al., 2022). Scholars noted how meaning and purpose exceeded the power of Maslow's basic needs (Chater & Loewenstein, 2016). Neurologically, the brain focuses on external features for sense-making yet personal volition-directed conclusions (Chater & Loewenstein, 2016). I used the Meaning in Life Questionnaire (MILQ) and measured the meaning for truckers during COVID-19 (Steger et al., 2006). Finally, I administered the Connor-Davidson Resilience Scale (CD-RISC) and evaluated trucking employees' resilience during COVID-19 (Notario-Pacheco et al., 2014).

Nature of the Study

The study's nature included a correlational, non-experimental approach in the research design that addressed my research questions in the quantitative study. Scholars

noted that the core of relatedness and autonomy resided in meaning (Whitfield & Wilby, 2021). Therefore, for the first objective, I examined associations of autonomy, competence, relatedness, and meaning in life through Pearson's correlation analysis. Second, I used multiple linear regression, noting how autonomy, competence, and relatedness predicted meaning in life. Researchers have encouraged the forthcoming acknowledgment of motivation's influence on resilience (Mostafa & Lim, 2020). Therefore, I evaluated the correlations of meaning in life, autonomy, competence, relatedness, and resilience for the third objective through Pearson's correlation analysis. Finally, I used multiple linear regression and deduced how meaning in life (X1), autonomy (X2), competence (X3), and relatedness (X4) predicted resilience (Y) for truckers during COVID-19. The procedures helped to pinpoint how intrinsic motivations impacted resilience. I measured the variables as follows: meaning in life through the MILQ (Steger et al., 2006), self-determination theory's autonomy, competence, and relatedness through W-BNS (Chiniara & Bertein, 2016), and resilience through the CDRS (Notario-Pacheco et al., 2014).

Definitions

Coronavirus disease 2019: COVID-19 was a transmittable viral sickness that presented sharp respiratory disorder symptoms (Cascella et al., 2023). The virus incited physical and economic global devastation. The media first reported COVID-19 in December 2019 from Wuhan, Hubei Province, China (Cascella et al., 2023). The WHO classified COVID-19 as a global pandemic in March 2020 (Berbés-Blázquez et al.,

2020). Then, on May 5, 2023, the WHO announced that COVID-19 was no longer a global threat (Sarker et al., 2023).

Meaning in life theory: Viktor Frankl developed the theory of meaning in life, positing that meaning may be more intense than drives for sex, food, or water (Chater & Loewenstein, 2016). The human capability for resilience is fierce when one finds meaning in their suffering (Schulenberg et al., 2008).

Motivation: Motivation is the instinctive force to engage and must be present to enact resilience (Resnick, 2018). Motivations may be intrinsic/internal or extrinsic/external. The drive to achieve goals extends beyond the intensity of thirst or hunger (Chater & Loewenstein, 2016; Harlow, 1949, 1953).

Resilience: Resilience is a positive reaction to adversity, encompassing the skill of rebounding from unfortunate events or circumstances while maintaining healthy function (Resnick, 2018). Resilience includes developmental recovery strategies, though internal and external sources may impact it (Ledesma, 2014). Resilience requires the preexistence of motivation (Resnick, 2018).

Self-determination theory: Ryan and Deci developed the self-determination theory of intrinsic motivation with the second-order constructs of autonomy, competence, and relatedness as basic psychological needs (Deci & Ryan, 1985; Ryan & Deci, 2014).

Spanish flu: Scientists linked the Spanish flu to swine viruses from 1847 to 1889 (Taubenberger & Morens, 2006). However, the Spanish Flu was more detrimental than its predecessors or descendants. Influenza infected approximately 500 million individuals, one-third of the world's population, and produced 50 million fatalities

(Taubenberger & Morens, 2006). The Spanish Flu holds parallels to COVID-19 (Liang et al., 2021; Simonetti et al., 2021; Vukojevic et al., 2021).

Trucking industry: Calatayud et al. (2022) noted that individuals in the trucking sector have provided ground transport for goods and services throughout multiple industries. Regardless of the original mode of transport, commercial drivers have been responsible for cargo reaching its destinations. Trucking has been reported as the backbone of the U.S. industry.

Assumptions

An assumption was that the instruments held strong validity and reliability, which scholars verified through previous exploratory and confirmatory factor analyses (Chiniara & Bentein, 2016; Notario-Pacheco et al., 2014; Steger et al., 2006). Another assumption was that participants would answer the items truthfully and free of bias. I assured truckers that their information would remain confidential and their identities unknown. The study aimed to gather data that informed the enhancement of resilience features in their workplace. I expressed appreciation for their dedicated service and their contribution to research.

Scope and Delimitations

The scope and boundaries of the research included assessing the correlations and predictions of autonomy, competence, relatedness, meaning in life, and resilience. The demographic focused on individuals employed in the trucking industry during COVID-19. The research did not include interpositions. However, the findings inform interventions that may improve the working conditions for trucking employees. The study

aimed to explore research gaps. The delimitations encompassed the inclusion criteria: truckers employed during COVID-19. The analyses were for the trucking sector and may not transfer to other industries.

Limitations

The study evaluated the correlations of meaning in life, autonomy, competence, and relatedness. Then, I assessed the impact of meaning in life, autonomy, competence, and relatedness on resilience. The analyses were for the trucking sector, and the outcomes may not apply to other sectors. While empirical research covered elements of self-determination and meaning in life and their influence on resilience, the studies did not include all features and their correlations to recovery for truckers in the pandemic context. Another limitation was that the surveys were self-reporting. A concern was that participants might answer for social desirability rather than authentically. Therefore, I encouraged openness by stressing anonymity and confidentiality. Finally, the correlational study did not infer causation, though the findings may still inform interventions.

Significance

The study may contribute to the literature on meaning in life, self-determination, and their influence on resilience. The research was unique in its focus on the trucking industry during COVID-19. Though society was recovering from the global crisis, scholars noted the need for resilience research in the post-Covid-19 era (Vinkers et al., 2020). Economic disparities caused mental health deterioration (Lu & Lin, 2021), so industrial recovery may diminish the challenges in multiple subsystems (Tramonti, 2021).

The trucking sector has been posited as the bedrock of the U.S. industry (Calatayud et al., 2022). Resiliency for truckers may be the nucleus for systemic recovery (Mittal et al., 2018; Sturmberg, 2020).

Summary

This chapter summarized the literature on the trucking industry during COVID-19 and the variables that contributed to resilience. I noted research gaps that directed the purpose of the study, which explored how self-determination theory's autonomy, competence, and relatedness correlated to and predicted Frankl's meaning in life. Then, I assessed how the intrinsic motivations of meaning in life, autonomy, competence, and relatedness connected to and predicted resilience for the trucking industry during COVID-19. The chapter extrapolated the purpose into research questions, hypotheses, conceptual framework, theoretical framework, and nature of the study, which directed the research design. Chapter 2 will include an expansive literature review of the motivations that influenced the resilience of truckers from COVID-19.

Chapter 2: Literature Review

COVID-19 threatened human survival (CDC, 2022). The death toll exceeded 18 million humans (Jha et al., 2022). Safety mandates restricted universal norms, creating economic insecurity (Pak et al., 2020; Thorbecke, 2020). Globally, the pandemic accounted for a nine trillion-dollar fiscal deficit (Naseer et al., 2023). Economic disintegration prompted mental health deterioration (Lu & Lin, 2021). Scholars reported the critical need for resiliency research (Vinkers et al., 2020). Since the trucking sector has been reported to be the backbone of U.S. industry (Calatayud et al., 2022), the study assessed how the intrinsic motivations of Viktor Frankl's meaning in life theory (Chater & Loewenstein, 2016) and Ryan and Deci's self-determination theory's second order constructs: autonomy, competence, and relatedness (Deci & Ryan, 1985), predicted resilience (den Hartigh & Hill, 2022; Southwick et al., 2014) from COVID-19 for the trucking industry (Lemke et al., 2020a; Sperry et al., 2022). The interconnected nature of the trucking enterprise may influence systemic resilience (Lu & Lin, 2021; Tramonti, 2021).

Literature Review Related to Key Concepts and Variables

COVID-19

The first cases of the respiratory illness of unknown etiology, now identified as COVID-19, were reported on December 12, 2019, in Wuhan, China (CDC, 2022). Researchers linked early cases to the wholesale seafood market, so China's World Health Organization (WHO) closed the location 19 days later (CDC, 2022; Lotfi et al., 2020). Scholars posited that the virus originated from bats or other nearby animals. However,

people who never visited the area were also getting ill, so practitioners deemed the assumption invalid. Moreover, scientists concluded that the illness was transmitted from human to human through coughs, sneezing, and spreading respiratory droplets (Lotfi et al., 2020).

On January 5, 2020, the Chinese Center for Disease Control (CDC) completed COVID-19's genetic sequence, and within the week, the University of Australia's Edward C. Holmes published the code online (CDC, 2022). By February 10, 2020, the worldwide death toll had reached 1,013, exceeding severe acute respiratory syndrome (SARS) 774 decedents. One month later, the fatality totals quadrupled. According to the World Health Organization (WHO), COVID-19 became a global pandemic on March 11, 2020. The spread of the virus continued to escalate rapidly. In April 2020, the CDC reported 18,600 deaths from the virus (CDC, 2022). Researchers worldwide worked intensively, yet they could not formulate a viable, effective vaccine (Lotfi et al., 2020). Scientists' best options for human survival were early detection and quarantine.

COVID-19 brought egregious suffering to the world from unprecedented death tolls, physical anguish, mental health challenges, and economic distress (Li, 2020). Still, post-traumatic growth may sprout from pain. The pandemic visited Hong Kong for approximately three months before spreading throughout most of the planet. Hong Kong citizens learned to react quickly from their experience with SARS. Their swift responses reduced the spread to 1,001 confirmed cases. Li (2020) conducted a qualitative study through textual analyses and focus group interviews. The participants experienced fear, anxiety, and mistrust. In contrast, they also reported enhanced empathy, outstanding care,

concern for others, and societal cohesion.

Hong Kong residents found positive meaning through suffering (Li, 2020). They noted solid mental health awareness, optimal lifestyle adaptations, and strengthened family and social support systems. Once again, illness shook their safety foundation with the poignant reminder of life's fragility (Bunkers, 2020; Li, 2020). The citizens internalized Viktor Frankl's meaning triangle, which included a perspective of giving and creating, gratefully identifying with others' experiences, and enduring inevitable human suffering. Hong Kong nationals served their communities and found transcendence through altruism. Still, the crisis was in its genesis.

In the US, social unrest escalated with the death of George Floyd on May 25, 2020 (Christián et al., 2022; Garcia, 2021; Griffith, 2021). Mr. Floyd died from heart failure and pressure on his neck sustained through police brutality. The tragedy highlighted a history of racial disparities. US police had been responsible for 930 casualties per year as compared to Canada's 25 and Germany's eight. The Mapping Police Violence (MPV) website reported 598 fatalities from US police during the first half of 2020 or a projected 28% increase. According to the behaviorist theory of collective action, demonstrations, hysteria, or panic may be grounded in unified logic. The background of social tensions set the stage for the outrage over Mr. Floyd's demise. Social, political, economic, and health-related issues of the COVID-19 context exacerbated collective behaviors.

By June 8, 2020, the World Bank posited that COVID-19 would plummet the global economy to its worst since the Second World War (CDC, 2022). Scientists

introduced a COVID-19 vaccine with the new year, and the CDC lifted travel restrictions for those fully vaccinated in April 2021. By October 7, 2021, 140,000 US children had experienced orphanhood or the death of a caregiver (CDC, 2022; Chu et al., 2022). Researchers reported that the number doubled in the following six months. Twenty-two million infants missed their first measles vaccines, predicting future health concerns (CDC, 2022; Chu et al., 2022). The WHO's statement that COVID-19 was no longer a global threat on May 5, 2023, may have provided mental relief (Sarker et al., 2023). However, the extent of COVID-19's long-term consequences remains unknown.

A Historical Perspective: The Spanish Flu and Covid-19

As one explores COVID-19, one may reflect on its historical relevance to grant perspective (Liang et al., 2021). The Spanish flu was known as the "Mother of all Pandemics" (Taubenberger and Moran, 2006). Furthermore, Influenza carried essential genes sequentially encompassing avian flu genomes with novel surface protein coding. The destruction was staggering, with an influenza infection rate of 500 million people and 50 million fatalities. Chorba and Breedlove (2018) reported that the 1918 Influenza pandemic infected a third of the global population.

The Spanish flu occurred during WWI and claimed more lives than all the causalities of war (Chorba & Breedlove, 2018). Military conditions enhanced the spread of the disease: crowding, inadequate ventilation, unsanitary situations, and contaminated living environments. Medically, there were no vaccines or antibiotics to counter infection, rendering great devastation. The Spanish flu may have altered the course of the war as it claimed the lives of young adults and depleted military ranks. Like COVID-19,

the Influenza left significant economic, health, and social burdens worldwide.

Scholars compared the two pandemics (Liang et al., 2021). The Spanish flu spanned from 1918 to 1920 and included four waves. On May 22, 1918, the Influenza became public knowledge through a news release in Madrid and thus was named the Spanish flu. However, its origin was probably the USA or France. The age demographics of mortalities differed between the two. COVID-19 took more older adults, whereas the Spanish flu heavily targeted individuals in their early adulthood stage. People aged 25-40 accounted for 40% of deaths from Influenza and diminished military and industrial workforces. Covid-19 only lurked around 3.9% for the same age group.

Pandemics catalyze medical, artistic, cultural, and social progress (Simonetti et al., 2021). History enlightened preventative measures. Lessons from the Spanish flu included social isolation for those infected and the importance of sanitizing environments. Restricting travel, closing cinemas and taverns, suspending funerals, frequent hand washing, and wearing masks were also efforts to limit the Spanish Flu contagion. Many historical features played out during Covid-19 (Simonetti et al., 2021). Further exploration compares the mental health challenges of the two pandemics.

Vukojević et al. (2021) used Spanish flu admission record books from 1917-1918 and electronic records for 2019-2020 from COVID-19 to retrieve data on emergency psychiatric hospitalizations. To target information on the pandemics only, the researchers removed soldiers from the data as WWI was in effect during the Spanish flu. Their findings indicated that emergency psychiatric admissions did not elevate during either one of the global events. Still, both crises created intense stress, numerous deaths,

economic challenges, and social isolation. Antecedents for the commonalities are complex.

Psychological research on the Spanish Flu was scarce (Vukojević et al., 2021). Nevertheless, available data-informed how individuals prioritized war and poverty survival over the virus. The government responded slower with school closings and safety precautions than current protocols, and the media focused on the war. Since psychological science was marginal compared to the present, there is much we cannot know (Vukojević et al., 2021). However, their post-war orientation may have been a form of de-reflection, as noted through Viktor Frankl's logotherapy (Schulenberg et al., 2008).

Society employed a protectionist spiral following WWI (Boberg-Fazlic et al., 2021). The Spanish flu influenced international commercial policy, increasing tariffs by .022 percentage points. The post-pandemic era of the 1920s marked restrictive trade policies for the most severely impacted countries from influenza when controlling for the war. These decisions may have contributed to the Great Depression of 1929. Scholars are still speculating on the long-term international business impacts of COVID-19.

Just as the Spanish flu accelerated protectionist schemas, the COVID-19 pandemic may follow suit (Boberg-Fazlic et al., 2021). Attitudes toward foreigners also played a role in the economic demise in the past through suspicion of the viral origin. Xenophobia targeting the Asian culture was rampant during COVID-19 (Chou & Gaysynsky, 2021). Not only is xenophobia illegal in the workplace (CRA, 1964), but it is inhumane in its marginalization of human life (Xun & Gilman, 2022), and it also diminishes immigration and trade relationships (He et al., 2021). Stoic philosophy and

Viktor Frankl posited that attitudes are within one's volition (Boter, 1999; Frankl, 1998). Current economic resiliency may depend on learning from the past (Boberg-Fazlic et al., 2021).

COVID-19's Mental Health Outcomes

The CDC set protocols to slow the contagion (CDC, 2022). Unfortunately, over the next two years, at least 18 million humans perished from Covid-19 (Jha et al., 2022). The recovery processes were monumental. Mental health decline was substantial. The challenges of the global crisis produced elevated anxiety (50%), increased stress (81%), PTSD (53%), depression (50%), and mental distress (38%) over the pre-pandemic status. Other researchers noted higher rates of psychological challenges among women, especially those under 40 years old. However, the findings may have reflected women's roles as caregivers to children and elderly parents (Xiong et al., 2020).

Grief also impacted the psychological well-being of numerous survivors (American Psychiatric Association, 2020). For millions who died from the virus (Jha et al., 2022), many more were left behind to grieve them (Mortazavi et al., 2021). Social safety theory highlights humans' comfort and resilience through connectedness and belonging (Slavich, 2020). The microbial and physical threats of COVID-19 also caused social safety deterioration. Mortazavi et al. (2021) discussed the nature of the grieving process during the pandemic through a phenomenological study of the lived experiences of 15 Iranian citizens (6 men). The participants lost daughters, sons, and spouses.

The Muslim faith engages specific rituals with the passing of loved ones (Mortazavi et al., 2021). The traditions are part of a complex grieving process

conceptualized through religious embeddedness, including social and cultural norms. The families could not be part of the funeral processes, which included washing the deceased and wrapping the body in cloth (American Psychiatric Association, 2020; Mortazavi et al., 2021). Spiritual solace may provide transcendence (Bushkin et al., 2021). Nevertheless, safety protocols prohibited survivors from reading the Quran and praying together. Such circumstances may leave individuals paralyzed by bereavement-defrauding psychological closure (Mortazavi et al., 2021).

Grief is a natural consequence when a cherished one dies (Mortazavi et al., 2021). Freud posited two features that may determine the extent of bereavement: the external situation of death from extended health issues and the internal nature of the relationship with the decedent. Sudden death may carry more profound ramifications with the absence of psychological preparation and no opportunity to say goodbye. Fatalities from COVID-19 were unanticipated. Prior to passing, infected family members experienced tremendous suffering in isolation, which may be considered a bad death—such increases emotional pain for their survivors.

Torales et al. (2020) discussed COVID-19's initial impact on global mental health. The authors stressed the need for additional strategies to address the afflictions of those impacted by the crisis. In addition to physical threats, the outbreak ignited many mental health issues like stress, depression, repudiation, exasperation, terror, and sleeplessness. Collective struggles negatively influenced medical preventative measures and financial matters, producing externalizing behavior, which depleted recovery (Torales et al., 2020). COVID-19 challenges may hold long-term ramifications.

Individuals who do not adapt well to trauma experienced complicated or prolonged grief disorder (Mortazavi et al., 2021). Prolonged grief disorder manifests through decreased occupational and social involvement or poor functionality for longer than six months. Researchers estimated that approximately 20% of pandemic family survivors experienced (American Psychiatric Association, 2020; Mortazavi et al., 2021). Aside from the emotional pain associated with the deaths of loved ones, mental health deterioration was also due to economic demise (Lu & Lin, 2021). Economic recovery may be an optimal starting point for resilience.

COVID-19's Economic Impact

Covid-19 devastated the world's economy because absenteeism, premature deaths, and factory closures stymied supply chains (Pak et al., 2020). For example, China's production index plummeted by 54% in the first month of the pandemic. Individuals also decreased their spending to brace for an uncertain future. The International Air Transport Association projected a $314 billion loss from travel constraints. U.S. unemployment reached 11% by April 11, 2020, and the deficits continued to spiral globally. The world's financial and oil industries witnessed steep losses (Pak et al., 2020). Oil prices diminished by 65%. The U.S. and European stock markets reported a 25% loss in value. Daily data on stock market changes and price variations reflected society's degree of confidence in the economy. Researchers noted negative correlations between the quantity of COVID-19 cases and stock indices (r = -.34 to -.80; Pak et al., 2020). The financial recession from the global crisis left people with fears and insecurities about sustaining a livelihood or feeling safe (Wut et al., 2022). The

uncertainty from COVID-19 was felt worldwide (Naseer et al., 2023). Safety mandates obstructed international trade and supply chain interconnectivity. Multinational companies experienced impediments to decision-making rooted in insufficient information. The pandemic originated in Wuhan, China, where powerful companies and transportation production were located. According to the International Monetary Fund (IMF), China accounts for 39% of the global economy. Gita Gopinath, chief economist for IMF, estimated a nine trillion-dollar global loss from COVID-19. The study's focus is the US, which holds the world's most significant financial resources.

COVID-19's injury to the U.S. economic status was remarkable (Thorbecke, 2020). The government took measures to sustain the financial system by lowering the federal funds rate by 150 points and backstopping money market funding while promoting lending and credit flow. Legislation through the Coronavirus Aid, Relief, and Economic Securities Act (CARES) provided $1,200 for adults and $500 for children, which marginally stimulated spending. However, the decline in the gross domestic product (GDP) within quarter four of 2019 and quarter one of 2020 was due to diminished spending, especially from the top income quartile. From pre-COVID-19 to mid-April 2020, 75% of the financial decrease stemmed from reduced close-contact goods and services. Consumer efforts to avoid contagion accounted for significant deficits (Thorbecke, 2020). Finance theory notes that stock prices represent the anticipated value of future cash flows. When stock prices increase, sales may rise. Unfortunately, the media's coverage of COVID-19 accounted for 43% of the stock market decline. Systems require resilience from the pandemic and the macroeconomy

(Thorbecke, 2020). However, pandemics may produce creative strategies for recovery (Simonetti et al., 2021). Researchers considered a comparative analysis since COVID-19 was the greatest threat to humanity since the Spanish flu (Chorba & Breedlove, 2021). Next, exploring the subsystems impacted by COVID-19 may inform a model for resilience (Tramonti, 2021).

Systems and COVID-19

Ludwig von Bertalanffy developed the general systems theory (GST) (Tramonti, 2021). GST defines a *system* as a pattern of structured associated factors. Any variance with the factors or their relationships impacted the whole. Each layer of the biopsychosocial dimension accounted for subsystems within the unit. Subsystems remained adaptable to survive. A primary tenant of GST was that agile systems find homeostasis between organization and malleability, along with unification and isolation, to ensure a degree of cohesion in goals for the subsystem but autonomy for the individual in tandem.

Throughout COVID-19, society's complex adaptive system (CAS) included financial, health, and individual concerns that impeded function (Sturmberg, 2020). The shock from the sudden onset of the virus destabilized multiple subsystems. The crisis revealed systemic fragility. A wise approach to problems is carefully analyzing them, responding with minor interventions, observing the outcomes, and then repeating the process as needed (Sturmberg, 2020). Such measures may ensure a conservative approach that supports the Hippocratic oath (American Psychological Association, 2017).

Each subsystem within the CAS is connected to all others, as demonstrated in

supply chains (Sturmberg, 2020; Tramonti, 2021). Govindan et al. (2020) discussed how COVID-19 exposed supply chain vulnerabilities. Production interruptions led to depleted resources. COVID-19's shock was remarkably potent as the unknown duration negatively impacted 94% of Fortune companies. Researchers included the need for supply chain agility and discussed how malleability facilitated mapping efforts toward resilience.

The Interconnectivity of Trucking

Supply chains are intricately intertwined, and interferences create a ripple effect downstream to multiple subsystems (Brusset et al., 2023). Supply chain *ripple effects* are the overflow from structural fluctuations breeding decreased fulfillment demand caused by interrupted planning. Multiple disruptions followed COVID-19 lockdowns, which marked the initial event that caused a domino ripple effect throughout the industrial world (Brusset et al., 2023). Systems require a primary focus (Strumberg, 2020). Since the trucking enterprise is the US industry's infrastructure (Calatayud et al., 2022), the sector's resilience may aid in recovering economic factors upstream and support psychological healing (Mittal et al., 2018). Therefore, the study explored the scope of COVID-19 and assessed the motivations that facilitated resilience for the trucking industry.

The Pre-Covid-19 Trucking Industry

Scholars reported the trucking occupation's noxious precedent (Apostolopoulos et al., 2013). Researchers explored employees' health challenges and lack of access to medical care. The study included full-time long-haul male truck drivers with at least five years of experience. Within the sample (***N***=316), 76% reported good health. However,

the participants presented obesity/overweight (83.4%), cardiovascular disease (40%), sleep issues (57.9%), chronic back and neck pain (42.3%), musculoskeletal disorders (43.3%), and osteoporosis (47.8%). Only 30% had access to workout amenities, and 70% did not regularly exercise. Most participants (70%) did not maintain systematic medical care due to unaffordable insurance rates or out-of-network restrictions per travel limitations. The life expectancy of truckers was 16 years fewer than the general population.

The trucking occupation included individual and societal challenges (Apostolopoulos et al., 2013). Employees carried heavy workloads, perpetual stress, unpredictable routines, limited autonomy, disrupted sleep, and intense time encumbrances. Trucking job factors correlated with hyperlipidemia, cancer, gastrointestinal dysfunction, sleep apnea, and diabetes. The ramifications of truckers' burdens extended to the public. Commercial drivers' road accidents have devastated employees and the general population. Heart attacks preceded many hazards. Vocational fatalities were 11 times higher for truckers than for other employment. Over one-half million annual traffic accidents included truckers. Trucking mishaps killed 5,300 people and injured 126,000 individuals in 2006 alone. Freight drivers' crash rates exceeded 50% of all accidents.

Trucking empowers a nation's well-being and orderly function (Mittal et al., 2018). Regardless of the original method of transport, most freight loads depended on truckers to reach final locations. The surge in E-commerce created driver shortages. Trucker's deliveries of goods and services accounted for 9% of the US gross domestic

product (GDP) in 2016 and employed drivers for 3.8 million trucks and 11 million trailers. Food, medicine, retail, waste management, manufacturing, and financial entities depended on trucking and experienced remarkable fiscal losses upon slowdowns. Improved federal regulations served drivers but limited industrial efficacy by 1,800 daily loads. Attenuation and retirement demanded that companies recruit 100,000 drivers annually. According to Work Hound (2024), the American Trucking Association highlighted the escalated turnover rate of 92% in the third quarter of 2020. Other researchers reported that trucking may be a nexus of industrial progress (Mittal et al., 2018).

Trucking Through Covid-19

The trucking industry was the critical connector to supply chains pre-COVID-19 (Mittal et al., 2018), but even more so at the onset of the virus, though job features were toxic (Sperry et al., 2022). Job characteristics deteriorated with shutdowns. During COVID-19, the trucking sector experienced more fatalities per capita than other industries (Sperry et al., 2022). Commercial drivers endured greater unemployment than their essential worker counterparts (Mack et al., 2021). Trucking employees traveled extensive distances and interacted with multiple vendors, which made them increasingly vulnerable to the virus (Lemke et al., 2020b; Lemke et al., 2020c). The trucking occupation, engulfed in stressors, made it syndemic throughout COVID-19 (Lemke et al., 2020b; Lemke et al., 2020c). Scholars noted that society's perceptions of the transport occupation positively altered during the global crisis (Sperry et al., 2022). At great costs, truck operators delivered medical and food supplies.

Supply chain impediments and changed buying habits impacted the commercial transport industry (Sperry et al., 2022). The public appreciated truckers' efforts, which may have provided a psychological buffer. However, job factors declined with shutdowns. Employees needed help finding amenities en route. Food sources and facilities were not readily available due to CDC-mandated closures. The job generally carried significant seclusion, but the pandemic intensified isolation (Sperry et al., 2022). As truckers become more aware of their work's meaning and their critical role in the US industry, they may find resilience.

Approximately two million long-distance truck drivers traveled extensively to deliver critical supplies during COVID-19 (Lemke et al., 2020a). Throughout the pandemic, truckers delivered medical equipment and food while risking their health and the spread of the virus. Researchers addressed practical strategies to decrease contagion threats while keeping drivers active in meeting the needs of those they serve. Robust networks informed vulnerabilities in disease advancement and deterred bottlenecking in supply chains. Continued research grounded in network science may provide information about preventative measures to keep employees healthy while distributing basic human necessities to consumers (Lemke et al., 2020a). The trucking industry's resilience may ripple throughout other entities and prompt sequential recoveries (Brusset et al., 2022). Researchers stressed the urgent need for resilience-focused research (Vinkers et al., 2020).

COVID-19 impacted purchasing practices with a high demand for food and medicine, leading to shortages, which rendered psychological insecurity (Chowdhury et

al., 2021). Non-essential purchases sharply declined. The changes in supply and production management tilted industries to destabilization. Restrictions on social interactions stymied communication and collaborative supplier engagement. Limitations on transport created bottlenecking and limited product flow. When one subsystem malfunctioned, it impacted the whole (Chowdhury et al., 2021). Though products reached the US by air or ocean, truckers delivered them to their journey's end (Mittal et al., 2018). The trucking industry may be the foundation of supply chain resilience (Calatayud et al., 2022).

Conceptual Framework: Resilience

Dr. Viktor E. Frankl (1905-1997) was a Jewish-Austrian psychiatrist/neurologist (Bushkin et al., 2021). Throughout his upbringing, Frankl endured anti-Semitism. Later, the bigotry reached a climax with his Holocaust imprisonment. Frankl survived four concentration camps during World War II. He experienced persecution, torture, humiliation, malnutrition, and psychological abuse.

In 1930, before the Holocaust, Dr. Frankl practiced in Vienna after graduating from the University of Vienna's medical school (Bushkin et al., 2021; DeVoe, 2012). He maintained a private practice in neurology and psychiatry. He noted individuals' increased necessity for therapy upon losing their jobs during the Great Depression. Frankl prescribed volunteer work and noticed dissipated depression symptoms in his patients. His observations may have planted seeds for his theory on the innate need for meaning and purpose.

Leaders moved Frankl to Rothchild Hospital in 1938, where authorities invalidated his credentials and granted him the title *Jewish Specialist* (DeVoe, 2012). He could serve Jews exclusively. Nazis began to euthanize mental health patients, so Frankl falsified medical records to preserve life. Viktor Frankl applied for and was granted emigration papers to the United States, but he declined. He refused to leave his family behind to endure the horrors that lay ahead. In 1941, Frankl married Tilly Grosser, and they soon conceived. The Gestapo forced her to abort the baby to decrease the Jewish population. In 1942, Frankl, his wife, brother, and parents were arrested and transferred to Nazi concentration camps.

Unfortunately, all of Frankl's family members perished during their captivity (Bushkin et al., 2021; Noble, 1997). After his release from the camps, Frankl developed therapeutic techniques that have shaped modern psychology (Bushkin et al., 2021; Henrion, 2011; Noble, 1997). He lectured at over 200 universities, published 40 books that scholars translated into 50 different languages, and received numerous honorary doctorates (Bushkin et al., 2021; Noble, 1997). Dr. Frankl exemplified that a human could sustain immense suffering and thrive beyond it. The study of resilience spans centuries.

Origins of Resilience Research

Published resilience research dates from the 1800s (den Hartigh & Hill, 2022). Early studies centered around the physics of engineering and detailed the capability of matter to regain its previous state after a disturbance. Resiliency analysis grants precise mathematical outcomes and differs from other material features (flexibility, stiffness,

plasticity). Defining properties of matter, such as iron, aids in computation and can predict the stress-strain continuum. Stress infers the amount of pressure the material sustains, and strain implies the resulting deformity.

In engineering, mathematical analysis includes stiffness, flexibility, and plasticity (den Hartigh & Hill, 2022). If an iron beam has minimal change following a hurricane, it has the quality of stiffness. Flexibility indicates a material's ability to bend and twist but regain its original form, and plasticity is the level of malleability the iron can endure prior to a fracture point. After multiple challenges, the material's recovery may alter from fatigue and require extended time to regain homeostasis. Such is also true for humans; thus, the study of resilience in psychology begins.

Engineering may inform a framework for measuring resiliency (den Hartigh & Hill, 2022). Long-term ramifications from trauma may decrease individual resilience when the stressors are too extensive. On the other hand, just as extreme heat may strengthen iron, stress challenges may fortify individuals through posttraumatic growth. To measure human recovery, scholars sought to conceptualize *resilience* through a consensus. The construct can only be measured unless it is well-defined (den Hartin & Hill, 2022). The next level of intellect came from studying systems in nature (Berbés-Blázquez et al., 2022; Hepfer & Lawrence, 2022).

Many researchers have sought to define resilience, which has rendered various levels of understanding (Berbés-Blázquez et al., 2022). The term we currently use originated with C. S. Holling, who operationalized resilience to conceptualize complicated agile natural systems. Scholars later applied Hollings's theories to socio-

ecological interconnections (Berbés-Blázquez et al., 2022). Holling distinguished *stable* as fixed patterns in performance, granting predictability. He portrayed resilience through the system's encounters with unforeseeable, profound external changes. Stability was achieved by the ability to return to its original status (Berbés-Blázquez et al., 2022). Still, one may seek to understand the primary purpose of resilience. Hepfer and Lawrence (2022) precisely and parsimoniously respond by stating that resilience focuses on extinction avoidance (Hepfer & Lawrence, 2022).

Resilience: A Multifaceted Construct

The American Psychological Association defined *resilience* as acclimating to misfortune, injury, devastation, mandates, or distress (Southwick et al., 2014). However, the interpretation did not entail resiliency's complex nature. Biological, social, psychological, and cultural elements intermingled and regulated stress responses. Resilience capacity varied throughout the lifespan. Strategies that worked optimally at one crossroad were counterproductive through time (Southwick et al., 2014). According to Erik Erikson's theory of developmental stages, all humans encounter psychosocial crises (Sacco, 2013). People gain resilience from challenges by engaging in fluid intelligence to navigate the new stage.

Dr. George Bonnano posited resilience as an innate aspect of overall health. Permitting the mind to process trials naturally may enhance recovery agency (Bonanno, 2005; Kelly, 2005;). Developmental psychology's neuroscience supported Bonanno's theory of innate recovery (Feldman, 2020). Resilience has been the highest goal in individual growth throughout the lifespan. People who encountered unfortunate events

with perseverance and internalized a positive perspective were likely to thrive in intimate and generalized social relationships. Compassion and empathy granted agency, creativity, and meaning. Current studies focused on the neurobiology of stress regulation, which cultivated a symptom-free outcome. Post-Freudian analysts such as Erikson, Maslow, Fromm, and Sullivan branched into the relevance of personal growth with neurological studies.

Epistemically, scholars have rooted resilience in Latin as *re-salire* ("re"- go back, "salire"- to jump or leap) (den Hartigh & Hill, 2022; McEwen, 2011). The construct included individual growth that strengthened personal regulation. While no one covets adversity, problems facilitate development and prepare one for the next challenge. However, research indicated that the developmental trajectory depended on responses to stressors (McEwen, 2022; Sacco, 2013). Internal protective features included independence, malleability, agility, and practical problem-solving (McEwen, 2011). Humor, self-efficacy or competence, creativity, and temperance contributed to recovery.

Hoegl and Hartmann (2021) also defined *resilience as* the ability to 'bounce back,' which inferred a quick recovery. However, researchers explained how recuperation involved cognitive, emotional, and behavioral mechanisms and may be a systematic, stepwise process varying temporally for each person. For example, COVID-19 disrupted the balance of daily routines. While the CDC ordered social distancing to flatten the viral contagion, personal isolation led to adverse mental health outcomes. Therefore, the scholar must consider systems' interdependencies to address multiple resilience factors.

Vinkers et al. (2020) assessed the correlations between resilience and the complex, severe ramifications of COVID-19 on individuals' physical and mental health. The researchers noted that the sudden onset of the pandemic with many unknowns produced pervasive uncertainty and exacerbated psychological distress. The researchers reported that people experienced concentration deficits, poor sleep, anxiety, decreased productivity, irritability, and interpersonal conflicts. The scholars deduced that resilience increased when individuals had a sense of autonomy/control and social support/relatedness. The practitioners stressed the urgent need for resilience-focused research and interventions in the COVID-19 context.

Wut et al. (2022) articulated resilience as the skill of removing oneself from an adverse condition to enable recovery. Maul et al. (2020) described resiliency as coping with perilous situations through the synergy of individual and collaborative resources. A lack of resilience predisposed individuals to major depressive disorder (MDD) and posttraumatic stress disorder (PTSD). Researchers noted that genetic and biological influences on resilience were irrefutable. However, environmental elements were also influential. Hence, let us consider resiliency's delicate dance of nature and nurture, beginning with the origin of life.

Resilience: Nature and Nurture

The neurobiology of resilience may consider the maturation arc originating with the mother-infant bond (Feldman, 2020). The infant's brain development starts within the mother's body and depends on the provisions of her caregiving behavior, which is embedded into the child's neurobiological processes and impacts brain function. The

mother's lactation, presence, and optimal nurturing regulate the infant's systems. Feldman's study (2020) reported that the mother's mature brain synchronized with the child's immature one, facilitating neurological regulation. The dopamine motivated the dyad's connection, while the oxytocin rendered neural plasticity and calm, crystallizing the attachment. The mother-child bond has been the foundation for relationships throughout the lifespan. A child's healthy attachment to their mom strongly impacts trust, influencing future relationships. However, not all children have had stable beginnings.

Twenty percent of children have grown up in war zones or persistent food insecurity, yet many matured into adulthood, fully functional and free of psychopathologies (Feldman, 2020). Michael Rutter worked with children who experienced maternal deprivation (Su et al., 2023). He noted that those who thrived without their mother's nurturing possessed solid psychological resilience. Perhaps nature counterbalances the perceived deficits in nurture. Feldman (2020) noted that though the origins of resilience initiated en utero, the construct was multidimensional.

Genetically, much of what we know now about Retinoid Orphan Receptors (RORs) we gained from geneticists' experiments with cloning in the 1980s (Jetten & Joo, 2008). RORs transmit information to other cells. They are ligand-dependent and must attach themselves to other cells for expression. They are a small family of alpha, beta, and gamma. They play vital roles in fetal development. For example, alpha facilitates cerebellum development, gamma supports the lymph nodes, while alpha and beta, in tandem, regulate the clock for circadian rhythms, supporting the parasympathetic nervous

system of rest and digestion (Jetten & Joo, 2008). ROR deficiencies render adverse health outcomes on multiple levels, including links to cancer (Ueda et al., 2002).

The sympathetic nervous system's regulation also impacts resilience (Kuntz, 2020). Kuntz (2020) evaluated individual resilience factors. Appraisal and resiliency responses to challenges varied according to childhood experiences, genetics, personality dispositions, self-regulation, and affect. Elevated neuropeptide-Y (NPY) and heightened DHEA to cortisol ratio positively correlated to post-stressor recovery. NPY supported heartbeat, breathing, and arousal synchronization. Robust emotional regulation facilitated efficacy, strengthened immune function, enhanced coping agility, and empowered relatedness or social support gains (Kuntz, 2020). One's biology impacts resilience.

Researchers reported resilience as a protective feature of mental health disorders (Maul et al., 2020). Scholars posited resilience and vulnerability as two poles of a continuum. Hence, they studied resilient and non-resilient phenotypes. In the serotonergic system, S allele carriers presented lower resilience. Tryptophan hydroxylase 2 (TPH2), which facilitated serotonin metabolism, was rate-limiting in brain serotonin synthesis and was associated with limited resiliency (Maul et al., 2020). Still, nurture may impact recovery (Ryan & Ryznar, 2022).

Extensive research on biomarkers of resilience has left many knowledge gaps (Ryan & Ryznar, 2022). The rate-limiting serotonin metabolism presented in individuals with the genetic variant S alleles caused restorative deficits (Maul et al., 2020). S allele carriers presented high neuroticism and were prone to panic disorders. However, they also responded disproportionately strongly to positive environmental features (Kuepper et

al., 2012). Perhaps nurture compensates for perceived deficits in nature. The consideration aligns with Dr. George Bonanno's report that the brain seeks to process challenges naturally and holistically toward resilience (Bonanno, 2005; Kelly, 2005).

DNA may not determine an absolute outcome (Maul et al., 2020). Scholars reported a study of resilience in military veterans. The researchers noted the link between the retinoid-related orphan receptor alpha and PTSD. On the other hand, the environmental considerations of strained home life, health issues, financial problems, and workplace toxicity also threatened the ability to recover from perilous scenarios. Evidence of genetics' influence on resilience has been vast, yet in studies of twins, practitioners found differences in their paired levels of resilience. Though twins possessed the same genetic makeup, their experiences varied, inferring that both nature and nurture may predict the recovery trajectory. Descending more deeply, one may wonder if resilience is a state or trait.

Resilience Processes

Ollis et al. (2022) sought to determine if resilience was a personal trait or a circumstantial state. They sought to discover if resilience is a stable trait or an emotional process/state that vacillates. From the *t-test* and the ANOVA, the researcher's data from the Conner-Davidson Resilience Scale (CD-RISC) indicated that resilience was modifiable (state) per Chi-squared differences tested over the three-time assessments (*t1* with *t2 = .79), (t1* with *t3 = .69*), and *(t2* with *t3 = .67)*. However, the Resilience Scale for Adults (RSA) conveyed resilience as an individual trait (r = .79). Therefore, resilience may be both a trait and a state.

When a person faces a devastating event, they may despair, stagnate with reorientation, or recover (Southwick et al., 2014). An individual may embody a combination of these elements. For example, a soldier may continue their duties while struggling with PTSD. The individual may require continued mental health care for comprehensive recovery (Southwick et al., 2014). Cognitive processes may vary for a person depending on nature, nurture, state, trait, or their placement on the resiliency continuum of vulnerability to recovery (Maul et al., 2020; Ollis et al., 2022).

The Evolution of Resilience

Resilience includes a broad spectrum of negative and positive responses to an intense stressor (Kuntz, 2020). The survival course induced immediate cognitive and emotional impairment. An upward recovery required adequate resources. On the other hand, the absence of support charted survival-to-decline. Resilience includes a person's ability to regain the healthy psychosocial function of connection to others or relatedness (Kuntz, 2020). Relatedness, which begins with the bond to the mother, continues to support recovery throughout the lifespan (Feldman, 2020). Thriving or posttraumatic growth infers a person's capacity to continue to develop social and personal resources to surpass their original status (Kuntz, 2020; Ledesma, 2014). How a person frames a situation may determine effectiveness (Kuntz, 2020). Though an individual may have an innate drive towards resilience, social resources may further support their ability to withstand challenges (Bonanno, 2005; Feldman, 2020; Kuntz, 2020).

Hoegl and Hartmann (2021) identified risk management as predictive, protective measures facilitating recuperation. While scholars noted *resilience* was a healthy,

functional adjustment post-adversity, it was less concerned with prevention/predictors. Timing is relevant for upcoming strategies. Following a traumatic event, individuals may consider their preparedness to decrease the negative impacts of future unfortunate scenarios. Though risk management may be an ongoing mindset, the resilience trajectory begins with a setback analysis. Adverse situations challenge systemic function, distinguishing a need for resiliency from simple coping mechanisms used to manage daily stress. Substantial upsets call for new survival schemas that may surface during reorientation.

Wut et al. (2022) discussed adversity as the precursor to recovery. The scholars addressed resilience as an individual element developed through the lifespan. It entailed cognitive processes and actions that promoted personal strengths, which buffered mental health. Resilience combines internal and external components. Predictors of resilience have been a pertinent consideration in the workplace. The data from Wut et al. (2022) concluded that organizational resilience correlated with perceptions of well-being and work engagement when mediated by micro resilience (Wut et al., 2022). The next section discusses the role that personal resilience plays in the workplace and how organizational resilience impacts the individual.

Micro and Macro Resilience

Individual Psychological Resilience. Researchers studied individual psychological resilience in the 1970s (Su et al., 2023). Michael Rutter's work explored the impact of maternal deprivation on children. Rutter discovered that children who grew up healthily in unfortunate environments possessed the protective/supportive element of

psychologically solid resilience (Feldman, 2020; Su et al., 2023). Though approximately 20% of children experienced their most critical early years in peril, many matured free of psychopathologies, inferring that there are many unknowns in the resilience phenomenon. The consensus of the past three decades informs how resilience may enable people to remain balanced and healthy throughout challenging events. Such intricate resilience fortifies vital, optimal mental health.

Su et al. (2023) defined psychological resilience (PR) as a complex network of pathogenic and protective factors. It included health/disease processes that directed recovery or treatment. Robust adaptation to stress or trauma indicated psychological resilience and represented coping strategies for overcoming challenges. PR was articulated as an individual's capacity to adapt to difficulties, dodge harmful stressor effects, and maintain function. It granted the flexibility to return to healthy normalcy following a trauma, illness, tragedy, or an accident. People with high psychological resilience were less vulnerable to diseases and tended to have positive perceptions. They focused on strengths, incorporated constructive feedback, developed close social relationships, possessed emotional intelligence, and had a sense of well-being (den Hartigh & Hill, 2022; Su et al., 2023). Does progressive individual resilience guarantee organizational recovery? The following section discusses the systems that may influence personal and corporate resilience.

Systemic Resilience. Though research on resilience for individuals is vast, organizational recovery requires further investigation (Kuntz, 2020). On the micro level, emotional stability, physical fitness, mental grit, and purpose/meaning enhanced

individual resilience (McEwen, 2011). Resilience theory highlights flexibility and adaptability as critical recovery components (Wut et al., 2022). Organizational resilience held two domains: adaptation and anticipation. Resilient companies absorbed impact, established event-specific solutions, and continued in transformational routines to capitalize on unplanned disruptions.

During the initial onset of adversity, employees experience a “honeymoon” or “heroic” stage of the recovery trajectory characterized by increased cohesion, emotional maturity, and a heightened sense of meaning or purpose (Kuntz, 2020). At that point, companies needed to provide the necessary support. Otherwise, the prolonged exposure wore down individuals. The absence of organizational resources resulted in declining cognitive processing, sleep dysfunction, cardiovascular impairments, attention lapses, and diminished immune responses from sustained heightened cortisol levels. Further research may span the gap between individual resilience and industrial best practices, which scholars may address through organizational learning.

Wut et al. (2022) provided significant insights into workplace recovery. Organizational resilience was vital to sustainability. Before the pandemic, companies encountered external threats from innovative technology, altered demographics, geopolitical issues, and de-globalization. In the pandemic ecology, with the impediments in supply chains and worldwide interdependence, companies faced thwarted integration of intercontinental markets that exacerbated corporate challenges secondary to COVID-19. Scholars evaluated the impact of organizational and psychological resilience on individual recovery and work engagement. The researchers noted the need for future

studies on how companies may sustain employee engagement and resilience in the workplace with the continued challenges of COVID-19.

Kuntz (2020) conveyed a research gap between individual and organizational resilience. Wut et al. (2022) posited that organizational learning may fill the micro-macro divide. Researchers found an intricate connection between individual and organizational recovery. Work engagement predicted corporate performance (Wut et al., 2022). Organizational and psychological resilience were vital features of work engagement and employee resilience. A learning organization is conducive to resiliency through quick adaptation to environmental changes (Basten & Haamann, 2018). COVID-19 demanded timely adjustments to multiple systems of society to ensure survival. The crisis fostered collaboration, which only surfaced after COVID-19's onset.

Furthermore, organizational learning (OL) enables the mutation of individual knowledge to organizational gains (Basten & Haamann, 2018). OL enhanced long-term performance when it aligned with corporate culture. Workplace learning continued with or without structure. However, companies reaped the benefits of effective learning through a systematic, disciplined approach. OL empowered employees to conceptualize their work environment, which strengthened their decision-making and facilitated a competitive advantage. Theoretically, OL modified mental schemas, guidelines, and cognitive processes to fortify performance. Learning was critical for organizational resilience and sustainability, as business environments were unpredictable. OL was more complex than individual knowledge acquisition because the organizational unit is greater than the sum of its parts.

Hepfer and Lawrence (2022) subdivided organizational resilience into heterogeneous functional, operational, and strategic constructs. Researchers defined *functional resilience* as a challenge within a specific subsystem that did not initially insult the whole when remedied promptly. The focus of functional resilience was cost efficiency and disruption avoidance. Leaders' responses to adverse events that threatened the company's continued operations defined *organizational resilience.* Natural disasters, recessions, or terrorism had deleterious impacts on stakeholders from impeded organizational operations. A company's ability to outline plans to absorb future shocks conceptualized *strategic resilience*.

The whole system's resilience did not have to connect to the adverse event but focused on the challenge's specific link to the organization (Hepfer & Lawrence, 2022). While the stratification of organizational resilience held three second-order constructs: functional, organizational, and strategic, the features were interconnected and cyclical. Organizational resilience was not an accumulation of individual resilience or exclusive to a specific field of practice. Therefore, the construct held an extrapolation value (Hepfer & Lawrence, 2022). While individual stabilization did not predict organizational resilience, company recuperation supported micro-recovery (Maul et al., 2020; McEwen, 2011).

Organizations strengthened collective recovery through a positive work climate, contributing to the nurturing side of resilience, which supported the individual (Maul et al., 2019; McEwen, 2011). Nevertheless, rebounding from setbacks in the workplace did not hinge on the individuals' resilience capacity but on the group's focused objectives.

Kuntz (2020) discussed the multifaceted, multilayered nature of resilience in the workplace. On the individual level, protective elements evolved from a person's ability to regain a state of well-being after a challenge. Personal, social, and environmental resources bred recovery for the organization.

The impact on an individual's resilience capability included the stressor's immediate and extended effects on employees' health, which determined posttraumatic growth to thrive beyond the pre-trauma state (Kuntz, 2020; Wut et al., 2020). Micro resilience pathways converged in the work environment. Organizations influenced positive outcomes by negotiating psychological risks. Companies benefited from creating access to assets of financial support, situational reframing, flexible work arrangements, and counseling. The company provided psychological safety and resources, which enhanced individual resilience.

While some studies reported organizational resilience as separate from the individual, others posited how the macro-micro interdependence transformation perceptions mediated recovery (Gröschke et al., 2022). Resilient organizations facilitated competence and maintained a growth trajectory. Companies have not achieved organizational resilience through individual recovery alone. However, personal resilience enhances the perceived overall health of a company (Gröschke et al., 2022). Still, the development of personal resilience carried long-term impacts, which strengthened hormesis through negative affect negotiation (Carmel et al., 2022; Cohn-Schwartz et al., 2020).

Longitudinal Resilience

Many older individuals with co-morbidities remained resilient (Windle et al., 2020). Theorists posited that resilience contains social, structural, or personal features. Scholars explored resiliency through an eco-psychosocial approach in a qualitative study of adults who were 65+ (N=20). The researchers used inductive and deductive thematic analyses. The participants experienced non-normative situations such as grief, health problems, and bereavement. The tools for effective resilience centered around personal identity, character, an intuitive life approach, and a sense of belonging with meaningful social connections. The researchers' findings noted the process of interdependence between the environment and the person. Resource availability throughout the lifespan enhanced personal agency and had long-term positive impacts (Windle et al., 2020). However, early wounds carried extended ramifications (Cohn-Schwartz et al., 2020).

Holocaust Survivors. After WWII, numerous Holocaust survivors (HSs) immigrated to Israel or, later, the former Soviet Union after 1989 (Cohn-Schwartz et al., 2020). The survivors comprised over 30% of individuals 75+ years old in Israel, which equals 189,500 people. One of the first COVID-19 mortalities in Israel was an 88-year-old Holocaust survivor. Like the rest of the world, most individuals admitted to the hospital, including those who perished, were elderly. HSs were remarkably vulnerable. They had endured egregious trauma from concentration camps, ghettos, or hiding in the woods during their early years.

Israel responded to the pandemic expediently (Cohn-Schwartz et al., 2020). On March 25, 2020, the government implemented structured restrictions. Individuals had to

remain within 100 meters (328 feet) of their homes unless they were essential workers. They were required to maintain a 2-meter (6.5 feet) distance, wear protective masks, and avoid visiting others, especially senior citizens. Many elderly Israelis experienced their first Seder Passover meal alone, so the virus imposed cultural and religious practice impediments.

Covid-19 was significantly lethal to people in retirement facilities (Cohn-Schwartz et al., 2020). Many HSs resided in nursing homes. The institutions carried high mortality rates. Notably, 37% of COVID-19 deaths occurred in healthcare facilities for the elderly. Due to contagion concerns, residents could not receive visitors. The environment triggered memories of early life losses. HSs with dementia were especially vulnerable because they could not remember why their families were absent. By April 21, 2020, the government marginally lifted the mandate and permitted one visitor who was required to align with safety protocols.

One of the most challenging directives of the pandemic was social isolation, especially from close family members (Carmel et al., 2022). The seclusion was especially difficult for senior citizens, considering their vulnerability awareness. In Israel, 22% of individuals 65+ and 31.1% of people 75+ lived alone. Therefore, many had to be isolated from their family or neighbors with no companionship. They avoided interaction, fearing contagion. Understandably, social deprivation, treatment delays, and the termination of cultural activities caused states of loneliness, uncertainty, fear, loss of appetite, insomnia, and psychosomatic issues. The circumstances facilitated mental health decline. “Life events and health theory” posits that the longer people live in poor conditions, emotional

and physical health deterioration sequelae.

During COVID-19, limited social, physical, and mental activities were characteristics of the extensive isolation and predisposed individuals to depression, cognitive deficits, functional decline, and anxiety (Cohn-Schwartz et al., 2020). The information about the virus was limited and inadequate. Authorities reacted ambiguously. The radical CDC-mandated enforcement triggered traumatic memories (Carmel et al., 2022). Since HSs depended on others for food or medical supplies, they experienced helplessness and uncertainty (Cohn-Schwartz et al., 2020). According to the wear and tear hypothesis, people who have known previous traumas may possess an elevated risk for decline. HSs embodied symptoms that their non-survivor counterparts failed to experience.

Additionally, HSs' offspring internalized many of the psychological challenges of their parents, even though the wounds were secondhand (Shira & Felsen, 202; Silviera & Gradim, 2015 1). Survivors exhibited traumatic stress and other mental health concerns, though their physical conditions were on par with their non-survivor cohorts (Cohn-Schwartz et al., 2020). Researchers posited that the ramifications of isolation may have been heavier than the risk of the virus—non-government organizations advocating for HS substantially increased call volume during COVID-19. Interestingly, HSs exhibited higher resilience, though their vulnerabilities were intensified. They reported being mindful and articulated the differences between imprisonment and the pandemic. HSs noted that no one was persecuting them; they had food, could walk outdoors, and digitally reached out to family. They remarked on the situation as temporary and how

past events prepared them for current challenges (Cohn-Schwartz et al., 2020; Shira & Felsen, 2021). Even so, one may consider the progression from trauma to resilience.

Theoretical Framework: Motivation

Genealogy of Motivation

While resilience is the ability to recover from physical, emotional, and social oppositions, financial challenges, trauma, or tragedy, what initiates one's recovery capacity (Resnick, 2018)? Since humans are not stagnant, they may consider what determines their response trajectory when trials strike. Internal motivation may direct the recovery path. *Motivation* is the innate drive, urge, or need to engage. Resilience and motivation are separate constructs, though interdependent. Unlike motivation, resilience is reactionary. Still, motivation is required to continue healthy development upon facing adversity. When a person is not motivated after a trauma, they may move towards hopelessness and despair.

Scholars strongly encouraged continued study on resilience as society adjusts to COVID-19's new normal (Vinkers et al., 2020). The researchers noted that resilience increased when individuals had a sense of autonomy and relatedness, which Ryan and Deci included in self-determination theory (Deci & Ryan, 1985; Vinkers et al., 2020). Whitfield and Wilby (2021) reported how meaning facilitated self-determination and resilience. Feldman (2020) highlighted the supporting roles of relatedness and meaning via neurobiology. Therefore, the theoretical framework for the study included self-determination and meaning in life theories.

Environmental Factors' Influence on Motivation

While external elements may initiate motivation, environmental factors may suppress it. Liu et al. (2022) addressed controlled (extrinsic) and autonomous (intrinsic) motivations' relationships to job characteristics. The researchers retrieved valid questionnaires from a substantial sample size (N = 435). Their findings informed how job characteristics provided psychological needs satisfaction and mediated the fluctuation between the negative influence of external control. Strong positive emotions fueled needs-satisfaction from job characteristics. Individuals with negative affect were depressed by job requirements and experienced needs frustration. Personality traits played a crucial role in work perceptions. Mediators for job satisfaction included one's need for growth, environmental contentment, and competence. The arousal for growth, which, in turn, prompted autonomy and reduced extrinsic control, were the nutrients that predicted efficacy.

For example, a hospital in Utah created healthy environmental strategies that served them well (Morrow et al., 2021). COVID-19 placed tremendous stress on healthcare workers. Employees endured potent, sustained stress levels. While surface acting may suffice in brief intensive scenarios, it has unfortunate ramifications over prolonged periods. The researchers reported how the Utah hospital administration synchronized efforts that highlighted all factors of response teams. They repurposed medical apparatuses and reassigned employee roles to maintain ample provisions and ethical compliance. The organization sought stakeholder input and prioritized workforce well-being. The leaders took a systemic approach to building the community through

connectedness, which fostered resilience while considering various cultures and delivery systems (Morrow et al., 2021). The hospital's strategic resilience sustained them through the crisis (Hepfer & Lawrence, 2022). Their plan of action was efficacious as death realization was proximal (Pyszczynski et al., 2021) and a threat to social safety (Slavich, 2022).

Death awareness impacts multiple aspects of the human life (Pyszczynski et al., 2021). The enormous death toll of COVID-19 ushered in a poignant mortality awareness in humankind. Terror management theory (TMT) framed people's responses to Covid-19. The impetus of fear directed attitudes and behaviors. Proximal defenses engaged when death thoughts were immanent, logical, and focused on a current threat. When death ponderings were in the fringes of the mind, distal defenses led to meaningful pursuits, individual values, and relatedness to others (Pyszczynski et al., 2021). The distal defenses included elements of self-determination and meaning in life theories, which were optimal for resilience study from COVID-19 (Costin & Vignoles, 2020; Deci & Ryan, 1985; Pyszczynski et al., 2021).

Historical Perspectives of Motivation

Numerous theorists developed the foundational works on motivation (Harlow, 1949). Dr. Harry F. Harlow's work with primates provided insights into motivation. Harlow initially created a three-part puzzle and provided no extrinsic rewards/motivation. The doctor noted responses and persistence of primates' behavior for two weeks. For the first 12 days, scientists reassembled puzzles every other hour. The rate of errors decreased from 2.3/1.9 to .71/.49 over six initial test periods. During the final six days,

primates achieved 84% accuracy. Harlow concluded that the drive to achieve parallels the intensity of hunger and thirst satiation.

Sigmund Freud's theories on the Id, the Ego, and the Superego granted insights into tensions and satisfactions of internal drives (Harlow, 1953). Dr. Freud's psychodynamic drive theory posited that anxiety reduction promoted drive satisfaction. Influencers in animal behavior included Dr. Jacques Loeb's tropism theory, which mathematically deduced the power of extrinsic motivation in animals. Dr. Loeb sought to explain aberrant behavior in terms of motivating factors. During the same era, Watson, Skinner, and Thorndike emphasized how external stimuli forced learning and performance. Researchers needed more clarity regarding pleasure or pain.

Self-Determination Theory

At the start of the 21st century, most psychologists perceived motivation as physiological (Deci & Ryan, 1985). Scholars believed motivation was primarily drive-based. However, around the 1950s, practitioners realized that it was rooted in basic psychological needs. At that time, self-determination focused on competence and relatedness. Later, the theory expanded to include autonomy. Researchers evolved to perceive intrinsic and extrinsic motivation of equal value. The impetus of functional autonomy bridged the gap between drive and fulfillment (Harlow, 1953). External motivations included coercion and internal conflict (Di Domenico & Ryan, 2017). Extrinsic motivators detracted from self-experienced behaviors and undermined autonomy. The need for satisfaction with autonomy, competence, and relatedness granted proximal support for intrinsic motivation.

Richard M. Ryan and Edward Deci operationalized intrinsic motivation through self-determination theory (SDT; Di Domenico & Ryan, 2017; Ryan & Deci, 2014). The inner motivation was spontaneous. It was a natural feature of our cognitive processes. The internal drive has been woven throughout human curiosity, which initiated interest in self-development. Self-determination theory framed motivation as predicting mental health, educational development, creativity, or performance outcomes. SDT differentiated between controlled and autonomous stimuli. Controlled incentives included external pressure, contingencies, or ego involvement to meet a given directive per rewards/punishments. An autonomous impetus granted full volition and choice. SDT carries two additional second-order constructs of competence or efficacy and relatedness: connectedness and belonging. Decades of research have led to the conceptual expansion of psychological and neurological responses to self-determination.

Current Trends in SDT

Researchers have made considerable progress in the past 70 years and, more recently, explored the neurobiological substrates underlying the intrinsic motivation of self-determination (Di Domenico & Ryan, 2017). Intrinsically motivated people engaged in behaviors from individual interests and sought development to satisfy curiosity. Extrinsic motivation predicts reward or punishment. Contrary to early research, the two were of differing power. People who initiated an activity from an external propulsion did not sustain it. Harlow (1949) coined *intrinsic motivation* and noted that primates persistently continued to work the puzzles without extrinsic rewards. However, once tangible consequences were attached, subjects lost interest.

Scholars tracked intrinsic motivation through facial responses (Di Domenico & Ryan, 2017). External input undermined autonomous drives. Intrinsic motivation was imperative for psychological growth and development throughout the lifespan and depended on situational and environmental factors to support it. Neuro data noted that the brain's neural systems mediated self-determined behavior. Neuroscience provided an understanding of the brain's processes that were inaccessible otherwise, and scientists recorded them more accurately than behavioral models alone. Finally, multi-source findings led to robust and flexible theories.

Magnetic resonance imaging (MRI) tracked mastery techniques and curiosity through central dopamine systems (Di Domenico & Ryan, 2017). Data conveyed the potential of switching between large-scale neural networks and highlighted attention regulation, cognition, and salience. Intrinsic motivation includes behavioral, cognitive, and emotional features. Therefore, scientists assessed a broad spectrum of neurotransmitter systems. Intrinsic motivation expanded the investigative pursuits enacted by the mammalian/seeking systems, where dopamine was predominant in neurochemistry. Dopamine initiates the brain's neural plasticity, creativity, task perseverance, and positive emotions. Individuals who were highly engaged or possessed *flow* had heightened dopamine D2-receptor accessibility in the stratum (Di Domenico & Ryan, 2017). The origin of neurobiology included the potency of SDT's relatedness (Feldman, 2020).

The neurobiology of infants informs innate resilience processes (Feldman, 2020). Following birth, the affiliative brain's development included the infant's oxytocin

receptors linking social cues via the brain's dopamine reward system to the engagement of olfactory-amygdala mapping and finely tuned signal-noise ratios in the hippocampus. The functions of the subcortical network empowered empathy, emotional regulation, imitation, and mentalization, which facilitated the bonding of the self to others on multiple levels throughout the lifespan (Feldman, 2020). Cortical development continued for decades, moving the child from lower to higher order, encompassing socioemotional functions (Sydnor et al., 2021). Social connections support resilience (Feldman, 2020). Relatedness or belonging is a facet of self-determination theory that enhances recovery (Deci & Ryan, 1985; Vinkers et al., 2020).

Whitfield and Wilby (2021) explored the lived experiences of healthcare workers and the development of grit, motivation, and resilience during COVID-19. The participants' feedback indicated that finding meaning fortified autonomy, competence, relatedness, and resilience. The scholars explained how resilience may not have been an individual trait but may have developed over time. The researchers recommended that employees create a resilience trajectory through a personal mission statement articulating that which brings them happiness, how they make a difference, the legacy they wish to leave behind, their strengths, and five core values.

Szulawski et al. (2021) studied elements that impacted job performance within the self-determination theoretical framework, including the sub-dimensions of autonomy, competence, and relatedness. Researchers found that these innate needs were constant. However, the extent to which organizational environments supported needs satisfaction/frustration varied. The scholars noted that self-determination theory was

under-researched in the workplace context. Future study may provide information to enable employers to create environments supporting employees' needs satisfaction.

Sanchez-De Miguel et al. (2023) explored the self-determination-resilience link in education. The classroom work environment impacted intrinsic motivation. The researchers assessed the correlations of motivation, resilience, and perceived competence in a substantial sample size (N = 789) of university students. A test-retest design measured stability. Intrinsic motivation significantly correlated to resilience and perceived competence (Sanchez-De Miguel et al., 2023). Lui and Huang (2021) drew similar conclusions, though their SDT focus was autonomy. The researchers' human agency model examined autonomous goal achievement. Their findings conveyed how satisfying essential needs facilitated resilience and increased student performance.

Lui et al. (2022) investigated the impact of job characteristics on self-determination theory. The researchers recruited 485 participants from various Chinese industries. The results indicated that job characteristics impacted basic needs satisfaction and mediated the connection of positive/negative job features, noting how self-determination bypassed external elements. Furthermore, when employees experienced positive affect, job characteristics supported self-determination. Conversely, negative affect depressed motivation. Organizational context influenced emotional perceptions. Increased autonomy and diminished extrinsic motivation fostered resilience (Lui et al., 2022). The second half of the theoretical framework is meaning in life. Martela and Riekki (2018) stressed the need for empirically tested insights on meaning, which the next section explores.

Meaning in Life Theory

Feldman (2020) defined *neuroplasticity* as long-term persistence, recalibration, and agile adaptations to modifications (Feldman, 2020). Neurobiological plasticity/malleability was grounded in social suitability and physical endurance. The process contributed to diverse conditional adaptations, including social bonding. The biobehavioral synchrony influence inferred that two people may impact each other's physiology through facial socio-affective signaling, free of physical contact. While relatedness and biobehavioral concurrence apply across species, meaning making is specific to humans.

An individual's skill of attaching meaning to pain empowered their recovery (Feldman, 2020). Individuals applied cultural or religious constructs that granted meaning to suffering. Altruistic and affiliative behaviors shaped meaning, which built resilience. Furthermore, finding meaning granted goal direction and future orientation. However, the initial principle of resilience was flexibility. Therefore, hyper-religiosity may threaten the tenant with heightened obligations, submissive schemas, and rigidity (Feldman, 2020). Dr. Viktor Frankl noted that meaning in life supported his recovery (Frankl, 1992). Meaning's profound power may intertwine with self-determination (Bauer et al., 2019; Chater & Loewenstein, 2016).

Gestalt psychology posited that the drive for meaning was as intense as hunger, sex, and thirst (Chater & Loewenstein, 2016). Visually, the brain interprets a picture by focusing on the background over the projected objects. Auditory data cycles through the brain as a reflex. However, volition presents options once an individual experiences a

neurological reaction. For example, when the environmental temperature decreases, the brain registers cold. Then, a person may don a sweater or start a fire in their fireplace. Sense-making is autonomous and beyond conscious control. Nevertheless, the reflex may motivate an extension to biological responses.

One's meaning in life impacts physical and mental health (Chen & Gao, 2021). The initial reactions to the pandemic changed over time (Heanoy et al., 2021). Though the essence of COVID-19 was a health risk, individuals' primary concerns centered on the impediments to their plans and goals rather than economic challenges. They focused on interruptions to their daily routines instead of health risks. Overall, the pandemic produced psychological consequences, evoking stress, fear, and ambiguity. Transition theory informs that events spawn foundational changes to life's fabric. COVID-19's altered environment impacted individuals' mental conditions, behaviors, and emotional and physical well-being. The end of one phase abruptly introduced the next and demanded adaptability (Heanoy et al., 2021). The Gestalt responses focused on goals, plans, and routines (Chater & Loewenstein, 2016). People's future orientations were interrupted during the crisis. Though objectives give direction (Heanoy et al., 2021), one may formulate meaning through challenges to gain self-determination.

The satisfaction of the second-order self-determination theory constructs of autonomy, competence, and relatedness promoted internal regulation and intrinsic motivation (Bauer et al., 2019). Since the sub-dimensions depended on self-appraisals, they were configured according to an individual's meaning and may have produced a purpose. When individuals experience crises, they question their values and redefine their

meaning, perspective, and goals. Goals enhance a sense of well-being. However, stable equilibrium was a process of rearticulating sensical values. Wisdom acquisition directed individuals toward a eudemonic perspective through service, which enhanced purpose (Bauer et al., 2019). Eudemonic happiness focuses on meaning-related well-being (Su et al., 2020).

Scholars' Perspective on Meaning

A contemporary of Freud and Adler was the legendary Dr. Viktor E. Frankl, who developed logotherapy (Schulenberg et al., 2008). The Greek *logos* implies *meaning*. The human capacity for resilience is robust, especially when one finds meaning through pain. Dr. Frankl survived concentration camps during World War II. He found despair reduction in those who embodied personal meaning from their experiences, which shaped their attitudes and behaviors. Recently, a burgeoning relationship has been between health/well-being and a sense of purpose. Scholars posited that meaning provided mood stability, increased prosocial behaviors, and reduced psychological distress. Logotherapy was a precursor to cognitive therapy and focused on restructuring perceptions. Its contributions to clinical therapy have been remarkable.

Tryon and Radzin (1972) noted that Dr. Frankl's "will-to-meaning" orientation was invaluable to mental health and enabled clients to avoid an existential vacuum. The researchers assessed college students (N = 48) for commitment through relationships and certainty of majors. The findings indicated a positive correlation between Purpose in Life and Ego Resiliency test scores (r = .24). Ego Resiliency scores positively correlated to academic majors (r = .48) and courting (r = .30). Purpose promoted resiliency while

buffering depression and mental health decline.

Second-Order Constructs of Meaning

Scholars used the tripartite theoretical perceptions of coherence, purpose, and existential mattering to conceptualize meaning in life (MIL; Costin & Vignoles, 2020). Researchers defined *coherence* as understanding one's experiences within one's environment, which delivers internal order. One's *purpose* was motivational and critical to self-regulation in organized goal attainment. A sense of purpose empowered goal formation and behavioral management. Meaning in life fueled efforts towards fulfillment and supplied a future destination and positive health features. *Mattering* was existential, enabling an understanding of one's significance or relevance. The two dimensions of mattering were generativity and a valued life. People transcended by understanding value and worth when they perceived the self as relevant and significant. Individuals felt they mattered when they were relevant to others through relatedness.

According to a longitudinal study by Costin and Vignoles (2020), three perceptions of MIL were distinct from elements of self-determination and impacted purposeful judgments. The researchers assessed three participant groups with a month time lag between each one. Their findings indicated that a person's sense of mattering or relevance consistently led to salient judgments. Purpose and coherence needed to be clearer precursors. However, all three played roles in the formation of individuals' meaning perceptions. The authors assessed six dimensions that composed meaningful self-judgments. They added a sense of control, self-esteem, and mood to the original three parts: coherence, purpose, and mattering.

A meaningful life perception had multiple positive health outcomes (Costin & Vignoles, 2020). Individuals who embodied meaning chose a healthy diet, engaged in exercise, had decreased levels of depression, and possessed vital life satisfaction. Researchers struggled to articulate an operationalized definition of life meaning as an objective judgment since people gained understanding through self-appraisals. However, scholars concurred on the conceptualization of *meaning* as a network of relationships, perceptions, and explanations that enabled the mind to apprehend personal experiences and develop strategic plans for targeting a desired future. Internalized meaning provided an individual with the awareness that their life mattered, was sensical, and granted the internalization of being more than the accumulation of the time spent on earth (Costin & Vignoles, 2020). Dr. Viktor Frankl found meaning in suffering and contributed exponentially to modern psychology.

The Human Spirit

As a concentration camp prisoner, Dr. Viktor Frankl experienced repeated devastating events (Frankl, 1992). The pain was all around him, and each day brought the ambiguity of unknown duration. However, thoughts of his wife and their love provided momentary bliss. Throughout the darkest years, Dr. Frankl observed that those who embraced a future orientation were more likely to live to see their hopes realized. While Frankl survived his imprisonment, he endured great agony.

Dr. Frankl suffered tremendous losses (Bushkin et al., 2021; Frankl, 1992). In 1942, Holocaust soldiers arrested him, his wife, his parents, and his brother. The Frankl family began their incarceration at Theresienstadt in Bohemia, and Viktor's dad starved

to death shortly thereafter. Two years later, his brother and mom died in Auschwitz. His wife perished in Bergen-Bergen the following year. Frankl began to explore how one finds meaning through egregious human suffering.

Dr. Frankl's logotherapy may be dichotomous (Henrion, 2011; Silveira & Mahfoud, 2008). When faced with trauma, one may seek and discover meaning or experience existential emptiness. The United Nations promotes resilience by removing roadblocks that limit human freedom. Strengthening autonomy and supporting vulnerabilities increased one's capacity to withstand negative impacts. People navigated and negotiated their way to resiliency over despair as they found meaning. Pain is part of the human condition. However, resilient individuals who discovered a purpose through affliction found the empowerment to endure suffering, rise above it, distance themselves from it through transcendence, and choose a path to freedom.

Busse et al. (2018) examined Dr. Frankl's meaning in life theory as a dominant driving motivational force toward well-being and applied it to the workplace. The researchers discussed how employers supported meaning. The study's outcomes indicated that extrinsic incentives alone were inefficient. The practitioners reported that employers counterbalanced the limitations of extrinsic motivation through the engagement of meaning as a powerful driving force. The scholars discussed work conditions that promoted and managed meaning. The writers recommended that leadership embrace consistency and trust, express appreciation, and extend the application to a pan-cultural consensus (Busse et al., 2018). Meaning in life has been a robust motivator, and studying the man behind the theory may grant deeper insights.

Bushkin et al. (2021) conducted a qualitative longitudinal psycho-biographical sole case study on Dr. Viktor Frankl's life. Researchers collected data from printed materials and recorded interviews. Scholars received consent from the Viktor Frankl Institute and maintained ethical compliance. Frankl posited that searching for meaning motivated human behavior. He was born in Vienna in 1905 and experienced anti-Semitism throughout his life. He completed his medical degree and worked in suicide prevention for women. He countered nihilism, noting that a man's purpose granted meaning, and searching for the purpose was instinctual. The suffering individual alone can define their life's meaning and take responsibility for creating their purpose (Bushkin et al., 2021). Since defining meaning is a personal and intimate process, it may align with self-determination's intrinsic motivation that is also autonomous and centered on the self (Bushkin et al., 2021; Di Domenico & Ryan, 2017).

Frankl developed noö-dynamics, which posited that mental well-being was not about creating emotional stability but was the foundation of the search for meaning (Bushkin et al., 2021). Psychological health included two poles: tension and man's meaning fulfillment. The theoretical foundation centered around the individual striving to create a purpose in life. The conceptualization of noö-dynamics was the constriction between a person's goal and their status or a push-pull experience. When individuals faced hurdles, they felt destabilized. A natural response was to regain balance. The need for emotional stability fueled a search for meaning and led to resilience. Frankl observed that Holocaust prisoners who maintained an attitude of mental strength were more emotionally resilient than those who did not, regardless of physical fortitude.

People may struggle to resolve traumatic events through constant focus (Henrion, 2011). However, Dr. Frankl coined the term *de-reflection*. Frankl defined *d*e-reflection as directing one's focus from problems and toward meaningful goals. Individuals transcended their perception of self from victim to survivor. The technique released an individual from feeling trapped and empowered them to freedom. The survivor saw the big picture and targeted strengths (Henrion, 2011). Frankl's meaning in life assessment conveyed a person's perception of meaning or spirituality (Russo-Netzer & Ameli, 2021; Steger, 2006). Frankl's theories have significant applicability to post-pandemic resilience.

Viktor Frankl placed a strong emphasis on decisiveness and forward motion (Bushkin et al., 2021). Focusing on future goals and dreams rather than contextual chaos facilitated transcendence. In Frankl's accounts, he shared an especially difficult event when incarcerated and prisoners were led to showers. They thought they were going to be gassed that day. The captives survived but were demoralized by having to turn over all their possessions, including their garments. Following the shower, guards gave inmates clothes from deceased captives. Frankl found a small piece of paper in the pocket of the shirt he retrieved that bore the words of a prayer his father taught him about loving God. Frankl attributed his survival to connecting with the spiritual dimension through the traumatic event. Dr. Frankl found meaning above the horrors of his environment. He was mentally competent, exercised volition within the parameters of his situation in caring for others and related to his cohorts through service. He demonstrated the elements of self-determination (Bushkin et al., 2021; Deci & Ryan, 1985). Perhaps meaning bloomed into self-determination, creating the framework for his resilience.

Summary and Conclusion

Fragility infers an ontology of being easily destroyed or broken (Bunkers, 2020). The term conveys instability, insecurity, or unpredictability. On the other hand, *vitality* notes the vigor of mental grit or physical hardiness and perseverance. The sustained, uncontrollable threat of COVID-19 created fear and uncertainty. Ironically, the sense of vulnerability may have been the breeding ground for the bravery to face pain and overcome challenges. Individuals countered the threat with courage that extended beyond themselves as they served others, building a road of resilience (Bunker, 2020). Still, recovery from the current crisis is monumental and incomplete (Menges et al., 2021).

Covid-19 ushered a myriad of challenges spanning physical health (Menges et al., 2021), unprecedented death tolls (Jha et al., 2022), psychological hurdles (Xiong et al., 2020), and economic devastation (Naseer et al., 2023; Pak et al., 2020). This chapter comprehensively reviewed relevant literature on resilience, motivations, Covid-19, and their relationships to the trucking sector and industrial supply chain recovery (Chowdhury et al., 2021; Mittal et al., 2018). Empirical sources noted gaps in research that I addressed which may expand the understanding of resilience and the motivations preceding it. Literature substantiated the importance of meaning in life, autonomy, competence, and relatedness for empowering resilience. However, the works did not assess the four motivations as a group to determine their correlations to recovery for trucking employees during COVID-19.

The trucking occupation presents an isolated environment with negative job factors linked to poor health outcomes (Apostolopoulos et al., 2013; Lemke et al., 2020b;

Lemke et al., 2020c; Mittal et al., 2018). The harmful job elements were intensified during the pandemic (Lemke et al., 2020b; Lemke et al., 2020c; Sperry et al., 2022). The importance of transport before and during the crisis is irrefutable (Chowdhury et al., 2021; Mittal et al., 2018;) and may have increased meaning for truckers through the pandemic (Sperry et al., 2022). As deliberated in the following chapters, the study assessed levels of meaning in life, autonomy, competence, relatedness, and the four motivations' correlations to resilience for commercial drivers during COVID-19. The revitalization of the trucking industry may impact multiple supply chains (Mittal et al., 2018) and network fiscal health (Chowdhury et al., 2021).

The chapter included an expansive literature review on the variables of meaning in life, autonomy, competence, relatedness, and their influence on resilience (Bauer et al., 2019; Berbés-Blázquez et al., 2022; Bushkin et al., 2021). Individuals with purpose found recovery (McEwen, 2011). Scholars stated the need for autonomy (Bonanno, 2005; Kelly, 2005), competence (McEwen, 2011; Sanchez-De Miguel et al., 2023), and relatedness (Vinkers et al., 2020) through social resources (Kuntz, 2020) to grant a sense of well-being (Wut et al., 2022). Resiliency's future orientation may consider the trucking industry as the linchpin of progress from COVID-19 (Calatayud et al., 2022). The recovery for commercial drivers may prompt a healthy return of interconnected supply chains (Tramonti, 2021). Researchers emphasized the need for future studies on resiliency from the pandemic (Vinkers et al., 2020). Next, chapter 3 explores the research gaps by focusing on the quantitative study's methodology.

Chapter 3: Research Methods

Quantitative research surfaced around 1250 AD and was driven by the urge to produce measurable outcomes (Williams, 2007). The calculative approach fueled the goal of meaningful application to discoveries. Quantitative studies build on existing theories and hold a "positivist" perspective. *Positivists* contend that knowledge is grounded in what an individual experiences through their senses. The research is separate from its investigator, enabling the scholar to measure reality objectively. The study may answer relational research questions of embedded variables. Exploration may provide predictions and clarifications generalizable to additional studies while facilitating theory.

This non-experimental, cross-sectional quantitative study assessed the correlations of intrinsic motivations. Then, I evaluated how the specified motivations predicted resilience for the trucking industry during COVID-19. The chapter includes the statistical assessment methods that measured meaning in life, SDT's autonomy, competence, relatedness, and resilience. A quantitative approach was appropriate as it revealed correlations of variables, their resilience predictions, and extrapolation value. The chapter details the research design, rationale, target population, recruitment, instrumentation, procedures, limitations, and ethical considerations. The following sections portray the alignment of methods to answer research questions. I deduced the research questions from literature gaps. The queries were grounded in well-established theories. As noted in the literature review, Vinkers et al. (2020) highlighted the need for future studies on resilience from COVID-19 as society adjusts to the new normal.

Research Design and Rationale

I performed a non-experimental, cross-sectional, quantitative research design and assessed the numeric relationships of research variables. The study used a "positivist" perspective and extrapolated conclusions based on theories that shaped my research questions. Quantitative analysis was appropriate since I computed data from instruments that measured meaning in life, SDT's autonomy, competence, relatedness, and resilience. Quantitative research is used to retrieve mathematical data for examination (Albers, 2017), which informed my study's conclusions. Quantitative reasoning has been a critical thinking method for data analysis and highlights trends, underlying patterns, and correlations within the study's context (Albers, 2017). Therefore, I used statistical analyses and calculated associations of motivations: meaning in life, SDT's autonomy, competence, and relatedness. Then, I assessed how motivations predicted resilience from COVID-19 for truckers.

Research emerges from one question about a phenomenon (Williams, 2007). As the scholar proceeded to investigate, literature multiplied their queries. Research questions focused on thoughts and endeavors, informed an approach, and granted sense-making to the subject matter. My initial research question was, "What fosters resilience for the trucking industry during COVID-19?" The literature review depicted resiliency's motivations. However, how they impacted the trucking industry during COVID-19 had not been analyzed. The present study explored self-determination and meaning in life theories to explain the resilience phenomenon for trucking employees during the

pandemic. Literature gaps provided the infrastructure and multiplied the initial research query into the following research questions and their hypotheses:

RQ 1: To what extent does autonomy correlate to meaning in life for trucking employees during COVID-19?

$H_0$1: Autonomy is not significantly correlated to meaning in life for trucking employees during COVID-19.

H_a1: Autonomy is significantly correlated to meaning in life for trucking employees during COVID-19.

RQ 2: To what extent does competence correlate to meaning in life for trucking employees during COVID-19?

$H_0$2: Competence is not significantly correlated to meaning in life for trucking employees during COVID-19.

H_a2: Competence is significantly correlated to meaning in life for trucking employees during COVID-19.

RQ 3: To what extent does relatedness correlate to meaning in life for trucking employees during COVID-19?

$H_0$3: Relatedness is not significantly correlated to meaning in life for trucking employees during COVID-19.

H_a3: Relatedness is significantly correlated to meaning in life for trucking employees during COVID-19.

RQ 4: To what extent do autonomy, competence, and relatedness predict meaning in life independently or in linear combination for trucking employees during COVID19?

$H_0$4: Autonomy, competence, and relatedness do not significantly predict meaning in life independently or in linear combination for trucking employees during COVID-19.

H_a4: Autonomy, competence, and relatedness significantly predict meaning in life independently or in linear combination for trucking employees during COVID-19.

RQ 5: To what extent does meaning in life correlate to resilience for trucking employees during COVID-19?

$H_0$5: Meaning in life does not significantly correlate to resilience for trucking employees during COVID-19.

H_a5: Meaning in life is significantly correlated to resilience for trucking employees during COVID-19.

RQ 6: To what extent does autonomy correlate to resilience for trucking employees during COVID-19?

$H_0$6: Autonomy does not significantly correlate to resilience for trucking employees during COVID-19.

H_a6: Autonomy is significantly correlated to resilience for trucking employees during COVID-19.

RQ 7: To what extent does competence correlate to resilience for trucking employees during COVID-19?

$H_0$7: Competence does not significantly correlate to resilience for trucking employees during COVID-19.

H_a7: Competence is significantly correlated to resilience for trucking employees

during COVID-19.

RQ 8: To what extent does relatedness correlate to resilience for trucking employees during COVID-19?

$H_0$8: Relatedness does not significantly correlate to resilience for trucking employees during COVID-19.

H_a8: Relatedness is significantly correlated to resilience for trucking employees during COVID-19.

RQ 9: To what extent do meaning in life, autonomy, competence, and relatedness, independently or in linear combination significantly predict resilience for trucking employees during COVID-19?

$H_0$9: Meaning in life, autonomy, competence, and relatedness independently or in linear regression do not significantly predict resilience for trucking employees during COVID-19.

H_a9: Meaning in life, autonomy, competence, and relatedness independently or in linear regression significantly predict resilience for trucking employees during COVID-19.

Methodology

I computed survey data using Pearson's correlational and multiple linear regression analyses to address my research questions. For Research Questions 1-3, Pearson's correlational analysis was used to evaluate the relationships among meaning in life as measured by the Meaning in Life Questionnaire (MILQ; Steger et al., 2006). SDT's autonomy, competence, and relatedness as measured by the Work-Related Basic

Needs Satisfaction (W-BNS; Chiniara & Berkin, 2016). Over a century ago, Karl Pearson defined *correlation coefficients* ass estimations of variables' associations and methodological agreement (Janse et al., 2021). The coefficients indicated the degree to which a straight line coincides with data alignment. Pearson's correlational analysis is widely used to measure the co-relationships quantitatively (Saccenti et al., 2020). Measurement error impacts the correlational coefficient. Factoring in the limitation of measurement error reduced bias (Zhang et al., 2014). The correlations of variables are indicated through *r* to assess their measure between -1 and +1. Zero conveys no association (Akoglu, 2018). Pearson's was suitable for assessing the relationships among the variables, which I addressed in Research Questions 1-3 and 5-8.

For Question 4, I calculated how autonomy (X1), competence (X2), and relatedness (X3) predicted meaning in life (Y) for truckers during COVID-19 through multiple linear regression, as noted in Figure 2. I ran another Pearson's correlational, which highlighted the relationships among meaning in life, autonomy, competence, relatedness, and resilience, covering Questions 5-8 (See Figure 3). Finally, Figure 4 focused on Question 9 through multiple linear regression analysis and assessed how the independent variables of meaning in life (X1), autonomy (X2), competence (X3), and relatedness (X4) forecasted resilience (Y) as measured by the Connor-Davidson Resilience Scale (CDRS (Notario-Pacheco et al., 2014) for trucking employees during Covid-19. Multiple linear regression was appropriate since Questions 4 and 9 had numerous independent variables (Leech et al., 2003). Multiple linear regression analysis enabled me to evaluate the strength of the relationships between the outcome or

dependent variable and the relevance of each predictor or independent variable. However, multiple linear regression only inferred association, not causation (Petchko, 2018).

Population

The purposive sample carried the inclusion criteria of trucking employees working during COVID-19, as they were the area of interest (Andrade, 2020). Most companies in the United States have depended on the trucking industry (McCain, 2023). Commercial drivers transported approximately 73% of U.S. cargo. Enterprises maintained functionality because of truckers' product delivery. The projected job growth needs in COVID-19's wake has been 4%, or 259,900 positions annually. According to Conroy et al. (2022), trucking companies compensate according to drivers' weekly mile coverage. Commercial drivers experienced significant pay volatility or fluctuations in compensation since their workload depended on driving assignments. Pay volatility rendered turnover intention. Furthermore, another cause for trucker attenuation was jarring events that carried a shock effect that varied from the norm.

While truckers' job features were challenging pre-pandemic, the viral onset echoed worldwide (Conroy et al., 2022; Sperry et al., 2022). Job losses during COVID-19 surpassed the unemployment rates of the Great Depression. Specifically, the transportation sector's depletions were disproportionately more significant than other industries. Commercial drivers sustained high contagion and fatalities (Mack et al., 2021). Truckers were vulnerable to infection during the global crisis since they traveled and provided in-person services (Lemke et al., 2020a). The industry experienced higher infection rates than their non-essential counterparts (Sperry et al., 2022). Truckers

facilitated human sustainability by delivering food and medical supplies critical to survival (Lemke et al., 2020b; Sperry et al., 2022). Researchers reported increased deleterious conditions in an occupation that has been challenging throughout its lifespan. Drivers embodied the pre-pandemic stressors with the additional weights of limited food availability and inaccessibility to facilities per the CDC-mandated closures.

Products in the US originate from around the globe, but truckers bring them within consumers' reach (Mittal et al., 2018; Sperry et al., 2022). The trucking sector has been the cornerstone of the US industry (Calatayud et al., 2022). Dadsena et al. (2019) discussed how freight carriers removed critical supply barriers of quantity, timing, and location. The industry simplified the coordination of connecting suppliers to consumers. The increased need for commercial drivers heightened the complexities of risk management for the sector during the crisis, so their recovery is imperative (Dadsena et al., 2019). Truckers experienced noxious conditions during the pandemic, and their resilience may be the linchpin of systemic efficacy (Calatayud et al., 2022; Lemke et al., 2020a).

Sampling

Approximately 3.5 million U.S. truckers were employed in 2021 (McCain, 2023), but COVID-19 reduced the number to 2 million (Lemke et al., 2020a). Commercial truck drivers employed during COVID-19 were the inclusion criteria for study participants. Therefore, I used purposive volunteer sampling (Andrade, 2020). The study drew participants randomly within the sample. Purposive sampling was appropriate for the work since I sought information from a specific category of individuals. Researchers may

generalize findings to truckers. However, outcomes may not extrapolate to the general population. The study employed descriptive and inferential statistics (Williams, 2007). Descriptive included the ontology of participants, such as age, gender, and trucking experience. Inferential statistics informed comparative analyses of variables.

Appropriate sample size may decrease errors associated with negative consequences in quantitative research (Martínez-Meza et al., 2014). If the sample size is too small, the study will not hold significant statistical power. Substantial sample size is even more important than the model for goodness-to-fit alignment (Mačutek & Wimmer, 2013). The dimensions of an association are not stable in a small-scale sample size (Schönbrodt & Perguini, 2013).

The study reached beyond a binary approach. It assessed the magnitude of an effect with reasonable confidence. Therefore, the null hypothesis significance testing (NHST) was congruous with the present research (Schönbrodt & Perguini, 2013). Inaccurate sample sizes may lead to Type I and Type II errors (Das et al., 2016; Jan & Shieh, 2019). Therefore, estimates for the trucker sample size were based on various equations to ensure stability (Wang & Ji, 2020).

Power analyses determined the sample size, which was critical for stable outcomes (Althubaiti, 2022; Schöulenberg et al., 2013; Rice, 2007). Procedures indicated the likelihood of rejecting a null hypothesis, which depended on the following features: The greater the difference or $\Delta = [\mu x - \mu y]$, the more robust the power. The larger the significance α, the stronger the analysis. The smaller the population standard deviation σ, the more robust the power. The larger the sample size *n,* the more compelling the

power. Therefore, the sample size was determined by standard deviation, significance level, and desired power opposing the alternative hypotheses (Schöulenberg et al., 2013; Rice, 2007). Based on the principles, I inserted the following data into G*Power to compute the sample size. The effect size or $f^2 = 0.15$, with an error probability of 0.05.

The power or 1-β err = 0.80, and there were four predictors (Faul et al., 2009). According to my calculations in G*Power, I needed a minimum sample size of 85 participants (Faul et al., 2009; Kang, 2021). However, the sample size did not consider the dropout rate. Dropout or noncompliant participants are an inevitable feature. The formula to consider dropout participants: $Nd = \frac{N}{N(1-d)}$, whereas N = sample size before dropout, d = the anticipated dropout rate, and Nd = sample size with dropout consideration. An assumed dropout rate was 20%. Therefore, $\frac{85}{(1-0.2)} = 102$ the estimated post-drop-out inclusion. To reach my projected sample size of 85, I planned on including an additional 17 participants (20%) to reach the intended goal. However, following data cleaning, my sample size exceeded the original goal (N = 107), rendering a 25% larger sample size than the requirement post-data cleaning.

Through SPSS, I performed Pearson's correlational and multilinear regression analyses. However, I also included data-cleaning protocols. Data cleaning has been foundational for management and analysis (Guo et al., 2023). Scholars define *data cleaning* as discovering and amending "dirty data." The most common limitations are outliers and missing or duplicated data. Outliers may have skewed calculations and

negative ramifications sequela. Therefore, I tested kurtosis. Following my data collection from trucker participants, I cleaned algorithms through machine cleansing since I had a large data set (Guo et al., 2023). I manually scrubbed the remaining elements that were not corrected. Then, I proceeded to the following steps: First, I backed up data and prepared for cleaning by combining and unifying formats, data types, and critical variables. Second, I ran the process and checked for missing data, outliers, or duplicates. Finally, I verified and assessed the data quality and archived it.

Procedures

Digital technology presented an opportunity to recruit participants (Kudar, 2023). Approximately 80% of commercial truck drivers use social media. Truckers specifically gravitated to Facebook and YouTube. I used the forum to post the IRB-approved invitation, which created awareness of the study. Facebook groups specific to the industry were appropriate for the purposive sample (Kudar, 2023). *Google Forms* was the instrument presentation platform, which I selected because it was free of charge. I purchased a *QR* code for the survey and included the link for convenient usage. I used *Connect Cloud Research* to distribute the surveys and collect data.

The tools for data collection assessed Viktor Frankl's meaning in life as measured by the Meaning in Life Questionnaire (MILQ; Steger et al., 2006). I evaluated the self-determination theory's autonomy, competence, and relatedness as measured by the Work-Related Basic Needs Satisfaction (W-BNS; Chiniara & Berkin, 2016). Finally, I calculated resilience through Conner-Davidson's resilience scale (CDRS; Notario-Pacheco et al., 2014). The data retrieval was cross-sectional. I gathered responses all at

once rather than over a timespan or longitudinally. Surveys were my chosen instruments for data collection.

Constructs: Operationalization and Instrumentation

Self-Determination Theory: Autonomy, Competence, and Relatedness

Richard M. Ryan and Edward L. Deci developed the self-determination theory of basic needs satisfaction, which is included in the study's theoretical framework (Ryan & Deci, 2000a; Ryan & Deci, 2000b). Self-determination has been an internal motivator. Intrinsic motivation enables one to engage in activities for innate satisfaction over an external consequence. Extrinsic interventions diminished internal incentives. Intrinsic motivation supported curiosity, creativity, and individuals sought challenges and new experiences.

Self-determination theory's second-order constructs are autonomy, competence, and relatedness (Ryan & Deci, 2014; Ryan & Deci, 2000a; Ryan & Deci, 2000b). *Autonomy* is free will and independence from external factors. *Competence* implies security in one's ability to achieve a task efficaciously. A sense of belonging and being connected to others defines *relatedness*. Self-determination centers around social contexts that support optimal psychological well-being and development. In participants, needs satisfaction rendered intrinsic motivation, well-being, and self-regulation.

Conversely, needs frustration led to a downward spiral (Ryan & Deci, 2000b). In such cases, individuals experience isolation, stagnation, and mental health deterioration. The essential psychological needs satisfaction of autonomy, competence, and relatedness in the workplace predicted job performance and work stability (Ryan & Deci, 2000b).

Fulfilled psychological needs enabled people to develop robust internal resources when humans encountered innate need consonance and resilience sequala (Vansteenkiste & Ryan, 2013).

The Work-Related Needs Satisfaction Scale-Adapted (W-BNS) has been a vital tool (Chiniara & Bentein, 2016). It measured the self-determination theory's autonomy, competence, and relatedness rooted in Ryan and Deci's theory. The confirmatory factor analysis established the three well-defined constructs. The factor loading featured autonomy (.82 to .90), competence (.71 to .87), and relatedness (.69 to .83). The reliability analysis of the second-order constructs yielded Cronbach's as follows: autonomy (.88), competence (.79), and relatedness (.80). W-BNS's standard-root-mean-square residual informed the residual's absolute covariance value, which held within stable parameters (.05 - .08) at the approximation of *SRMR* = .058. The root-mean-square error of approximation measured prediction quality, and W-BSN ranked within the desired range (.02 - .05) at *RMSEA* = .05. The test creators granted permission to use the instrument for educational or noncommercial purposes, so its inclusion in the study aligned with copyright ethics (See Appendix A).

Collendani et al. (2018) validated the W-BSN through exploratory and confirmatory factor analyses (EFA, CFA) over two employee samples. The EFA and CFA substantiated the autonomy, competence, and relatedness subdimensions. The researchers tested the third sample, which verified the scale's construct validity. The outcomes noted that social desirability did not impact the scale. The final study evaluated

the nomological scale. The findings from the unidimensional target-free scale supported nomological scale validity.

Meaning in Life

Dr. Viktor Frankl was an Austrian Jewish psychiatrist and neurologist who survived Nazi concentration camps (Frankl, 1992). He posited that a meaningless life was psychologically intolerable. From his experience in Holocaust concentration camps, Frankl observed that individuals who found a purpose persevered through challenges far beyond what they could have managed otherwise (Frankl, 1992). Dr. Frankl developed noö-dynamics which noted the tension-to-meaning satisfaction (past achievements-to-future potential) as the two poles on a mental health continuum:

1. Individuals express meaning through the coherence they find in contextual experiences, rendering an internally organized resolution.
2. Frankl stressed that an individual must embody a sense of purpose.
3. People needed to understand why they existed.

Coherence, purpose, and an individual's *why* were the tenants of meaning in life (Costin & Vignoles, 2020).

Dr. Frankl posited that a schema of meaning was foundational to mental health, enabling one to avoid an existential abyss (Tryon & Radzin, 1972). According to Gestalt psychology, the need for meaning surpassed the urges for food, water, or sex (Chater & Loewenstein, 2016; Vos et al., 2022). Frankl noted how an internal purpose fueled potential fulfillment, granting generativity. Meaning in life promotes optimal mental health. Meaning made individuals aware of social support and personal values and

enhanced identity formation. Meaning in life was a powerful intrinsic motivator that helped people focus on goals and maintain a future orientation toward resilience.

The Meaning in Life Questionnaire (MLQ) has proven to be a statistically sound instrument for measuring meaning in life variables derived from Frankl's theory (Steger, 2006). The reliability was robust in *search* (.87) and *presence* (.86). Factor loadings for the intended factor (.70 to .84) were higher than for *other* (-.10 to .13). In contrast with two *other* meaning scales, the MLQ presented the highest convergent and discriminant validity on the multi-trait/multi-method matrix. The MLQ creators granted permission for use in noncommercial or educational settings. Therefore, my use of the MLQ in the study aligned with copyrights, contributing to ethical compliance (see Appendix B).

Steger's MLQ conveyed validity and reliability in determining the *presence* and *search* for meaning (Naghiyaee et al., 2020). Researchers established psychometric data in patients with life-threatening maladies. The sample size was substantial (N=301), ages 20-80. The scholars established construct validity through Pearson's correlational and confirmatory factor analyses (CFA). The outcomes indicated that the correlation between the two subscales of the presence and search for meaning was positive and significant, $(r = 0.61, p < 0.001)$. The internal consistency was exceptional, as indicated by Cronbach's alpha coefficient ($\alpha = 0.90$) with strong subscales ($\alpha = 0.88$). The researchers concluded that the MLQ was reliable and valid and recommended its use in other settings.

Resilience

The resilience conceptual framework has been rooted in adversity research (Van

Breda, 2018). Scholars operationalized resilience as recovering healthy function following tragedy or trauma. Adaptable individuals follow a positive trajectory after a painful event. People respond to survival or functional threats through multiple systematic processes. Researchers categorized adversity as chronic and acute. Chronic adversity extends over a substantial period, and acute refers to the intensity of the challenge. (Van Breda, 2018). For many, COVID-19 was both chronic and acute (Jha et al., 2022).

A person's resilience capacity may develop throughout their lifetime (Wut et al., 2022). Resilience included behavior and cognitive processes that protected mental health and entailed internal and environmental elements (Wut et al., 2022). Recovery predictors included psychological traits, circumstantial states (Ollis et al., 2022), biological responses (Kuntz, 2022), genetic makeup (Maul et al., 2020), and neurological development (Feldman, 2020). Twenty percent of individuals with early childhood disruptions matured into healthy, functional adults (Su et al., 2023). The study of resilience holds many unknowns. Nevertheless, practitioners may measure the construct through valid instruments to advance understanding.

The 10-item Conner-Davidson Resilience Scale (CD-RISC) Spanish version has a proven validity record, so I administered it to measure resilience in the study. (Notario-Pacheco et al., 2014). The Spanish version has been commensurate to the original CD-RISC. Both versions held the same strong Cronbach's (α = .85). The data of the two-week reliability were .70 for the Spanish version and Spearman's of .73. with a 95% confidence interval. The confirmatory factor analysis portrayed a good fit for the

single-factor model: *Chi-squared* = 159.4, $p = 0.001$, *SRMR* = 0.041. The *CFI* = 0.94 indicated a robust model fit. The factor loadings conveyed no gender differences. The creators of the 10-item CD-RISC-Spanish version permitted the instrument's use for noncommercial or educational purposes, upholding ethical considerations for copyrights (See Appendix C).

The Connor-Davidson Resilience Scale (CD-RISC) has been one of the most well-known instruments for assessing resilience (Arias González et al., 2015). Researchers used the Rasch-Andrich Rating Scale Model to target the calibration of the CD-RISC with a robust sample size (N=444) of nonclinical adults. After removing two poorly fitted items, the remaining 22 formed a unidimensional scale. However, the scholars concluded that the instrument had a ceiling effect and required more challenging statements in future revisions. Still, the CD-RISC received some of the highest scores for validity and reliability based on Cronbach's alpha. The writers used the Spanish version I included in the present study. The practitioners began with an exploratory factor analysis to determine the structure of the scale. Then, they employed the Rasch Rating Scale Model with Likert-type scales. Bartlett's test of sphericity ($df = 276$, $p < 0.001$) and the Kaiser-Meyer-Olkin (KMO) index (.94), along with the determinant matrix ($p < 0.001$), confirmed the accuracy of the data set.

Data Analysis Plan

I used SPSS for all statistical analyses. As previously noted, Figure 1 depicts research questions 1-3 and Pearson's correlational analysis granted deductions. I assessed associations of SDT's autonomy, competence, and relatedness as measured by W-BNS

(Chiniara & Berkin, 2016) and meaning in life as measured by MILQ (Steger et al., 2016). Pearson informed us of the extent to which the variables were associated. Figure 2 illustrates research question 4 and multiple linear regression analysis that highlighted how autonomy (X1), competence (X2), and relatedness (X3) predicted meaning in life (Y). The least squares estimators informed the magnitude/existence of intercept and slope coefficients (Jan & Sheih, 2019).

For research questions 5-8, I engaged Pearson's to determine relationships among meaning in life, autonomy, competence, relatedness, and resilience, as noted in Figure 3. Finally, research question 9, depicted in Figure 4, was assessed through multiple linear regression analysis and estimated how the independent variables of meaning in life (X1) as measured by MILQ (Steger et al., 2006), autonomy (X2), competence (X3), and relatedness (X4), as measured by W-BNS (Chiniara & Berkin, 2016) predicted the dependent variable of resilience (Y) as measured by the CD-RISC (Notario-Pacheco et al., 2014) in trucking employees during COVID-19. Multiple linear regression analysis was appropriate since I had numerous independent variables and one dependent. I transformed all variables as continuous, established by the research in the next section.

Continuous Variables

Correlational analysis has been a robust research tool (Aggarwal & Ranganathan, 2016). Linear correlation analyses have only used input on continuous scales. The assessments in the study used Likert-type scales to evaluate the constructs. I transformed data into continuous variables. The following studies established a precedent for using Likert-type scales as continuous:

Meaning In Life. Chen and Gao (2021) noted that a person's meaning in life (MIL) impacts physical and mental health. The researchers measured the continuous variable of MIL in Chinese adolescents (N = 1,951). The scholars used the meaning in life questionnaire (MLQ) to measure the construct. Researchers engaged the generalizability mGENOVA software for the one-facet multivariate design for data processing with two factors of meaning and search for meaning. The covariance of the two factors was substantial (0.621), as was the correlation coefficient (0.445). The generalization coefficient and overall reliability index exceeded .85, establishing its extrapolation value. I used the MLQ to measure meaning as a continuous variable for trucking employees during COVID-19.

Self-Determination Theory's Autonomy, Competence, and Relatedness. In the Tiwari and Garg (2019) study, researchers aimed to explain the associations of mindfulness (MDF) to job performance (JP). The scholars examined the mediating role of the work-related essential need satisfaction (W-BNS) between MDF and JP. The participants were mid-level managers (N = 327) in an IT company in India. Practitioners used continuous variables in the correlational and hierarchical regression for the measurement model. The managers took surveys measuring MDF, JP, and W-BNS. The scholars' findings included data on the direct relationship between JP and MDF ($\beta = 0.44$, $p = .01$). The association between JP and MDF through the mediation of the W-BNS variable was statistically significant as well ($\beta = 0.38$, $p = .01$). Therefore, the reduced beta indicated partial mediation when introducing W-BNS into the JP/MDF

relationship. I used the W-BNS and assessed the self-determination theory's autonomy, competence, and relatedness as continuous variables among trucking employees during COVID-19.

Resilience. Green et al. (2014) used items on the Conner-Davidson Resiliency Scale (CD-RISC) as continuous variables. It measured the resiliency of post-9/11 US veterans (N = 1,981) for exploratory and confirmatory factor analyses. Researchers' findings noted that hardiness, adaptive traits, and psychopathology protective factors supported resilience. Scholars discovered that potentially prompted resilience: a sense of humor, self-efficacy, a change as a challenge schema, tolerance, adaptability, self-regulation, commitment, discipline, a positive mindset, and faith. For the first group, the outcomes conveyed that adaptability negatively correlated to psychopathology, yet combat exposure was positively associated. Both effects rendered significant interaction. If the veterans scored low on adaptability, they presented disproportionately prominent levels of psychopathology from combat exposure.

For the second group, self-efficacy had a negative relationship with psychopathology (Green et al., 2014). Combat exposure had a positive link to mental disorders. The interaction between self-efficacy and combat exposure was not significant, indicating self-efficacy did not correlate to psychopathological development following an individual's combat exposure. Finally, researchers used a 5-point Likert-type scale for the 25-item assessment, which provided a total score of 100 for a substantial sample of community dwellers (N = 577). The conclusions led to the acceptability of the 10-item version, which parsimoniously covered resilience. I used the 10-item version of the CD-

RISC to measure resilience as a continuous variable among trucking employees during COVID-19.

Pearson's Correlational Analysis

Correlational is a statistical device used to evaluate the extent to which two quantitative variables are linked (Aggarwal & Ranganathan, 2016). Pearson's correlation coefficient (*r*) falls between -1.0 and +1.0 to infer a relationship's magnitude or robustness. For variables to be positively associated, they move in tandem directionally. For example, when the independent variable increases, so does the dependent. The same is true if the two variables decrease together. The inverse implies a negative correlation, such as an increase in the independent and a decrease in the dependent or vice versa. A negative correlation notes that the variables are moving in opposite directions. Marginal or absence of a relationship denotes no correlation ($r = 0$).

The squared correlation coefficient is the coefficient of determination (Aggarwal & Ranganathan, 2016). For example, hypothetically, if the correlation coefficient is r = 0.80, the r^2 = 0.80 x 0.80. Therefore, the correlation rate is 64%, implying that 64% of the increase in one variable is due to the rise in the other. Pearson's correlation analysis was appropriate for research questions 1-3. Finally, for research questions 5-8, I used Pearson's to assess the relationships among my variables of meaning in life, autonomy, competence, relatedness, and resilience.

Multiple Linear Regression

Multiple linear regression (MLR) is an excellent tool for discerning the relationships between multiple independent variables and a single dependent or outcome

variable (Grant et al., 2019; Leech et al., 2003). MLR aids in distinguishing attributes associated with the outcome. Like other correlational analyses, MLR may assess the effect or magnitude of the findings. However, the dependent variable, or *Y*, implies the vector of multiple outcomes or the quantification of directionality and magnitude spatially. The composite result includes multiple individual findings but is different from the vector. For example, in research question 9 is noted as follows: $Y = \beta 0 + \beta 1 + \beta 2 + \beta 3 + \beta 4 + SE$. *Y* was the outcome variable. $\beta 0$ was the intercept and $\beta 1, \beta 2, \beta 3,$ and $\beta 4$ were coefficients. *X1, X2, X3*, and *X4* were covariates. Finally, SE is the standard error. Multiple linear regression analysis was suitable for research questions 4 and 9 since I had multiple independent or predictor variables and one dependent for each query.

Limitations. A challenge with Pearson's correlation analysis is that an outlier may infer a false association (Aggarwal & Ranganathan, 2016; Perlman et al., 2018). Scholars do not recommend Pearson's if outcomes include more than one observation/assessment. Hence, I used Connect Cloud Research, which ensured one survey per participant. A marginal sample size can produce an erroneous relationship. Therefore, I secured a substantial sample size ($N = 107$), which supported stable estimates. Finally, correlations did not imply cause-effect; they only noted the extent of associations.

There are limitations to multiple linear regression analyses (Aggarwal & Ranganathan, 2016). Outliers may skew the findings and present a relationship where there is none. Two subgroups of individuals with different values for the same variable indicate an erroneous association. Therefore, I performed cross-sectional analyses where

I retrieved all data simultaneously to avoid errors. A small sample size (3-6) may present false positive correlations. Hence, I secured a robust sample size ($N = 107$). Using scatter plots to establish linearity and the absence of outliers decreased multiple errors.

Multiple linear regression analysis has been a stable statistical tool but has pitfalls (Grant et al., 2019). Errors may present when the researcher takes a stepwise approach of adding one variable at a time. My study assessed all independent variables from the onset. Stepwise approaches can lead to data changes, rendering insignificant or inflated *p*-values. Backward elimination requires the researcher to begin with a fully fit model, which may grant better performance. Regardless of magnitude, I excluded no variables, as any single variable may be a confounder. My stated procedures produced statistical accuracy.

Threats to Validity

Validity indicates the extent to which the research findings in study participants may represent the accurate outcomes among individuals outside of the sample (Patuno & Ferreira, 2018). The two domains of research validity are internal and external. Internal validity notes how well the observed results are authentic for the studied demographic and not influenced by errors from methodological procedures. Without internal validity, there will be no external verification. Once the internal validity is grounded, the researcher may assess generalizability by seeing if the findings apply to individuals outside the study with the same inclusion criteria.

Internal Validity

The absence of validity implies that the study results stray from the truth and are

useless for application (Patuno & Ferreira, 2018). Purposive sampling may produce high internal validity, as does random sampling within the purposive. Internal validity depends on the integrity of how the researcher designs, conducts, and analyzes the study to answer the research questions free of bias. The study's results must be dependable. I attained trustworthy data through sound methodology and careful analysis.

Database or achieved data's internal validity may need to be more robust since all findings may require revision for the new study (Andrade, 2020; Patino & Ferreira, 2018). Researchers may not have yet to accurately retrieve or measure the data, leading to confounders. For this reason, I gained new data tailored to my study from individuals employed in the trucking industry during COVID-19. I used valid instruments rather than databases. The validity is well established (Chiniara & Bentein, 2016; Notario-Pacheco et al., 2014; Steger et al., 2006). I strengthened internal validity by cautious preparation, statistical evaluation, quality control, sufficient recruitment, adequate sample size, and careful data collection and analysis.

External Validity

Ecological validity is a facet/subtype of external validity that evaluates whether the study's results can be extrapolated to real-life environments (Andrada, 2020). The COVID-19 setting presented ubiquitous challenges. However, the target population was the trucking industry. Events in commercial transport exemplified ecological validity, which I included in the present study covering the motivations that led to resilience from COVID-19. The outcomes may direct interventions to real-life, practical applications, ameliorating hurdles the pandemic imposed.

External validity assesses if outcomes can be applied to other contexts (Andrada, 2020). Research aims to generalize the sample's results to an entire population. However, extrapolation is only possible if the sample accurately represents the focused population. The present study used random sampling within the targeted purposive sample to strengthen generalizability. Still, the data may not apply to all employed individuals during the pandemic. The purposive sample of truckers may not hold characteristics that represent other occupations.

Ethical Procedures

The procedures for assessing the motivations that led to resilience for the trucking industry during the pandemic began after the Institutional Review Board's approval (06-10-2024-01003728). All assessment creators granted permission for use in the context of my study, which upheld copyright compliance (See Appendices A-C). The time commitment was approximately 15 minutes. The truckers acknowledged a confidentiality agreement, which included the purpose of the study, the *how* and *why*, and my contact information. I informed participants that the study was voluntary and that they could withdraw without negative consequences.

I informed the participants of confidentiality and maintained anonymity so they could share authentically. While the surveys granted insights to the self, there were no reasonably foreseeable risks or discomforts. The data are password protected. I provided my contact information and disseminated outcomes to participants and stakeholders via YouTube. I will keep the findings for five years before deletion. No one else will have

access to the protected information. Finally, I carefully followed each research step with academic and ethical integrity.

Summary

Chapter three included the methodology for the study. The conceptual framework was resilience. The theoretical framework was intrinsic motivations: Ryan and Deci's self-determination theory's autonomy, competence, relatedness, and Frankl's meaning in life. The research assessed how meaning in life, autonomy, competence, relatedness, and resilience correlated. I used Pearson's correlational analysis to compute the variables' associations. Then, I evaluated how the motivations predicted resilience for the trucking industry during COVID-19 through multiple linear regression. The statistical outcomes may inform interventions to facilitate resilience for the trucking industry, which may extend to multiple supply chains. Chapter four will outline procedures and outcomes for my statistical analyses.

Chapter 4: Results

This nonexperimental, cross-sectional quantitative study aimed to assess the motivations that led to resilience for the trucking industry during COVID-19. The theoretical framework included self-determination and meaning in life theories. The conceptual framework was resilience. The predictor or independent variables were autonomy, competence, relatedness, and meaning in life (also noted as *meaning*). The dependent variable was resilience. I evaluated the variables through an online survey and designed it using Google Forms. I dispersed the instrument through Connect Cloud Research. The survey consisted of a consent form and four sections. The first section informed descriptive statistics for demographics. It requested years of experience in the trucking industry, age, and gender. The remaining sections used Likert-type scales for self-reported responses and combined three assessments with solid validity and reliability. The survey concluded with a knowledge check. The responses addressed the study's nine research questions and determined hypothesis deductions.

Chapter 4 provides elements of research protocols, data retrieval, data analyses, and findings. The study's inclusion criteria for participants were truckers 18 years old or older employed in the industry during COVID-19. I used Pearson's and multiple linear regression analyses to answer the following research questions:

RQ 1: To what extent does autonomy correlate to meaning in life for trucking employees during COVID-19?

$H_{\varnothing 1}$: Autonomy is not significantly correlated to meaning in life for trucking employees during COVID-19.

Ha1: Autonomy is significantly correlated to meaning in life for trucking employees during COVID-19.

RQ 2: To what extent does competence correlate to meaning in life for trucking employees during COVID-19?

$H_{\varnothing 2}$: Competence is not significantly correlated to meaning in life for trucking employees during COVID-19.

Ha2: Competence is significantly correlated to meaning in life for trucking employees during COVID-19.

$RQ3$: To what extent does relatedness correlate to meaning in life for trucking employees during COVID-19?

$H_{\varnothing 3}$: Relatedness is not significantly correlated to meaning in life for trucking employees during COVID-19.

Ha3: Relatedness is significantly correlated to meaning in life for trucking employees during COVID-19.

$RQ4$: To what extent do autonomy, competence, and relatedness predict meaning in life independently or in linear combination for trucking employees during COVID19?

$H_{\varnothing 4}$: Autonomy, competence, and relatedness do not significantly predict meaning in life independently or in linear combination for trucking employees during COVID-19.

Ha4: Autonomy, competence, and relatedness significantly predict meaning in life independently or in linear combination for trucking employees during COVID-19.

$RQ5$: To what extent does meaning in life correlate to resilience for trucking employees during COVID-19?

$H_{\varnothing 5}$: Meaning in life does not significantly correlate to resilience for trucking employees during COVID-19. $Ha5$:

Ha_5: Meaning in life is significantly correlated to resilience for trucking employees during COVID-19.

$RQ6$: To what extent does autonomy correlate to resilience for trucking employees during COVID-19?

$H_{\varnothing 6}$: Autonomy does not significantly correlate to resilience for trucking employees during COVID-19.

Ha_6: Autonomy is significantly correlated to resilience for trucking employees during COVID-19.

$RQ7$: To what extent does competence correlate to resilience for trucking employees during COVID-19?

$H_{\varnothing 7}$: Competence does not significantly correlate to resilience for trucking employees during COVID-19.

Ha_7: Competence is significantly correlated to resilience for trucking employees during COVID-19.

$RQ8$: To what extent does relatedness correlate to resilience for trucking employees during COVID-19?

$H_{\varnothing 8}$: Relatedness does not significantly correlate to resilience for trucking employees during COVID-19.

Ha_8: Relatedness is significantly correlated to resilience for trucking employees during COVID-19.

RQ9: To what extent do meaning in life, autonomy, competence, and relatedness, independently or in linear combination significantly predict resilience for trucking employees during COVID-19?

$H_{\varnothing 9}$: Meaning in life, autonomy, competence, and relatedness independently or in linear regression do not significantly predict resilience for trucking employees during COVID-19.

Ha9: Meaning in life, autonomy, competence, and relatedness independently or in linear regression significantly predict resilience for trucking employees during COVID19.

Data Collection

I followed the data collection guidelines Walden University's Institutional Review Board approved. I chose Google Forms to upload my surveys. The link included the consent form and the instrument I created, which consisted of four sections divided into demographic frequencies for descriptive statistics, as noted in Table 1. Section 2 assessed the self-determination theory's autonomy, competence, and relatedness. I evaluated meaning in life in Section 3 and resilience in the final segment.

Connect Cloud Research has been widely used by academic researchers who have reported positive reviews for quality data. I submitted two batches of the survey and excluded the first group from participating again to avoid retakes. I paid $3.00 per participant, which led to 159 completed surveys before data cleaning. I included an industry knowledge question asking for the government organization that regulates trucking in the United States. I omitted participants (N=8)who responded with answers other than those of the Federal Motor Carriers Safety Association (FMCSA). The World

Health Organization declared that COVID-19 was no longer a global crisis on May 5, 2023 (Sarker et al., 2023), which was 15 months before data completion, so I deleted participants with fewer than 2 years of experience to support validity as stated, I was measuring resilience from COVID-19. Of the 159 surveys, 107 remained, leaving me with a sample size that was 25% larger than my G*Power requirement ($N = 85$).

Once participants completed the surveys, I assessed demographic frequencies. As noted in Table 1, I retrieved data on age, gender, and years of experience. I gathered a solid sample size ($N = 107$; Male = 81). Most participants were between ages 26-40 (60.7%). For experience, 81.3% had been employed in the industry for fewer than 10 years, which may reflect the high turnover rate. The American Trucking Association (ATA) reported that the attenuation rate for the third quartile of 2020 was 92% (ATA, n.d.; Work Hound, 2024). The mean cost of hiring a new driver following a termination was $11,500 for each position. Therefore, reducing turnover is imperative for the industry's sustainability.

Table 1

Demographic Frequencies

Variables	Years	Frequency	Percentage
Age			
	18-25	14	13.1
	26-40	65	60.7
	41-55	21	19.6
	56-65	6	5.6
Gender			
Female		26	24.3
Male		81	75.7
Experience			
	2-10	87	81.3
	11-20	12	11.2
	21-30	3	2.8
	31-40	5	4.7

Though researchers established the reliability of the assessments in earlier works, I evaluated Cronbach's Alpha for each variable. All indicated internal consistency. The outcomes informed the item's proximity to each other. All findings rendered a minimum $\alpha = .74$, grounding the reliability of each scale as conveyed in Table 2. The creators measured autonomy, competence, and relatedness on a 5-point Likert-type scale with *very dissatisfied* (1) to *very satisfied* (5). Scholars measured the meaning variable on a 7-point Likert-type scale, with *absolutely untrue* (1) to *absolutely true* (7). The resilience scale was on a 5-point Likert-type scale ranging from *never* (0) to *almost always* (4).

Table 2

Reliability and Normal Distribution

Composite	α	Number of items	*M*	*SD*	*Skewness*	*Kurtosis*
Autonomy	.89	4	3.81	.775	-.907	1.30
Competence	.75	4	4.21	.533	-.079	-.783
Relatedness	.83	4	3.49	.835	-.144	-.477
Meaning	.77	10	5.02	.899	.264	-.468
Resilience	.89	10	2.89	.618	-.007	-.655

Table 2 provides reliability data: autonomy ($a = .89$, $M = 3.81$, $SD = .775$), competence ($a = .75$, $M = 4.21$, $SD = .533$), relatedness ($a = .83$, $M = 3.49$, $SD = .835$), meaning ($a = .77$, $M = 5.02$, $SD = .899$), resilience ($a = .89$, $M = 2.89$, $SD = .618$). Then, I addressed the assumption of normal distribution (Reineke et al., 2003). The autonomy was marginally Leptokurtic with a Kurtosis of $k = 1.30$. Competence ($k = -.783$), relatedness ($k = -.477$), meaning ($k = -.468$), and resilience ($k = -.655$) were somewhat Platykurtic. However, all variables remained acceptable, ranging between -2 and 2 (Laerd Statistics, 2020). Figures 5–9 convey normality through histograms of each variable

assessed in the study. Finally, I ran a correlation matrix to convey the Pearson's associations of all variables, as noted in Table 3.

Figure 5

Autonomy Histogram

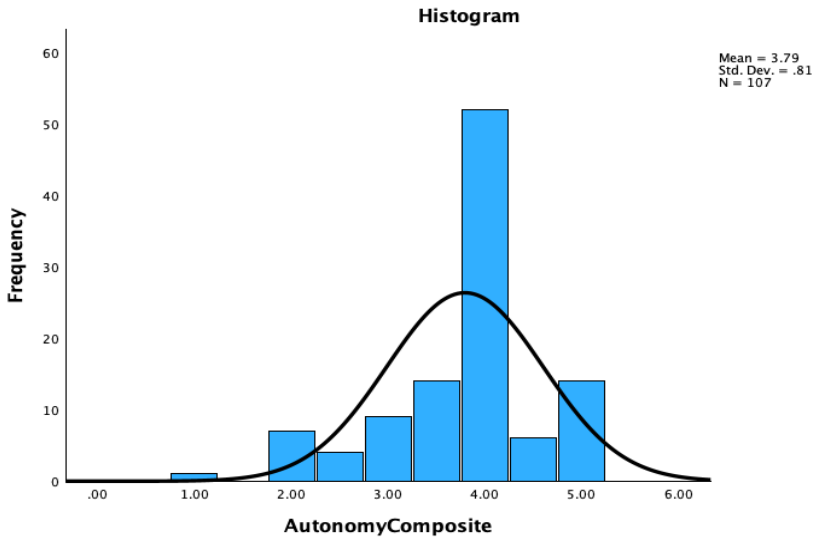


Figure 6

Competence Histogram

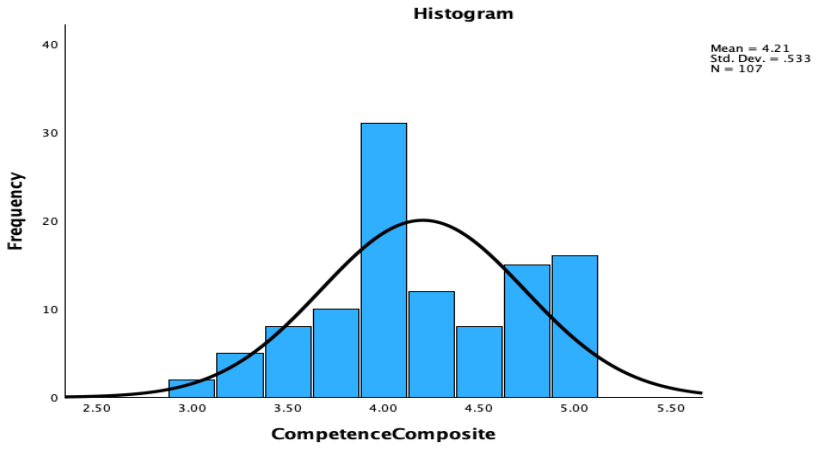


Figure 7

Relatedness Histogram

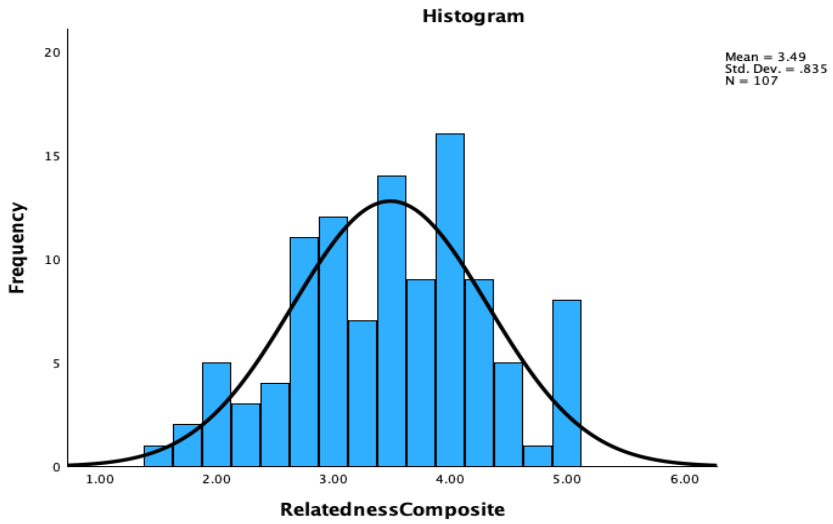


Figure 8

Meaning Histogram

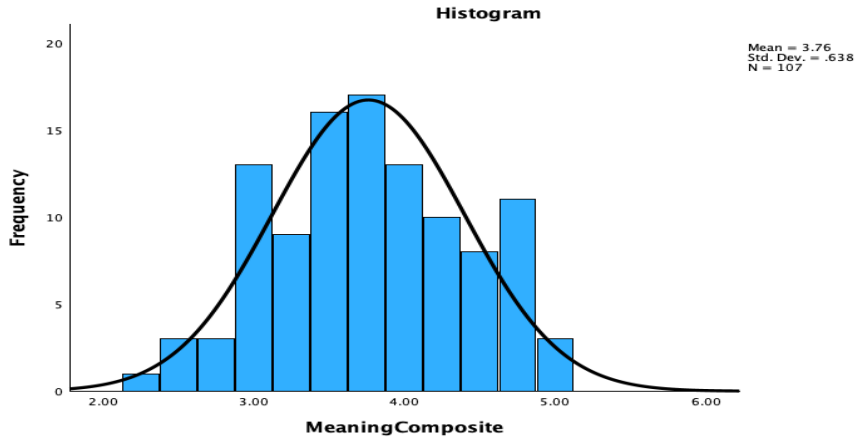


Figure 9

Resilience Histogram

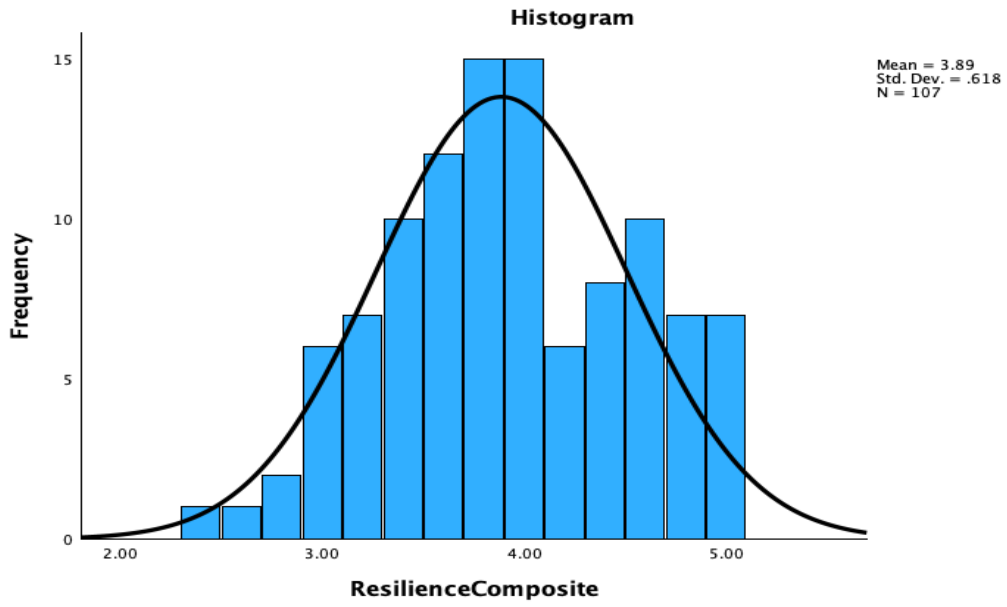


Table 3 is a variable matrix of Pearson's correlations among the five variables assessed throughout the study. All sets of variable combinations were statistically significant, except competence/relatedness ($\alpha = .146, p = .134$). However, since the dyad is not present in the research questions, it was not a point of concern. Still, it may highlight the independent nature of the job. Truckers' self-dependence may have been shaped by adapting to their environment. Future studies may explore strategies to support truckers' adaptability and autonomy.

Table 3

Pearson's Correlation Variable Matrix

		Autonomy	Competence	Relatedness	Meaning	Resilience
Autonomy	Pearson's correlation	1	.357**	.328**	.344**	.425**
	Significance (2-tailed)	-	.001	.001	.001	.001
	N	107	107	107	107	107
Competence	Pearson's correlation	.357**	1	.146	.238*	.535**
	Significance (2-tailed)	.001	-	.134	.014	.001
	N	107	107	107	107	107
Relatedness	Pearson's correlation	.328**	.146	1	.285**	.220*
	Significance (2-tailed)	.001	.134	-	.003	.023
	N	107	107	107	107	107
Meaning	Pearson's correlation	.344**	.238*	.285**	1	.478**
	Significance (2-tailed)	.001	.014	.003	-	.001
	N	107	107	107	107	107
Resilience	Pearson's correlation	.425**	535**	.220*	.478**	1
	Significance (2-tailed)	.001	.001	.023	.001	-
	N	107	107	107	107	107

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

The study's quantitative method with a correlational design allowed me to measure relationships of meaning in life, autonomy, competence, relatedness, and resilience through Pearson's correlation and multiple linear regression analyses. Scatterplots confirmed homoscedasticity. Now, I will progress through four procedures and report my findings.

Quantitative Procedures and Results

Procedure Set I: Research Questions 1-3

Instrumentation and Data Analysis Plan

Researchers noted that while self-determination theory (SDT) and meaning in life theory (MIL) are separate constructs, autonomy and relatedness have meaning embedded in them (Whitfield & Wilby, 2021). Therefore, I evaluated the correlations among the motivations of SDT's autonomy, competence, and relatedness as measured by the Work-Related Basic Needs Satisfaction (W-BNS; Chiniara & Berkin, 2016) and meaning in life as measured by the Meaning in Life Questionnaire (MILQ; Steger et al., 2006) through Pearson's correlation analysis.

G*Power Analysis. Priori computation: Since my research questions and hypotheses did not indicate directionality, I used a two-tailed Pearson's correlation analysis with the variables of autonomy, competence, relatedness, and meaning in life. My G*Power calculations included the following parameters: The variables were autonomy, competence, relatedness, and meaning in life; and included the alpha (0.05), power (0.80), and effect (0.30) which rendered a minimum required sample size of 84 (Faul et al., 2009). My sample size was N=107, or 27% larger than the G*Power minimum requirement.

Pearson's Correlation. For the first procedure set, I assessed the extent to which autonomy correlated to meaning in life, the extent to which competence correlated to meaning in life, and the extent to which relatedness correlated to meaning in life for trucking employees during COVID-19. I evaluated the assumptions. The data were

continuous with paired variables. The scatterplots confirmed linear relationships. There were no significant outliers, as indicated by the kurtosis data in Table 2, which also included the means and standard deviations. The assumption for normality in distributions is conveyed in Figures 5-8.

Table 3 reflects Pearson's correlations for the following findings: For research question 1, Pearson's correlation analysis assessed the link between autonomy (M = 3.81; SD = .775) and meaning (M = 5.02; SD = .899), indicating r = .344, showing a moderate positive correlation which was statistically significant (p = .001). Therefore, I rejected the null hypothesis.

For research question 2, Pearson's correlation analysis that evaluated the relationship between competence (M = 4.21; SD = .533) and meaning (M = 5.02; SD = .899) conveyed r =.238, noting a weak positive correlation that was statistically significant (p = .014). Therefore, rejected the null hypothesis.

For research question 3, Pearson's correlation analysis calculated the connection between relatedness (M = 3.49, SD = .835) and meaning (M = 5.02, SD = .899) and rendered r = .285, noting a weak positive correlation and was statistically significant (p=.003). Therefore, I rejected the null hypothesis.

Procedure Set II: Research Question 4

Instrumentation and Data Analysis Plan

I assessed how autonomy (X1), competence (X2), and relatedness (X3) as measured by Work-Related Basic Needs Satisfaction (W-BSN) (Chiniara & Berkin, 2016) influenced meaning in life (Y) as measured by Meaning in Life Questionnaire

(MILQ) (Steger et al., 2006) through multiple linear regression. I noted the extent to which autonomy, competence, and relatedness predicted meaning in life.

G*Power Analysis. I used multiple linear regression analysis and calculated the following variables: Y= meaning in life, X1= autonomy, X2= competence, X3= relatedness. The G*Power fixed model included alpha (0.05), power (0.80), and effect (0.15), which deduced a minimum required sample size of 73 (Faul et al., 2007). My sample size was *N*=107, or 47% larger than the G*Power minimum requirement.

Multiple Linear Regression. For the second procedure, with the use of multiple linear regression analysis, I evaluated the extent to which autonomy, competence, and relatedness predicted meaning in life independently or in linear combination for trucking employees during COVID-19.

Figure 10

Unstandardized Predicted Values, Research Question 4

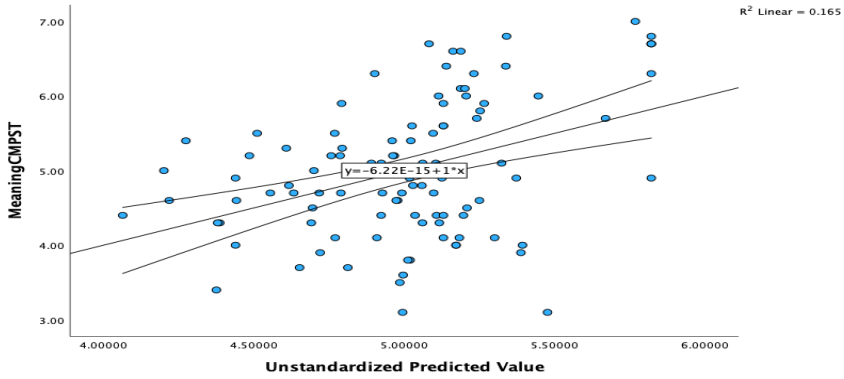


Figure 10 portrays the unstandardized predicted value of the independent variables and their influence on the outcome variable, meaning. The assumption for independence of observations was met per the Durbin-Watson score of *DW* = 2.01 and

remained in the acceptable parameters of 1.5 to 2.5 (Turner, 2019). There were no significant outliers, as indicated by Cook's Distance (*Di*= 0.011) being less than 1 (Tandja, 2023). To further confirm, the standardized residual was between -2.37 and 1.68, which fell within the boundaries of -3 and 3 (Laerd Statistics, 2020). The Eigenvalue for the four variables was 3.93, noting four individual factors, which satisfied the assumption of an absence of multicollinearity (Warner, 2013). The ANOVA table indicated $F(3, 106) = 6.80$, with statistical significance ($p < .001$), which indicated the variance is more than what would be attributed to chance, supporting the rejection of the null.

Table 4

Coefficient Data, Research Question 4

Variable	β	t	*p*	sr^2	Variance %
Constant	2.166*	3.384	.001	-	-
Autonomy	.238	2.354	.020	.044	4.49
Competence	.126	1.304	.195	-	-
Relatedness	.188	1.973	.051	-	-

*Unstandardized beta for constant
All variables indicate standardized coefficient beta.

The standardized coefficient beta output for the independent variable is autonomy $\beta = .238$, ($p = .020$), competence $\beta = .126$, ($p = .195$), and relatedness $\beta = .188$, ($p = .051$). The values for autonomy indicated a marginal influence on the dependent variable of meaning. Since competence and relatedness were not statistically significant, one may conclude that they did not predict meaning for truckers during COVID-19 when

combined with the other independent variables. However, I rejected the null hypothesis since the adjusted R^2 = .141, noting that cumulative predictor variables may explain 14% of the variance in meaning.

The following two procedural sets included the conceptual framework, resilience. I assessed RQs, null, and alternative hypotheses 5, 6, 7, and 8 for my third system. I sought the extent to which meaning in life correlated to resilience, the extent to which autonomy correlated to resilience, the extent to which competence correlated to resilience, and the extent to which relatedness correlated to resilience for trucking employees during COVID-19.

Procedure Set III: Research Questions 5-8

Instrumentation and Data Analysis Plan

I calculated resilience as measured by the Connor-Davidson Resilience Scale (CD-RISC; Notario-Pacheco et al., 2014) and its correlations to autonomy, competence, relatedness as measured by Work-Related Basic Needs Satisfaction (W-BNS; Chiniara & Berkin, 2016), and meaning in life as measured by Meaning in Life Questionnaire (MILQ; Steger et al., 2006) through another set of Pearson's correlation analyses.

G*Power Analysis. Priori computation: Again, since my research questions and hypotheses did not indicate directionality, I assessed a two-tailed Pearson's correlation analysis with the variables of meaning in life, autonomy, competence, relatedness, and resilience. My G*Power calculations entailed the alpha (0.05), power (0.80), and effect (0.30) which deduced a minimum sample size of 84 (Faul et al., 2009). My sample size was *N*=107, or 27% larger than the G*Power minimum requirement.

Pearson's Correlation. For the third procedure set, I assessed the extent to which meaning in life correlated to resilience, the extent to which autonomy correlated to resilience, the extent to which competence correlated to resilience, and the extent to which relatedness correlated to resilience for trucking employees during COVID-19. I evaluated the assumptions. The data were continuous with paired variables. The scatterplots confirmed linear relationships. There were no significant outliers, as indicated by the kurtosis data in Table 2, which also included the means and standard deviations. The assumption for normality in distributions was conveyed in Figures 5-8.

Table 3 reflects the Pearson's correlations for the following findings:

For research question 5, Pearson's correlation analysis conveyed that the link between meaning (M = 5.02; SD = .899) and resilience (M = 2.89; SD= .618) produced r = .478, noting a moderate positive correlation which was statistically significant (p = .001). Therefore, I rejected the null hypothesis.

For research question 6, Pearson's correlation analysis that explored the association between autonomy (M = 3.81, SD = .775) and resilience (M = 2.89, SD = .618) rendered r = .425, noting a moderate positive correlation which was statistically significant (p = .001). Therefore, I rejected the null hypothesis.

In consideration of research question 7, Pearson's correlation analysis that assessed the relationship between competence (M = 4.2, SD = .533) and resilience (M = 2.89, SD = .618) rendered r = .535, indicating a moderate positive correlation which was statistically significant (p=.001). Therefore, I rejected the null hypothesis.

For calculating research question 8, Pearson's correlation analysis examined the connection between relatedness (M = 3.49, SD = .835) and resilience (M = 2.89, SD = .618) and deduced r = .220, noting a weak positive correlation which was statistically significant (p=.023). Therefore, I rejected the null hypothesis.

Procedure Set IV: Research Question 9

Instrumentation and Data Analysis Plan

I determined the extent to which meaning in life (X1) as measured by the Meaning in Life Questionnaire (MILQ; Steger et al., 2006), SDT's autonomy (X2), competence (X3), and relatedness (X4) as measured by Work-Related Basic Needs Satisfaction (W-BNS; Chiniara & Berkin, 2016), predicted resilience (Y) as measured by the Connor-Davidson Resilience Scale (CD-RISC; Notario-Pacheco et al., 2014) through multiple linear regression analysis.

G*Power Analysis. I used a multiple linear regression analysis to calculate the following variables: Y= resilience, X1= meaning in life, X2= autonomy, X3= competence, and X4= relatedness. The G*Power fixed model included alpha (0.05), power (0.80, and effect (0.15), which rendered a minimum sample size of 85 (Faul et al., 2007). I sought a larger sample of participants to meet the required quantity (N = 85) following data cleaning. My final sample size was N = 107, or 25% larger than the G*Power requirements.

Multiple Linear Regression. Finally, I assessed how meaning in life, autonomy, competence, and relatedness independently or in linear regression predicted resilience for trucking employees during COVID-19. Figure 18 portrays the unstandardized predicted

value of the independent variables and their influence on the outcome variable, resilience. There were no significant outliers, as indicated by Cook's Distance (*Di* = .009), which was less than 1 (Tandja, 2023). To further confirm, the standardized residual was between -2.59 and 2.12, remaining within the parameters of -3 and 3 (Laerd Statistics, 2020). The Eigenvalue for the five variables/factors was 4.91, satisfying the non-multicollinearity assumption (Warner, 2013). The ANOVA table indicated $F(4, 106) = 20.053$, with statistical significance ($p < .001$), noting the variance was too robust to be by chance which supported the null rejection.

Figure 11

Unstandardized Predicted Values, Research Question 9

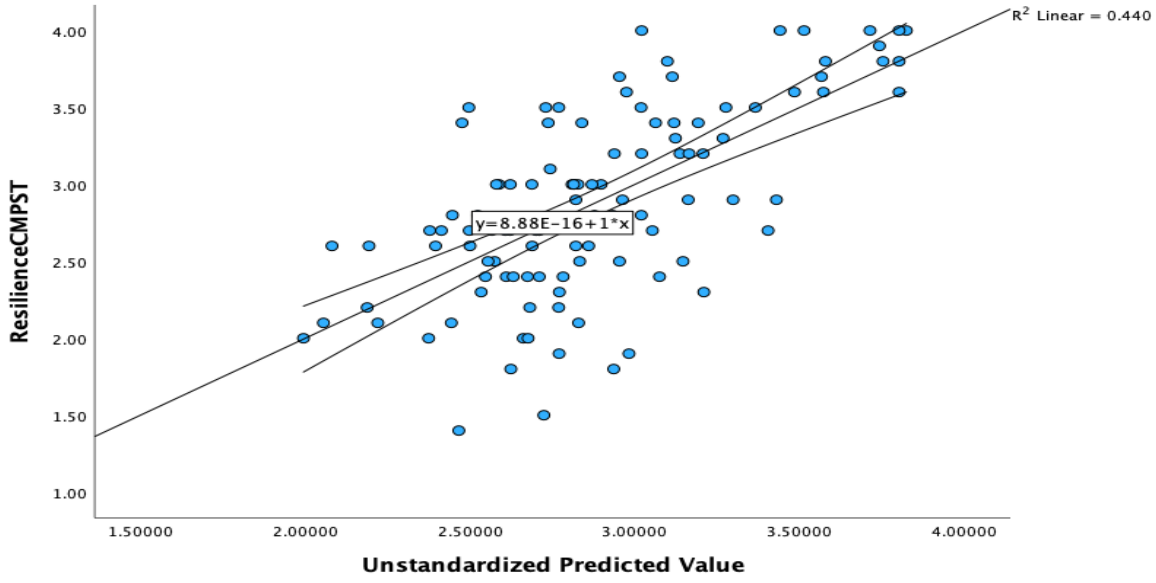


Table 5

Coefficient Data, Research Question 9

Variable	β	T	p	sr^2	Variance %
Constant	-.705*	-1.690	.094	-	-
Meaning	.321	3.960	<.001	.085	8.58
Autonomy	.168	1.968	.052	-	-
Competence	.396	4.952	< .001	.134	13.46
Relatedness	.016	.195	.846	-	-

All variables indicate standardized coefficient beta. *Unstandardized beta for constant

As noted in Table 5, the standardized coefficient beta output for the independent variables was as follows: meaning β = .321 (p = < .001), autonomy β = .168, (p = .052), competence β = .396, (p = < .001), and relatedness β = .016, (p = .846). Meaning and competence rendered moderate predictive values on the dependent variable of resilience. However, as autonomy and relatedness were not statistically significant, one may conclude that they did not predict resilience for truckers during COVID-19 when combined with the other independent variables. Still, since the adjusted R^2 = .418 indicated that cumulative predictor variables explained 42% of the variance in resilience, I rejected the null hypothesis.

Summary and Conclusion

These statistical analyses were akin to musical compositions. Pearson's correlation analysis for the first three research questions assessed the associations or harmony of autonomy to meaning, competence to meaning, and relatedness to meaning. Each dyad had a statistically significant positive correlation, though autonomy had the most robust connection to meaning (r = .344, p = .001) for truckers during COVID-19.

Once all independent variables are combined in the chorus of research question 4's multiple linear regression, the texture altered, nudging out competence, and relatedness which were not statistically significant, though autonomy resurfaced and was a predictor of meaning (β = .238, p = .020, sr^2 = .044). The next set of duets covered in research questions 5-8 included the links between meaning/resilience, autonomy/resilience, competence/resilience, and relatedness/resilience, which all held statistically significant positive correlations.

The narrative flourished. Though competence was not statistically significant in predicting meaning, it held the strongest association with resilience (r = .535, p = .001) for research questions 5-8. When all independent variables joined together, the unique timbre in research question 9's multiple linear regression, competence took the first chair as the stronger statistically significant predictor of resilience (β = .396, p = < .001, sr^2 = .134). In the present study, truckers employed during COVID-19 were the composers. The study's objective was to hear their voices, and so we have. Chapter 5 will explore how the findings from the research aligned or contrasted with previous empirical literature. It will note recommendations, the significance of the study, and its limitations. Finally, I will discuss the need for future studies that may support the trucking industry with implications for positive social change.

Chapter 5: Discussion, Conclusion, and Recommendations

Looking back, one may consider the fears and concerns they embodied at the onset of COVID-19. The Coronavirus was an influential teacher. The pandemic took humanity on an arduous journey and was the great equalizer. Regardless of race, gender, or creed, everyone was reminded of the fragility of human life. Though memories may be unsettling, pain often renders growth. Simonetti et al. (2021) posited that pandemics frequently pave roads to artistic, medical, cultural, and social progress (Simonetti et al., 2021). Furthermore, researchers noted that humanitarian gains in increased empathy were observed in familial and societal cohesion (Li, 2020). Still, recovery from COVID-19 remains monumental.

Resilience is extinction avoidance (Hepfer & Lawrence, 2021) and the essence of hope. I conducted the study because the ramifications of the pandemic have been incomprehensible. The death toll exceeded 18 million souls (Jha et al., 2022). Economists recorded a deficit of at least nine trillion dollars globally (Naseer et al., 2023). Fiscal losses accounted for much of the mental health decline (Lu & Lin, 2021). Chu et al., (2022) reported that over one million children around the world witnessed the deaths of their mom, dad, or both parents. Over 300,000 COVID orphans reside in the United States (Chu et al., 2022). With this catastrophic phenomenon, finding a starting point for resilience may grant some order to the chaos.

Bertlanffy's general systems theory provided structure for resilience from the vast devastation, noting that systems have a central core (Sturmberg, 2020; Tramonti, 2021). Since economic distress due to the COVID-19 pandemic exacerbated mental health

deterioration, the study's focus was on the US industry. Specifically, the infrastructure of trucking may be the hinge of change (Calatayud et al., 2023). This quantitative, non-experimental, cross-sectional study assessed the associations of motivations that correlated to and predicted resilience from COVID-19 for the trucking industry. Gaps in literature directed the research design and rationale.

Calatayud et al., 2023 posited the trucking sector as the backbone of the US industry, so it may be the nidus of recovery. Scholars urged future research on resilience from COVID-19 to facilitate adaptation to the post-pandemic new normal (Kuntz, 2020). Motivations precede resilience (Resnick, 2018). Szulawski et al. (2020) reported that self-determination was under-researched in the workplace. According to Chater and Loewenstein (2016), the desire for meaning and sense-making must be more appreciated.

Researchers stressed the need for future studies on how intrinsic motivations foster resilience (Mostafa & Lin, 2020). The current study addressed these research gaps. The data collection from surveys granted insights on specific motivations that predicted COVID-19's resilience for the truck industry. The conclusions indicated that autonomy had the most substantial influence on meaning, and competence most potently predicted resilience for the trucking industry during COVID-19. The following section details the outcomes.

Interpretation of Findings

The study expanded the conceptualization of resilience from the pandemic for truckers and the motivations that promoted recovery. Research Questions 1-4 measured the theoretical frameworks of Ryan and Deci's self-determination and Viktor Frankl's

meaning in life theories. Queries 1-3 assessed the correlations of autonomy/meaning (r = .344, p = .001), competence/meaning (r = .238, p = .014), and relatedness/meaning (r = .285, p = .003) through Pearson's correlation analyses. Though each association held statistical significance, the strongest link was between autonomy and meaning (r = .344, p = .001). For Research Question 4, the multiple regression analysis tested predictive values of autonomy (β = .238, p = .020), competence (β = .126, p = .195), and relatedness (β = .188, p = .051) to the outcome variable of meaning. Autonomy had the only statistically significant influence on meaning (β = .238, p = .020, sr^2 = .044) with an adjusted $R^2 = .141$ accounting for 14% variance in meaning.

Research Questions 5-9 introduced the conceptual framework of resilience. Questions 5-8 evaluated the strength of the connections of meaning/resilience (r = .478, p = .001), autonomy/resilience (r = .425, p = .001), competence/resilience (r = .535, p = .001), relatedness/resilience (r = .229, p = .023). Competence was the strongest link to resilience (r = .535, p = .001). Research Question 9 assessed the predictor variables of meaning (β = .321, p = < .001), autonomy (β = .168, p = < .052), competence (β = .396, p = < .001), and relatedness (β = .016, p = < .846), on the dependent variable of resilience. Relatedness and autonomy were not statistically significant, though the combined independent variables rendered an adjusted $R^2 = .418$. However, competence held its position as the stronger partial r predicting resilience (β = .396, p = < .001, sr^2 = .134). All findings for Research Questions 1-9 were statistically significant, so I

rejected the null for each.

Comparison to Literature

I deduced the study's variables from the literature review. Research identified SDT's autonomy, competence, relatedness (Deci & Ryan, 1985; Ryan & Deci, 2014), and meaning in life (Busse et al., 2018; Frankl, 1992; Silveira & Mahfoud, 2008) as motivations to resilience (Bonanno, 2005; Feldman, 2020; Kuntz, 2020; Lui et al., 2022; Liu & Huang, 2021; Morrow et al., 2020; Sanchez-De Miguel et al., 2020; Slavich, 2020). Self-determination theory's autonomy, competence, relatedness, and Frankl's meaning in life shaped the theoretical framework. Empirical literature outlined how these motivations correlated and led to the conceptual framework of resilience (Whitfield & Wilby, 2021). Scholars have extensively explored the study's five variables of meaning, autonomy, competence, relatedness, and resilience, though their application to the trucking industry in the context of COVID-19 remained unknown.

According to Whitfield and Wilby (2021), elements of meaning were embedded in self-determination, so I sought to assess how they interacted. Other scholars posited that meaning predicted self-determination (Bauer et al., 2019; Chater & Loewenstein, 2016). Additional studies noted that self-determination supported meaning (Bushkin et al., 2021; DiDomenico & Ryan, 2017), which laid the foundation for research questions 1-4. Research questions 1-3 assessed the correlations of self-determination's autonomy, competence, and relatedness to meaning, while research question 4 sought to discover their predictive values to meaning. For the trucking industry, autonomy held the most

relevant correlation ($\alpha = .238$, $p = .001$) and only predictive value ($\beta = .238$, $p = .020$, $sr^2 = .044$) to meaning.

Research questions 5-9 added the conceptual framework of resilience (Resnick, 2018; Ledesma, 2014) for a stepwise research process. The questions evaluated the correlations to and predictions for meaning, autonomy, competence, and relatedness to resilience. Multiple researchers noted associations of meaning to resilience (Bauer et al., 2019; Bushkin et al., 2021; Costin & Vignoles, 2020; Frankl, 1992; McEwen, 2011; Schulenberg et al., 2008; Tyron & Razin, 1972; Windle et al., 2020). Many others reported the influence of self-determination's autonomy, competence, and relatedness on resilience (Bonanno, 2005; Feldman, 2020; Kuntz, 2020; Lui et al., 2022; Lui & Huang, 2021; Morrow et al., 2020; Sanchez- De Miguel et al., 2020; Slavich, 2020; Vinkers et al., 2020). Autonomy held the strongest correlation and only statistically significant predictive value to meaning in the present study. Competence and relatedness were not statistically significant. The autonomy/meaning association has been relevant in past research (Bushkin et al., 2021; DiDominico & Ryan, 2017). Considering the nature of commercial transport, autonomy/independence may be requisite. Though Feldman (2020) and Slavich (2020) noted the substantial association between relatedness and meaning. However, relatedness ($\beta = .188$, $p = .051$) was not statistically significant in predicting meaning in the present study, though autonomy was ($\beta = .238$, $p = .020$). The trucking occupation has been one of solitude prior to the pandemic (Sperry et al., 2022). The lifespan of COVID-19 presented increased isolation.

Vinkers et al. (2020) noted that autonomy and relatedness supported resilience. However, the research was for healthcare workers who work independently and in teams. Thus, the findings did not align with mine, as competence surfaced as the strongest influence on resilience. However, Lui et al (2022) posited that competence strengthened autonomy, so perhaps the interconnection renders similarities. Though competence was not statistically significant in its prediction of meaning ($\beta = .126$, p = .195), competence held the greatest correlation and a predictive strength to resilience ($\alpha = .535$, $p = .001$), ($\beta = .396$, $p = .001$) in the present study.

Limitations of the Study

While extensive literature has included elements of motivations with SDT's autonomy, competence, relatedness, and Frankl's meaning and their influence on resilience, findings did not encompass a comprehensive analysis of trucking during the pandemic. While researchers established the validity in previous studies, my analyses further confirmed it. My research concluded that autonomy was the only statistically significant predictor of meaning for truckers during COVID-19. The occupation has a history of isolation, so independence or autonomy aligns with the challenges of commercial driving. Competence was the most decisive influence on resilience for truckers during the pandemic. Lui et al. (2022) posited that competence strengthened autonomy. These two variables, autonomy and competence, played leading roles in the study. However, findings infer correlation and not necessarily causation.

A limitation may be that the surveys were self-reported. Therefore, participants may have answered to comply with social desirability. However, I assured them that their

information would remain confidential to provide a setting for authentic safety. The consent form included assurances. The surveys ran smoothly with no missing data. Still, the thorough data cleaning ensured academic and ethical compliance while clearly representing participants.

Additionally, the findings may not apply to other occupations. For example, jobs that function in teams may depend more on relatedness. The job characteristics for commercial drivers included solitude along with multiple stressors. As noted in the outcomes, independence and efficacy may be advantageous for optimal job performance. Autonomy predicted meaning and competence was the primary influence on resilience. Since the scope of the study included truckers, these findings may not apply to other professions. However, further research into strategies to support autonomy and competence may facilitate meaning and resilience for truckers.

Recommendations

COVID-19 presented a broad spectrum of challenges throughout the globe. However, it also granted an equally comprehensive gamut for post-traumatic growth. The literature review highlighted societal issues of racial disparities (Christiàn et al., 2022; Garcia, 2021). Additionally, xenophobia through the lens of a perfectionist schema that has negatively impacted resilience in the past has also been part of COVID-19 (Boberg-Fazic et al., 2021; Chou & Gaysynsky, 2021; Xan & Gil, 2022). Stoic philosophy encourages a focus on that which is within one's control (Boter, 1999).

Similarly, Viktor Frankl noted that choosing one's attitude was the last of human freedoms (Frankl, 1998). Future research may focus on detecting characteristics of

racism/xenophobia. Industrial-organizational psychology's realm of influence resides in the workplace. Practitioners may devise strategies to implement organizational best practices. Basten and Haamann (2018) `noted the impact of organizational learning on resilience. Explicitly, including tenants of the Civil Rights Act of 1964 in employee training may provide enrichment and legal defensibility (CRA, 1964).

Torales et al. (2020) encouraged plans of action to attend those most severely struck by the pandemic. Chu et al. (2022) noted that over one million children lost their parents to the virus (Chu et al., 2022). Specifically, developmental psychologists may be optimal scholars for continuing research. They may explore support for needs satisfaction through education, home stability, and counseling for surviving children. A longitudinal study on strategies to aid COVID-19 orphans may grant insights to facilitate them throughout their lifespan. The research may extrapolate to attend to children's needs from future catastrophic events.

The economic implications of the global crisis were heinous (Naseer et al., 2023; Pak et al., 2020). Mental health challenges heightened substantially during the global event (Jha et al., 2022; Xiong et al., 2020). Lu and Lin (2021) posited that the economic decline prompted mental health deterioration (Lu & Lin, 2021). Not everyone has healed from pandemic wounds (Mortazavi et al., 2021; American Psychiatric Association, 2020). Employers may provide psychological safety through an awareness of vulnerabilities and enhance workplace engagement by maintaining adaptability to current challenges that may inform preparedness for future events (Wut et al., 2022).

Hepfer and Lawrence (2022) encouraged structured resilience development. Employers may create strategic resilience by adopting plans that will enable the organization to absorb future impacts (Hepfer & Lawrence, 2022). Elements of the action plan may include a positive work climate that influences the interconnection of macro-micro recovery (Gröschke et al., 2022; Maul et al., 2020; McEwen, 2011). Companies may benefit from assessing psychological risks (Kuntz, 2020; Wut et al., 2020). Providing financial resources, flexibility, and access to counseling may support individual resilience, which, in turn, influences organizational recovery for the whole.

Scholars reported a need for future studies into how intrinsic motivations facilitate resilience (Mostafa & Lin, 2020). The theoretical framework included meaning in life and self-determination theory's autonomy, competence, and relatedness. Chater and Loewenstein (2016) noted a gap in the under-appreciated drive for sense-making and meaning. The present study's findings indicated that autonomy was the strongest predictor of meaning for truckers, aligning with previous research (Chater & Loewenstein, 2016). Only the person can discern their meaning, and no one else may determine it for them (Frankl, 1998). Scholars granted a framework (Whitfield & Wilby, 2021). Leaders may encourage meaning formation through employee mission statements that consider what brings them happiness, how they make a difference, the legacy they wish to leave behind, their strengths, and their five core values.

Szulawski et al. (2020) reported that self-determination theory's autonomy, competence, and relatedness have been under-researched in the workplace. Self-determination predicts optimal mental health, educational achievements, creativity,

curiosity, and performance (Di Domenico & Ryan, 2017). Its relevance to the workplace is salient. Though micromanagement reduces volition, best organizational practices may include enhanced autonomy through trust. Employers may fortify competence through thorough training in the culture of a learning organization (Basten & Haamann, 2018).

Implications

The research extended the understanding of motivations that predicted resilience and addressed gaps in the literature. Truckers helped to sustain humanity through the most significant challenge since the Spanish Flu, though they faced extensive challenges (Liang et al., 2021; Vinkers et al., 2020). McCain (2023) reported the consequences of the trucking industry's absence, including inaccessibility to food, medicine, fuel, and much more. Logically, Calatayud et al. (2022) posited trucking as the backbone of US industry. However, commercial transporters suffered more losses and greater unemployment than their essential worker counterparts, and scholars urged continued research on resilience (Sperry et al., 2022; Vinkers et al., 2020).

Before COVID-19, truckers' job features included negative traits, which accounted for the 16-year reduction in lifespan (Apostolopoulos et al., 2013). Traffic injuries and fatalities have been heavily linked to noxious working conditions that deteriorated truckers' health and well-being (Apostolopoulos et al., 2013). Pandemics may pave the way to progress (Simonetti et al., 2021). The call for future research on resilience to adapt to the normal post-pandemic condition is an opportunity to consider improvements within the trucking industry (Vinkers et al., 2020).

The study expanded the conceptualization of the motivations that granted resilience for truckers from COVID-19. The findings conveyed that autonomy predicted meaning for truckers. The Chater and Loewenstein (2016) study aligned with the outcomes, noting that a sense of control granted meaning (Chater & Loewenstein, 2016). Companies may consider facilitating autonomy by providing schedules as soon as possible. Advanced information on potential en route challenges, critical contacts for the area of service, and contingency options may grant predictability and a sense of control.

In the present research, competence was the most potent influence on resilience for truckers. Basten and Haamann (2018) noted the association between resilience and organizational learning (Basten & Haamann, 2018). Systematic reviews of industry knowledge and best practices may facilitate competence, leading to resilience for truckers. Training may include hypothetical situations to consider in a stress-free context. Then, when challenges arise, drivers may recall their training to enhance recovery.

Improved job features may protect truckers and extend road safety for all (Apostolopoulos et al., 2013). Scholars discussed extensive traffic injuries and fatalities in the industry. Educating the public on safety practices considering truckers may enhance safety. For example, a trucker needs a broader radius for turns than automobiles. The study highlighted commercial drivers' health disparities, which impacted efficacy. Healthcare has not been readily available to truckers because of the high cost and being out of network due to their travels. Companies may expand access to healthcare that is financially and geographically accessible. In so doing, they may reap the benefits of a healthy workforce, diminished medical costs, and safer roadways.

Apostolopoulos et al. (2013) reported that 70% of truckers do not regularly exercise and do not have access to workout facilities. The job requires many hours of sedentary stress. Regular exercise may decrease health disparities and enhance job performance. Commercial transport enterprises may provide apps for employees to track physical activity to increase achievement awareness and support autonomy. Though constructing gymnasiums at truck stops may not be financially viable, gym memberships with expansive locations, provided by trucking companies may encourage positive health practices that contribute to resilience.

The trucking industry is the primary supply chain connector (Mittal et al., 2018). Still, they experienced higher unemployment than other industries (Mack et al., 2021). The public's positive perceptions of commercial drivers during the pandemic (Sperry et al., 2022). Society depends on the industry's services. Recommendations include social media's efforts to highlight commercial drivers' value. Companies may develop a "Thank-a-Trucker" initiative through billboards and radio spots. Attending to their needs may propel positive social resilience to drivers, their families, and all those who share U.S. highways (Apostolopoulos et al., 2013). The implications for positive social change include the potential for trucking industry leaders to express consistent kindness from humanitarian hearts for truckers' resilience.

Conclusion

Though the focus of the study was resilience for the trucking industry, the Coronavirus impacted all demographics. Pandemics pave roads to progress (Simonetti et al., 2021). For human survival, the world came together to find a viable vaccine (CDC,

2022). In addition to adverse outcomes, COVID-19 ushered in care and concern for others, increased empathy, and social cohesion (Li, 2020). COVID-19 was a great equalizer (Vinkers et al., 2020). In an era of intense calamity, individuals realized they had more similarities than differences, and the world's heartbeat synchronized briefly. People feared, suffered, hoped, and prayed together as before (Frankl, 1992; Liang et al., 2021; Mortazavi et al., 2021).

A man shared a piece of bread. Though cordial, the act was not remarkable until one explores the narrative: In a Holocaust concentration camp, a prisoner saved a piece of bread from his meager rations and gave it to his starving friend (Frankl, 1992). The setting of pain highlights impact. The viral assailant of COVID-19 reaped suffering throughout every continent. The pandemic claimed over 18 million lives (Jha et al., 2022). People buried spouses, sons, and daughters (Mortazavi et al., 2021). Over one million children witnessed the deaths of their parents and will continue to go through life as orphans (Chu et al., 2022).

Hepfer and Lawrence (2022) posited resilience as extinction avoidance (Hepfer & Lawrence, 2022). It is the essence of hope. Recovery from COVID-19 is a chance to chart avenues for peace (Simonetti et al., 2021). The pandemic's residual sufferings may not be seen with the human eye, and the road to recovery is long. In the post-coronavirus context, each time a person shares the healing bread of kindness, they may feed a suffering soul. Viktor Frankl recommended that rather than asking for life's meaning, individuals may answer life's questions with upright actions and thereby realize their purpose (Chhuneha, 2020; Frankl, 1998). The ripple effect of consistent kindness from

humanitarian hearts may multiply positive social change exponentially. As the pursuit for peace becomes as fiercely passionate as the search for the vaccine, one may begin to imagine the beauty of a post-pandemic world. *"Some having compassion, making a difference."* (Jude 1:22)

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Appendix A: Work-Related Basic Need Satisfaction Scale

PsycTESTS

Work-Related Basic Need Satisfaction Scale--Adapted

PsycTESTS Citation:
Chiniara, M., & Bentein, K. (2016). Work-Related Basic Need Satisfaction Scale--Adapted [Database record]. Retrieved from PsycTESTS. doi: https://dx.doi.org/10.1037/t60296-000

Instrument Type:
Inventory/Questionnaire

Test Format:
This instrument comprises 12 items organized among three subscales. The items utilize a five-point Likert-type response scale with the following options: 1 = very dissatisfied, 2 = dissatisfied, 3 = neutral, 4 = satisfied, 5 = very satisfied.

Source:
Chiniara, Myriam, & Bentein, Kathleen. (2016). Linking servant leadership to individual performance: Differentiating the mediating role of autonomy, competence and relatedness need satisfaction. The Leadership Quarterly, Vol 27(1), 124-141. doi: https://dx.doi.org/10.1016/j.leaqua.2015.08.004, © 2016 by Elsevier. Reproduced by Permission of Elsevier.

Classification:	7000 Organizational, Occupational, and Career Development
Reliability:	Reliability analysis of the three factors yielded the following Cronbach's alphas for the main study sample: Autonomy, alpha = .88; Competence, alpha = .79; and Relatedness, alpha = .80.
Validity:	No validity indicated.
Factor Analysis:	CFA results confirmed the presence of three distinct needs constructs, chi-squared (51)= 77.8, comparative fit index (CFI)= .975, Tucker-Lewis index (TLI)= .968, standardized root-mean-square residual (SRMR)= .058 and root-mean-square error of approximation (RMSEA) = .05. The factor-loading range for Autonomy items was .82 to .90; 71 to .87 for Competence; and .69 to .83 for Relatedness.
Methodology:	1100 Test Reliability 1110 Internal Consistency 1200 Factor Analysis 1210 Confirmatory Factor Analysis
Test Location:	Text, Page 132. 2015-58694-006
Number of Test Items:	This instrument comprises 12 items.
Administration Method:	Electronic
Age Group:	Adulthood (18 yrs & older)
Population Group:	Human; Male; Female
Other Population Details:	Location: Canada Sample: Supervisor–Employee Dyads from a Large Technology Design and Manufacturing Company
Keywords:	Autonomy Factor; Competence Factor; Confirmatory Factor Analysis; Employee Attitudes; Factor Structure; Internal Consistency Reliability; Psychological Needs; Relatedness Factor; **Self-Determination Theory**; Test Adaptation; Test Development; Work-Related Basic Need Satisfaction Scale–Adapted
Index Terms:	Competence; Confirmatory Factor Analysis; Employee Attitudes; Factor Analysis; Factor Structure; Internal Consistency; Job Satisfaction; Need Satisfaction; Psychological Needs; **Self-Determination**; Social Interaction; Test Construction; Test Forms; Test Reliability; Autonomy; Organizational and Occupational Measures
Source Citation:	Test Development Chiniara, Myriam (2016). Linking servant leadership to individual performance: Differentiating the mediating role of autonomy, competence and relatedness need satisfaction. The Leadership Quarterly, 27(1), 124-141. doi: 10.1016/j.leaqua.2015.08.004 PsycINFO Record: 2015-58694-006

W-BNS

Items

In your current job, how satisfied are you with the following aspect of your work?

Autonomy Need Satisfaction

1. The degree of freedom I have to do my job the way I think it can be done best.
2. The opportunities to take personal initiatives in my work.
3. The level of autonomy I have in my job.
4. The opportunities to exercise my own judgment and my own actions.

Competence Need Satisfaction

5. The feeling of being competent at doing my job.
6. The level of mastery I can achieve at my task.
7. The level of confidence about my ability to execute my job properly.
8. The sense that I can accomplish the most difficult tasks.

Relatedness Need Satisfaction

9. The positive social interactions I have at work with other people.
10. The feeling of being part of a group at work.
11. The close friends I have at work.
12. The opportunities to talk with people about things that really matter to me.

Note. Items are rated on a 5-point Likert scale of satisfaction (1 = very dissatisfied, 2 = dissatisfied, 3 = neutral, 4 = satisfied, 5=very satisfied)

Appendix B: Meaning in Life Questionnaire

PsycTESTS

Meaning in Life Questionnaire

PsycTESTS Citation:
Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). Meaning in Life Questionnaire [Database record]. Retrieved from PsycTESTS. doi: https://dx.doi.org/10.1037/t01074-000

Instrument Type:
Inventory/Questionnaire

Test Format:
10 items on a 7-point scale (1 = absolutely untrue, 2 = mostly untrue, 3 = somewhat untrue, 4 = can't say true or false, 5 = somewhat true, 6 = mostly true, 7 = absolutely true); consists of two 5-item subscales: Presence and Search.

Source:
Steger, Michael F., Frazier, Patricia, Oishi, Shigehiro, & Kaler, Matthew (2006). The meaning in life questionnaire: Assessing the presence of and search for meaning in life. Journal of Counseling Psychology, Vol 53(1), 80-93. doi: https://dx.doi.org/10.1037/0022-0167.53.1.80

Meaning in Life Questionnaire (MLQ)

Test Type: Original

Other Version: 9999-69844-000, **Meaning** in **Life** Questionnaire--Chinese Adaptation, Revision
9999-72124-000, **Meaning** in **Life** Questionnaire--Turkish Version, Translation
9999-78558-000, **Meaning** in **Life** Questionnaire--Hausa Version, Translation
9999-77222-000, **Meaning** in **Life** Questionnaire--Italian Version, Translation
9999-80574-000, Relational **Meaning** in **Life** Questionnaire, Revision
9999-85918-000, **Meaning** of Sex Measure, Revision
9999-78559-000, **Meaning** in **Life** Questionnaire--Brazilian Version, Translation

Acronym: MLQ

Source Used: The majority of metadata for this record was created from PsycINFO Record: 2006-00626-008

Purpose: The purpose of the **Meaning** in **Life** Questionnaire (MLQ) is to measure the presence of, and the search for, **meaning** in **life**.

Description: The **Meaning** in **Life** Questionnaire (MLQ) is a measure of the presence of, and the search for, **meaning** in **life**. The developers of this scale argue that this improved measurement will help advance research by providing a measure of therapeutic outcome and personal growth that counseling psychologists historically have been interested in, particularly those influenced by the humanistic tradition of promoting growth and not simply decreasing symptoms. Constructed in 2006, the MLQ consists of 10 items on a 7-point scale (1 = absolutely untrue, 2 = mostly untrue, 3 = somewhat untrue, 4 = can't say true or false, 5 = somewhat true, 6 = mostly true, 7 = absolutely true). It is also made up of two 5-item subscales: Presence and Search. Eighty-three items made up the initial pool. Forty-four of these items were administered to a sample of 151 undergraduate psychology students (mean age = 19.8 yrs, SD = 3.4, 64% female) to obtain data for factor analyses and scale revision. Seventeen items were extracted, tested, and further refined using confirmatory factor analysis. For this analysis there were 154 participants who were on average 21.8 years of age (SD = 3.9) and mostly female (70%). This analysis resulted in the final 10-item version. Fit indices for the 10-item model overall indicated a good fit. In addition, internal consistency was good for both the Presence (.86) and Search (.87) subscales. A principal-axis factor analysis was conducted and all items loaded more highly on the intended factor (.70 to .84) than on the other (−.10 to .13). Significant correlations between the final MLQ subscales and other variables demonstrate the convergent validity of this scale. The MLQ also showed significant discriminant validity. (PsycTests Database Record (c) 2023 APA, all rights reserved)

Test Year: 2006

Author: **Steger**, Michael F.; Frazier, Patricia; Oishi, Shigehiro; Kaler, Matthew

Author ID: **Steger**, Frazier, Oishi, Kaler, Michael F., Patricia, Shigehiro, Matthew: ORCID: ORCID: ORCID: 0000-0003-4888-1153; 0000-0001-6345-8578; 0000-0002-4185-960X
Halford, Mellor, Cummins, McCabe, D. J., D., R. A., M. P.: ORCID: ORCID: 0000-0001-9014-7193; 0000-0002-4989-8582

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Oishi, Shigehiro, University of Virginia, Department of Psychology, Charlottesville, Virginia, United States
Kaler, Matthew, University of Minnesota—Twin Cities Campus, Department of Psychology, Twin Cities, Minnesota, United States

Correspondence: **Steger**, Michael F., Department of Psychology, University of Minnesota N218 Elliott Hall, 75 East River RoadMinneapolis, Minnesota, United States, 55455, steg0043@umn.edu

Instrument Type: Inventory/Questionnaire

Format: 10 items on a 7-point scale (1 = absolutely untrue, 2 = mostly untrue, 3 = somewhat untrue, 4 = can't say true or false, 5 = somewhat true, 6 = mostly true, 7 = absolutely true); consists of two 5-item subscales: Presence and Search.

Classification:	2200 Personality
Reliability:	In addition, internal consistency was good for both the Presence (.86) and Search (.87) subscales. All items loaded more highly on the intended factor (.70 to .84) than on the other (−.10 to .13).
Validity:	A multitrait–multimethod matrix demonstrates the convergent and discriminant validity of the MLQ subscales across time and informants, in comparison with 2 other meaning scales.
Factor Analysis:	No factor analysis indicated.
Methodology:	1000 Test Validity 1060 Discriminant Validity 1100 Test Reliability 1110 Internal Consistency
Number of Test Items:	The MLQ consists of 10 items: 5 each on the 2 subscales (Presence and Search).
Administration Method:	Paper
Age Group:	Adulthood (18 yrs & older)
Population Group:	Human; Male; Female
Other Population Details:	Sample: Undergraduates and community volunteers
Keywords:	Meaning in Life Questionnaire; Presence; Search; Test Development; Psychometric Properties
Index Terms:	Factor Structure; Meaningfulness; Personality Measures; Quality of Life; Test Construction; Test Reliability; Test Validity; Well Being
Source Citation:	**Test Development** **Steger**, Michael F. (2006). The **meaning** in **life** questionnaire: Assessing the presence of and search for **meaning** in **life**. Journal of Counseling Psychology, 53(1), 80-93. doi: 10.1037/0022-0167.53.1.80 **PsycINFO Record:** 2006-02626-008 **Test Review** Halford, D. J. (2018). **Meaning** in **life** in earlier and later older-adulthood: Confirmatory factor analysis and correlates of the **Meaning** in **Life** Questionnaire. Journal of Applied Gerontology, 37(10), 1270-1294. doi: 10.1177/0733464816658750 **PsycINFO Record:** 2018-45393-005
Test Release Date:	20110912
Test Correction Date:	20230508
Digital Object Identifier:	http://dx.doi.org/10.1037/t01074-000
Accession	1999-01074-000

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doi: 10.1037/t01074-000

Meaning in Life Questionnaire
MLQ

Items

Please take a moment to think about what makes your life feel important to you. Please respond to the following statements as truthfully and accurately as you can, and also please remember that these are very subjective questions and that there are no right or wrong answers. Please answer according to the scale below:

Absolutely Untrue	Mostly Untrue	Somewhat Untrue	Can't Say True or False	Somewhat True	Mostly True	Absolutely True
1	2	3	4	5	6	7

1. _____ I understand my life's meaning.
2. _____ I am looking for something that makes my life feel meaningful.
3. _____ I am always looking to find my life's purpose.
4. _____ My life has a clear sense of purpose.
5. _____ I have a good sense of what makes my life meaningful.
6. _____ I have discovered a satisfying life purpose.
7. _____ I am always searching for something that makes my life feel significant.
8. _____ I am seeking a purpose or mission for my life.
9. _____ My life has no clear purpose.
10. _____ I am searching for meaning in my life.

Presence = 1, 4, 5, 6, & 9—reverse-coded
Search = 2, 3, 7, 8, & 10

Appendix C: 10-Item Connor-Davidson Resilience Scale

10-Item Connor-Davidson Resilience Scale—Spanish Version (10-Item CD-RISC)

Test Type: Translation

Other Version: 9999-29769-000, **Connor-Davidson Resilience Scale**—Turkish Version, Translation
9999-38872-000, **Connor-Davidson Resilience Scale** --2-Item Abbreviated Version, Revision
9999-49550-000, **Connor-Davidson Resilience Scale**--Modified, Revision
9999-60027-000, **Connor–Davidson Resilience Scale**–Chinese Version, Translation
9999-09624-000, 10-Item **Connor-Davidson Resilience Scale**, Revision
9999-62957-000, Escala de resiliencia de **Connor-Davidson**--Adaptación Española, Translation
9999-65482-000, 10-Item **Connor-Davidson Resilience Scale**--Chinese Version, Translation
9999-66528-000, **Connor-Davidson Resilience Scale**--French Version, Translation
9999-70921-000, **Connor Davidson Resilience Scale**–Nepali Version, Translation
9999-73008-000, **Connor–Davidson Resilience Scale**–10 Item; Spanish Version, Translation

Acronym: 10-Item CD-RISC

Source Used: The majority of metadata for this record was created from PsycINFO Record: 2017-28442-001

Purpose: The purpose of the 10-Item **Connor-Davidson Resilience Scale**—Spanish Version is to briefly assess psychological **resilience**, focusing on personal resources or qualities deemed appropriate for positive adaptations to adversity, in a Spanish-speaking population.

Description: Based on the 10-Item **Connor-Davidson Resilience Scale** (10-Item CD-RISC; Campbell-Sills & Stein, 2007), the 10-Item **Connor-Davidson Resilience Scale**—Spanish Version (Notario-Pacheco et al., 2011) was developed to briefly assess **resilience**, defined as a protective factor against mental problems and as a dynamic process of adaptation to changes in life circumstances (Rutter, 1985; Norris et al., 2008) in a Spanish-speaking population. The original 10-Item CD-RISC was translated into Spanish with minimal changes. Principal components analysis and confirmatory factor analysis supported a single-factor model with good fit. The reliability of the Spanish version of the 10-Item CD-RISC was similar to that of the original version; both internal consistency and test-retest reliability values were high. In a Spanish **sample** of university students, the measure's convergent validity was supported.

Test Year: 2014

Author: Notario-Pacheco, Blanca; Solera-Martínez, Montserrat; Serrano-Parra, María D; Bartolomé-Gutiérrez, Raquel; García-Campayo, Javier; Martínez-Vizcaíno, Vicente

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Martínez-Vizcaíno, Vicente. University of Castilla-La Mancha, Social and Health Care Research Center, Cuenca, Spain

Reliability: The reliability of the Spanish version of the 10-item CD-RISC was similar to that of the original version (Both versions: Cronbach's alpha = .85). The two-week test-retest reliability (intraclass correlation coefficient) for the Spanish version of the was 0.711 (95% CI = 0.586-0.798); the Spearman correlation coefficient was 0.73.

Validity: Both the quality of sleep (Spanish version of the Pittsburgh Sleep Quality Index [PSQI]; Macías & Royuela, 1996); and the mean score of the Spanish version of the Mental Component Summary (MCS) of the SF-12 quality of life questionnaire (Alonso et al., 1998) were worse in both men and women with lower scores on the Spanish version of the 10-item CD-RISC.

Factor Analysis: Principal components analysis showed that only one factor showed an eigenvalue greater than 1. This factor explained 44.1% of the variance. Confirmatory factor analysis demonstrated that the single-factor model displayed a good fit: chi-squared = 159.4, df = 35, p = 0.001, CFI = 0.94 and SRMR = 0.041. Factor loadings showed no differences between men and women.

Methodology:
1000 Test Validity
1040 Convergent Validity
1100 Test Reliability
1110 Internal Consistency
1140 Test-Retest Reliability
1200 Factor Analysis
1210 Confirmatory Factor Analysis
1230 Principal Component Analysis

Test Location: Table 1, Page 3, 2017-28442-001

Number of Test Items: This measure comprises 10 items.

Age Group: Adulthood (18 yrs & older); Young Adulthood (18-29 yrs); Thirties (30-39 yrs)

Population Group: Human; Male; Female

Other Population Details: Location: Spain
Sample: University Students

Keywords: 10-item **Connor-Davidson Resilience Scale** – Spanish Version; Confirmatory Factor Analysis; Convergent Validity; Internal Consistency; Principal Components Analysis; Test Translation; Test-Retest Reliability

Index Terms: Confirmatory Factor Analysis; Convergent Validity; Factor Structure; Foreign Language Translation; Internal Consistency; Personality Measures; **Resilience** (Psychological); Test Forms; Test Reliability; Test Validity; Test-Retest Reliability

Source Citation:
Test Development
Notario-Pacheco, Blanca (2011). Reliability and validity of the Spanish version of the 10-item **Connor-Davidson Resilience Scale** (10-item CD-RISC) in young adults. Health and Quality of Life Outcomes, 9
PsycINFO Record: 2017-28442-001
Test Review
Alarcón, Rafael (2020). Psychometric properties of the **Connor-Davidson Resilience Scale** in women with breast cancer. International Journal of Clinical and Health Psychology, 20(1), 81-89. doi: 10.1016/j.ijchp.2019.11.001
PsycINFO Record: 2020-47382-010

PsycTESTS

10-Item Connor-Davidson Resilience Scale—Spanish Version

PsycTESTS Citation:
Notario-Pacheco, B., Solera-Martínez, M., Serrano-Parra, M. D, Bartolomé-Gutiérrez, R., García-Campayo, J., & Martínez-Vizcaíno, V. (2014). 10-Item Connor-Davidson Resilience Scale—Spanish Version [Database record]. Retrieved from PsycTESTS. doi: https://dx.doi.org/10.1037/t60477-000

Instrument Type:
Rating Scale

Test Format:
This 10-item measure utilizes a Likert-type additive scale with five response options (0 = never, 4 = almost always). The final score is the sum of the responses obtained on each item (range 0-40); high scores indicate high levels of resilience.

Source:
Reproduced by permission from: Notario-Pacheco, Blanca, Solera-Martínez, Montserrat, Serrano-Parra, María D., Bartolomé-Gutiérrez, Raquel, García-Campayo, Javier, & Martínez-Vizcaíno, Vicente. (2011). Reliability and validity of the Spanish version of the 10-item Connor-Davidson Resilience Scale (10-item CD-RISC) in young adults. Health and Quality of Life Outcomes, Vol 9.

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doi: http://dx.doi.org/10.1037/t60477-000

10-Item Connor-Davidson Resilience Scale—Spanish Version
10-Item CD-RISC

1. Able to adapt to change
2. Can deal with whatever comes
3. Tries to see humorous side of problems
4. Coping with stress can strengthen me
5. Tends to bounce back after illness or hardship
6. Can achieve goals despite obstacles
7. Can stay focused under pressure
8. Not easily discouraged by failure
9. Thinks of self as strong person
10. Can handle unpleasant feelings

Note. Items are rated on a Likert-type additive scale with five response options (0 = never, 4 = almost always).