THE IMPACT OF LEADER BEHAVIOURS ON EMPLOYEE CREATIVITY: EXPLORING THE ROLE OF AUTONOMOUS SELF-REGULATION AND SELF-CONTROL

Masaad Saeed M. Alamri

Doctor of Philosophy

ASTON UNIVERSITY

May 2025

ASTON UNIVERSITY

THE IMPACT OF LEADER BEHAVIOURS ON EMPLOYEE CREATIVITY: EXPLORING THE ROLE OF AUTONOMOUS SELF-REGULATION AND SELF-CONTROL

Masaad Saeed M. Alamri

Doctor of Philosophy

2025

ABSTRACT

Various theoretical perspectives have been used to investigate the processes by which leader behaviours influence employee creativity. Yet despite this, the integration of leadership and creativity literature is theoretically underdeveloped–while the extant literature affirms that leaders' behaviours influence employee creativity, it does not fully explain why and how these effects occur. To address this gap, I developed a new framework that accounts for how leader behaviours influence employee creativity by adopting a self-regulatory lens from the employee's perspective. Doing so helped me to discover a novel explanatory mechanism for these effects. Specifically, I propose a theoretical framework linking servant and abusive leadership styles to employee creativity through two distinct self-regulation processes: autonomous self-regulation and compelled self-control. Servant leadership is proposed to enhance employee creativity through autonomous self-regulation and creative process engagement, whereas abusive supervision is hypothesised to influence creativity via self-control demands, self-control (resource depletion), and creative process engagement. Additionally, the study examines boundary conditions by including employees' proactive personality and trait self-control. A proactive disposition is expected to strengthen the servant-leadership pathway to creativity, whereas high trait self-control is expected to weaken the abusive-supervision route. Two studies were conducted. The first was a multi-source, cross-sectional study involving 251 employees and their supervisors, where supervisors rated employees' creativity. The second study employed a diary method, tracking 69 employees daily over ten days. The findings demonstrate that the mediation effect via autonomous self-regulation and creative process engagement (CPE) was supported by the diary study and also emerged in the cross-sectional study once CPE was excluded from the model. In addition, the mediation pathway involving compelled self-control via self-control demands was supported by the cross-sectional study. Trait self-control moderated the mediation chain in the cross-sectional study but not in the diary, and proactive personality did not emerge as a significant boundary condition in either study. These findings offer new insights into the mechanisms linking leadership behaviours to employee creativity. By examining both positive and negative leadership behaviours through a self-regulation lens, this research provides an overall perspective on how leadership influences creativity. Overall, the results provide partial support for the proposed role of self-regulation in explaining the differing effects of servant leadership and abusive supervision on creativity. Theoretical and practical implications, as well as directions for future research, are discussed.

Keywords: Servant leadership, abusive supervision, autonomous self-regulation, self-control demands, self-control (resource depletion), creative process engagement, employee creativity

DEDICATION

This study is dedicated to my beloved parents for their unwavering support and love, and to my grandfather, who passed away recently. I also dedicate it to my wife, Amal, and my children, Ruba, Abdulmajeed, Alma, and Yasma, whose incredible support and patience have allowed me to pursue my dream. I am deeply grateful for your love and support.

ACKNOWLEDGEMENTS

First and foremost, I offer my deepest gratitude to God (Allah), the Almighty, for granting me the capability, strength, and determination to complete this thesis. His guidance has been my greatest source of perseverance throughout this journey.

I am profoundly grateful to my supervisors, Dr Claudia Sacramento and Dr Wladislaw Rivkin, for their dedicated support, invaluable guidance, and continuous encouragement. Their supervision over the past few years has been instrumental in helping me navigate challenges, no matter how difficult they may have been.

My heartfelt appreciation goes to my beloved family, friends, and colleagues, whose support and companionship have made this doctoral journey both enriching and enjoyable.

I am also sincerely thankful to the academic staff and the research degree programme team at Aston Business School for their assistance and encouragement. A special thanks goes to the Ministry of Higher Education in Saudi Arabia for generously funding this research project and making this work possible.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPINDICES

CHAPTER ONE: INTRODUCTION

1.1. Background to the Research

Scholars have long recognised leadership as a critical contextual factor influencing employee creativity (e.g., Oldham & Cummings, 1996; Shalley et al., 2000). This recognition has led researchers to examine leadership and creativity through diverse theoretical perspectives, providing a more nuanced understanding of its underlying mechanisms. Foundational contributions by researchers as Amabile et al. (2004), DiLiello and Houghton (2006), Jaussi and Dionne (2003), Kahai et al. (2003), Tierney et al. (1999), Tierney and Farmer (2004), and Zhou and George (2003) have significantly shaped the leadership-creativity literature. More recently, Hughes et al. (2018) highlighted a shift towards examining motivational processes. In response to this evolving landscape, researchers have increasingly adopted broader theoretical perspectives, drawing on frameworks such as social learning theory and dominance complementarity theory (e.g., Palomino & Zoghbi-Manrique-de-Lara, 2020; Ali et al., 2020) to expand the scope of inquiry.

The growing reliance on alternative frameworks suggests an emerging consensus that motivational processes have largely exhausted in terms of their capacity to yield novel theoretical contributions. I argue, however, that this conclusion is premature. Significant opportunities remain to advance theory by further unpacking how leadership behaviours shape employee creativity through motivational pathways. To date, previous empirical studies on this topic have primarily focused on well-established mechanisms such as intrinsic motivation, self-regulatory focus, and psychological empowerment (as conceptualised within self-determination theory; Gagné & Deci, 2005), to account for the impact of leadership on creativity (e.g. Gong et al., 2009; Henker, et al., 2014; Mittal & Dhar, 2015; Neubert, et al., 2008; Shin & Zhou, 2003; Tu & Lu, 2012; Yang et al., 2019; Zhang & Bartol, 2010). Yet, scholars have seldom introduced or tested new theoretical frameworks to explain motivational mechanisms within this literature. As a result, while the literature consistently affirms that leadership's behaviours impact employee creativity, it offers a limited explanation of the motivational mechanisms through which these effects unfold.

This moment presents an opportunity to re-examine the leadership–creativity relationship through a new theoretical lens. To do so, I draw on self-regulation theory. Although this theory is often associated with behavioural and emotional processes, it also entails a general motivational process (Baumeister & Vohs, 2007). Consider two hypothetical employees: Cony is approached by his supervisor to discuss a recent job that requires creative effort. Cony's supervisor is energetic and positive, and the discussion is engaging and motivating. Another employee, Albert, was in a meeting with his supervisor to identify new problem solutions. This supervisor was aggressive and rude to Albert, making the meeting effortful and emotionally taxing. If Albert were to respond to these

controlling feelings and effortful demands, would he subsequently feel depleted and unengaged, and behave in a controlling manner, leading to a decrease in his creativity? In contrast, if Cony is invigorated, will Cony feel motivated, energetic, and behave more autonomously, and will this increase his creativity? The current leadership and creativity literature is ill-suited to address both employees' potential behaviours. Consequently, adopting a self-regulatory perspective is essential to illuminate how these experiences might differentially influence creativity.

This gap is critical to address because our understanding of how and why leader behaviours influence employee creativity remains incomplete. By examining this relationship from a self-regulatory perspective, we can better explain why certain leadership styles might foster or hinder employee creativity. Specifically, prior evidence links abusive supervision to negative subordinate outcomes, yet further clarity is needed to understand how the effortful or controlled impact caused by direct supervisors led to impaired employees' creativity. Similarly, prior evidence links servant leadership to positive subordinate outcomes, yet further clarity is needed as well to understand how the volitional and energetic influence caused by direct supervisors led to boosting employees' creativity.

Self-regulation theory constitutes a complex system of aware and conscious personal management, including the guidance and management of an individual's thoughts, behaviours, feelings, and attitudes to help them accomplish goals (Baumeister & Heatherton,1996; Inzlicht et al., 2021; Muraven & Baumeister, 2000). Central to this theory is the distinction between volitional and compelled behaviours, which offers a useful lens for interpreting Albert and Cony's responses to different leadership styles. These two regulatory processes are foundational to self-regulation theory (e.g., Carver & Scheier,1990; Muraven, 2007; Tice et al., 2007). In particular, I focus on autonomous self-regulation as a form of volitional behaviour that Cony may have experienced when interacting with a servant leader. Conversely, focus on self-control as a form of specific compelled behaviour that Albert may have experienced when confronted with an abusive leader. Autonomous self-regulation refers to the process by which individuals exert self-control in a volitional manner, resulting in restoring limited regulatory resources. In contrast, compelled self-control involves regulating behaviour under external pressure, resulting in depleted resources (e.g., see Baumeister et al., 2000, 2007; Hofmann et al., 2012; Muraven, 2007; Muraven et al., 2008). This distinction is critical because autonomous self-regulation is generally more invigorating and vitalising than imposed self-control. (see, e.g., Muraven et al., 2008; Tice et al., 2007). Introducing self-regulation theory within the leadership-creativity literature thus provides a valuable conceptual lens to develop a new theoretical account of how and why different leader behaviours influence employee creativity.

Introducing self-regulation theory (SRT) into the leadership–creativity literature offers not only conceptual novelty but also theoretical precision. According to Hughes et al. (2018), the current literature, particularly mediation studies, tends to assess single leadership variables and single mediators, resulting in fragmented models. Precisely, because of the conceptual and empirical

overlap among various leadership constructs (Hughes et al., 2018) and commonly studied mediators, such as trust and psychological safety (Van Knippenberg & Sitkin, 2013), there is a strong possibility that existing literature suffers from an overabundance of constructs overlapping and construct repetition (Shaffer et al., 2016). To address these limitations, research should test multiple leadership styles and multiple mediators simultaneously, thereby preventing some of these effects and building a more parsimonious, explicit process-account of how leadership shapes creativity (Hughes et al., 2018).

One theoretical framework where this fragmentation is especially evident is self-determination theory (SDT), which is frequently used to explain how leadership influences employee creativity. Although SDT categorises motivation along a continuum from autonomous to controlled, this structure treats motivational states as gradations rather than distinct mechanisms. As a result, SDT cannot accommodate dual-process modelling, making it difficult to isolate autonomous and controlled motivation as different pathways. This limitation leads to a less explicit process and undermines theoretical parsimony, ultimately obscuring rather than clarifying how leadership shapes creativity. In contrast, self-regulation theory offers a distinct process-level account by specifying how individuals regulate their thoughts, emotions, and behaviours in pursuit of goals—whether autonomously or under external control. Specifically, it distinguishes between autonomous self-regulation, which is volitional and energising, and compelled self-control, which is effortful, externally driven, and often depleting. This dual-process structure provides a more parsimonious and richer framework for understanding how different leadership behaviours—such as servant versus abusive leadership—foster or hinder employee creativity.

Leader effectiveness in promoting followers' needs is vital in improving job performance. Servant leaders, in particular, are effective because they focus on employees' autonomy, strengths, and goals (Chiniara & Bentein, 2016; van Dierendonck et al., 2014). Employees become more autonomously motivated and willing to learn and are expected to perform better when they comprehend the relevance and purpose of their professions, feel discretion, and are competent in executing tasks (Gagné & Deci, 2005). Servant leaders thus encourage employees to act more autonomously (Rodríguez-Carvajal et al.,2018; van Dierendonck, 2011). Building on this logic, autonomous self-regulation, which involves individuals who willingly engage in a freely chosen or fully volitional behaviour, leads to increased feelings of energy (Muraven, 2007); this occurs because when individuals autonomously regulate their behaviours, they experience a greater sense of autonomy than individuals who are experiencing controlled behavioural regulation (i.e., self-control), which is usually associated with feelings of tension and stress (Muraven, 2007; Muraven et al., 2008). Unlike autonomous motivation as conceptualised in self-determination theory (SDT), which emphasises a continuum of motivational states, autonomous self-regulation (ASR) offers a more explicit, process-oriented account of how individuals sustain goal-directed behaviour under strain. Specifically, it enables individuals to conserve cognitive resources (Muraven, 2008; Muraven et al.,

2008), thereby supporting sustained creative engagement even when cognitive resources are taxed. This perspective conceptualises autonomous self-regulation not merely as a motivational state, but as a self-regulatory function that actively manages behaviour and emotion to facilitate creativity.

In line with this notion, the current study examines how a positive form of leadership, namely servant leadership, is likely to enhance employees' creativity by promoting followers' autonomous self-regulation.

Abusive leaders, on the other hand, motivate employees to control their behaviour (Babu et.al, 2023; Lian et al., 2014a), that is, to cope with self-control demands (SCDs) such as constraining urges, controlling impulsive responses, resisting distractions, or overcoming inner resistances that require employees to engage in self-control (Neubach & Schmidt, 2007). Self-control refers to an individual's exertion of control over himself, with attempts to alter the way he or she would differently behave, feel, or think (Muraven & Baumeister, 2000). According to the Model of Self-Control Strength (Muraven & Baumeister, 2000), different processes of self-control draw on and consume a common limited regulatory resource capacity. Specifically, this depletion occurs when a person tends to display lesser self-control (i.e., has less energy to engage in the subsequent performance), possibly due to prior self-control exertion, resulting in a psychological state that described by psychologists, as an “ego-depletion” state (Baumeister et al., 1998; Muraven, 2007; Muraven et al., 2008; Rothbard, 2001). In line with this well-founded proposition, research revealed that self-control demands (SCDs) at work that require individuals to engage in effortful self-control result in resource depletion (Diestel & Schmidt, 2011; Rivkin et al., 2016). Hence, when employees' motivation is regulated by external forces such as supervisory power, employees are more likely to deal with adverse effects of SCDs (i.e., resource depletion), creating self-control failure (i.e., ego-depletion state Baumeister & Vohs, 2007; Lian et al., 2014a; Mawritz et al., 2017; Wehrt et al., 2020). Therefore, failure in self-control caused by abusive leaders might harm employees' performance outcomes, such as employee creativity. Accordingly, this study considers the effects of a negative form of leadership, namely abusive leadership, on employee creativity through enacting self-control.

Building on this conceptual foundation, this research aims to develop and test a model grounded in self-regulation theory (Baumeister & Vohs, 2007; Muraven & Baumeister, 2000; Muraven, 2008; Muraven et al., 2008; Muraven, Tice, & Baumeister, 1998). The model posits that employees’ self-regulatory processes, specifically autonomous self-regulation and compelled self-control, mediate the impact of leadership on employee creativity. The study examines two contrasting leadership styles, servant and abusive, which are hypothesised to influence these self-regulatory mechanisms differently, thereby leading to divergent effects on employee creativity.

CPE encompasses employees’ engagement in creativity-relevant activities, including problem identification, information searching and encoding, and solution generation (Zhang & Bartol, 2010). Within the creativity literature, the link between creative process engagement (CPE) and

creativity is well established, with substantial evidence indicating that CPE is an important antecedent of employee creativity (Zhang & Bartol, 2010). Nonetheless, incorporating CPE in this research remains crucial for conceptual precision. Accordingly, this study positions CPE as the final mediating variable, through which autonomous self-regulation and self-control (resource depletion) translate into employee creativity outcomes.

Moreover, considering the potential impact of this relationship, it is essential to examine the factors that may function as a buffer or amplifier between them. To this end, this work investigates dispositional self-control and a proactive personality toward creativity as crucial moderators. By developing a self-control (i.e., self-regulation) model, this model helps us to further clarify how trait self-control mitigates the negative influence of abusive supervision on employee creativity, as it enables individuals to regulate their behaviours and override deep internal reactions to external stressors (e.g., abusive leaders) that affect emotional responses (Wang et al., 2011). The focus on trait self-control is warranted because employees with high self-control are less susceptible to the depleting impact of abusive leaders (Yuan et al., 2018).

In parallel, anticipating a synergistic effect, this research proposes that a proactive personality—described as a behavioural proclivity to seek opportunities for change and to manoeuvre the environment to capitalise on them (Crant, 2000)—interacts with servant leadership to strengthen autonomous self-regulation, ultimately enhancing creativity. A proactive personality is pivotal for three reasons. First, individuals high in proactivity are more likely to effectively utilise the autonomy provided by servant leaders (Newman et al., 2017; Ruiz & Zoghbi, 2020; van Dierendonck, 2011), and this will further promote their autonomous regulation. Second, from the supervisor's perspective, proactive people are more inclined to actively seek out fresh ideas and take the initiative to advance the environment (Fuller & Marler, 2009), prompting servant leaders to grant them more autonomy, further reinforcing their autonomous self-regulation. Finally, a proactive personality fosters congruence with servant leadership, since both entail a proactive stance, leading to a stronger leader-follower relationship (Zhang et al., 2012), more profound mutual understanding, and enhanced opportunities for autonomy.

In summary, this study advances the literature on the relationship between leadership and creativity by applying self-regulation theory as a central explanatory framework. It elucidates how distinct leadership styles influence employee creativity via a sequence of mediating mechanisms, including autonomous self-regulation, self-control demands, self-control (resource depletion), and creative process engagement. Specifically, the study contrasts the effects of servant leader and abusive leader behaviours on employees' creativity. Furthermore, it examines key boundary conditions by considering how employees' proactive personality and trait self-control moderate the pathways linking leader behaviours to creative outcomes.

This study makes three primary contributions to the existing literature. First, it enriches leadership and creativity research by foregrounding self-regulation as a key psychological mechanism through which leader behaviours shape employee creativity. Drawing on self-regulatory theory, the study posits that employees may experience enhanced autonomous self-regulation by being susceptible to servant leader behaviours, and that this motivation of fully volitional behaviour and a more energetic context can improve servant leadership constructive consequences, most notably by boosting employee creativity. Conversely, this study also suggests that employees may experience depletion of their self-regulatory resources (i.e., self-control strength) when coping with self-control demands (SCD) imposed by abusive leadership behaviours. These demands, and the resulting depletion of essential resources within an effortful context, could worsen the detrimental consequences of abusive leadership, thereby diminishing employee creativity. In this way, the study offers a novel perspective on why and how servant and abusive leadership behaviours influence employee creativity, while also providing practical guidance for organisations and employees, both to mitigate the adverse effects of abusive supervision and to enhance the benefits associated with servant leadership.

Second, this research contributes to the creativity literature by identifying autonomous self-regulation as a novel antecedent of employee creativity (Shalley & Gilson, 2004). While prior studies have emphasised motivational predictors such as intrinsic motivation and self-regulatory promotion focus in driving creativity (Neubert et al., 2008; Yang et al., 2019), autonomous self-regulation, grounded in self-regulation theory (Muraven, 2008; Muraven et al., 2008; Muraven, Tice, & Baumeister, 1998), offers an explicit process-oriented perspective on how employees maintain goal-directed behaviour under strain. Specifically, it enables individuals to consume less resources (Muraven, 2008; Muraven et al., 2008), thereby enabling individuals to sustain the creative process even when cognitive resources are taxed. This theoretical contribution advances the literature by conceptualising autonomous self-regulation not merely as a motivational state, but as a self-regulatory function that actively manages behaviour and emotion to facilitate creativity. By incorporating the critical roles of leaders and the self-regulation process (i.e., autonomous self-regulation), particularly in relation to employee creativity, this research offers a novel perspective on how organisations can impact employees' creativity.

Third, this research also contributes to the creativity literature by identifying self-control demands as a novel antecedent of employee creativity (Shalley & Gilson, 2004). While prior studies have examined predictors that impair creativity, such as emotional exhaustion, psychological safety threats, organisational disidentification, and sleep deprivation (e.g., Han et al., 2015; Liu et al., 2016; Zhang et al., 2012), self-control demands (SCDs) has largely been overlooked. It imposes a distinct form of regulatory strain, requiring employees to exert effortful self-control that ultimately depletes their limited self-regulatory resources (Diestel & Schmidt, 2011; Rivkin et al., 2016), thereby undermining their creativity. This theoretical contribution advances the literature by isolating SCDs

as a novel theoretical insight, demonstrating how controlled regulation, triggered by abusive supervision, undermines creativity through its resource-depleting demands. By incorporating the critical roles of leaders and the self-regulation process (i.e., self-control demands), particularly in relation to employee creativity, this research offers a novel perspective on how organisations can impact employees' creativity.

1.2. Research Questions

Three main questions are currently undermining the effectiveness of research in this area:

1. To what extent do leadership styles affect employee creativity via the impact of self-regulation processes (autonomous self-regulation and compelled self-control) and creative process engagement?
2. How does employees' proactive personality shape the indirect effect of servant leadership on employee creativity through autonomous self-regulation and creative process engagement?
3. How does employees' trait self-control shape the indirect effect of abusive leadership on employee creativity through self-control demands, self-control (resource depletion), and creative process engagement?

1.3. Structure of Thesis

1.3.1. Chapter 2 Literature Review

This chapter provides a comprehensive review of the literature on leadership and creativity. It examines creativity in the workplace and positions leadership as a crucial contextual factor influencing employee creativity. This chapter traces the development of theoretical frameworks that explain this relationship and justifies the selection of the guiding theory. Furthermore, the chapter delves into self-regulation theories, particularly emphasising the self-control model and distinguishing between autonomous and controlled regulations. It reviews the factors influencing self-regulation and their implications, focusing on leadership behaviours as key predictors. In addition, the chapter critically reviews prior research on servant and abusive leadership styles, justifying their inclusion in this research.

1.3.2. Chapter 3 Hypotheses Development and Theoretical Framework

This chapter develops the theoretical framework, which is depicted in Figure 1, and presents the hypotheses that examine the effects of leadership styles on employee creativity through a self-regulation perspective.

1.3.3. Chapter 4 Methodology

This chapter begins with an overview of the evolution of research philosophy, followed by an exploration of the principal philosophical approaches in social science research: positivism, post-positivism, critical theory, and constructivism. The chapter justifies adopting a positivist stance and

explains how it aligns with the quantitative research approach employed in this study. It then outlines the research strategy and design for Study 1 and Study 2, followed by a description of the samples used in both studies, data analysis methods, and ethical considerations.

1.3.4. Chapter 5 Study 1

This chapter presents Study 1, a cross-sectional field study. It details the sample, procedure, measures, data preparation and screening, and analytical strategy. Specifically, the study employed confirmatory factor analysis (CFA) and structural equation modelling (SEM) using R software. Findings are presented and discussed, along with a reflection on the study's limitations.

1.3.5. Chapter 6 Study 2

This chapter reports on Study 2, which employed an experience sampling method (diary study). It describes the sample, procedure, measures, data preparation and screening, and analytical approach. Like Study 1, this study employed CFA and SEM, but with a focus on multilevel modelling using R software. The chapter also discusses key findings and limitations.

1.3.6. Chapter 7 General Discussion

This chapter synthesizes the key components of the thesis. It revisits the study objectives, summarises the main findings from both studies, and discusses their theoretical and practical implications. In addition, limitations are acknowledged and opportunities for future research are proposed.

CHAPTER TWO: LITERATURE REVIEW

2.1. Creativity at Work

Substantial research has indicated that individual creativity at work, which is described as the process of producing new ideas, insights, problem solutions, processes and products (e.g., Amabile, 1988, 1996; Mumford & Gustafson, 1988; Shalley et al., 2004; Zhou & Shalley, 2003), is the primary source of organisational competitive advantage and innovation (Amabile, 1996; Shalley et al., 2004). Given its perceived importance, Barsh and colleagues (2008) conducted research revealing that a significant proportion of executives place a high level of importance on innovation as a fundamental driver of success within their organisations. Researchers emphasise the central role of creativity in generating core ideas that can lead to innovation and help navigate the challenges encountered during implementation (Zhou & Hoever, 2014). As a result, the vital role of creativity at work is a widely shared perspective among both practitioners and scholars (George, 2007).

Amabile's (1983) componential model of creativity asserts that while intrinsic motivation is necessary, it is not sufficient on its own to produce creativity. Therefore, engaging in creative processes is crucial and maybe even more vital for enhancing employee creativity (Amabile, 1983, 1988, 1996). In line with this, many scholars emphasise that actively engaging in the creative process is an essential step toward achieving creativity (e.g., Mainemelis, 2001; Shalley et al., 2004). Creative process engagement, as defined by Zhang and Bartol (2010), refers to ‘’employee involvement in creativity-relevant methods or processes, including (1) problem identification, (2) information searching and encoding, and (3) idea and alternative generation‘’. When employees are fully engaged at work, putting effort into cognitive processes related to creative tasks such as problem-solving or idea generation, they are more likely to come up with new and useful solutions (Zhan & Bartol, 2010). Although this relationship is well established in creativity literature, it remains important to present it within the context of my study to provide clarity.

In organisations, creativity is considered a crucial long-term benefit, essential for thriving in a dynamic environment and responding to unexpected challenges (e.g., George, 2007; Zhou & Hoever, 2014). Partly driven by this mindset, organisations have elevated the value of creativity, recognising it as a crucial competency for today's leaders. For instance, in IBM's 2010 study of over 1,500 chief executive officers, creativity is acknowledged as the most crucial leadership skill for assuring future organisational success (Kern, 2010). Moreover, since creative ideas have the potential to disrupt the status quo (i.e., disturb the existing conditions of a situation by, for example, stimulating reappraisal of the condition or by improving the recognition of appropriate solutions) (Nemeth, 1986; Nemeth & Wachtler, 1983; Nemeth & Staw,1989), organisation leaders must adapt to disruptive dynamic changes in their setting. Adhering to the status quo could prove to be an

unsuccessful strategy. Alternatively, embracing creativity as a core strategy can be a game-changer for companies seeking to shape an exceptional identity in the market and achieve long-term success.

While creativity research within the organisational behaviour field has historically received limited emphasis, the perception has significantly evolved since the 1990s. Organisational psychologists and management researchers have started to recognise creativity as a significant area of focus (Zhou & Hoever, 2014; Zhou & Shalley, 2003). This shift in perception has led to a surge in studies on workplace creativity (Zhou & Shalley, 2003), enlightening the field and informing future research.

Creativity at work has been studied as a function of personal characteristics and contextual features that can either enhance or impair employee creativity, as well as the effects of interaction between these personal and contextual characteristics (Anderson et al., 2014; Shalley et al., 2004). For many years, different individual characteristics and traits have been associated with creative outcomes. For instance, Barron and Harrington (1981) used the Creative Personality Scale (CPS) to assess people's creativity. People who scored high indicate that they approach problems from a broad perspective and can identify divergent thinking styles. In addition, Gough (1979) conducted research that revealed that there were significant and positive correlations between the Creative Personality Scale and creativity ratings across a wide range of groups. Specifically, this correlation was observed in 10 out of 12 groups of individuals studied, including professionals such as architects and scientists. Other researchers have used different measures, such as the “Five-Factor Model of Personality” (FFM), to investigate the effects of personality on creativity. According to Feist (1998, 1999), each FFM dimension is related to creativity; however, Feist found that the “openness to experience” FFM dimension is the dimension that is most frequently related to creativity. Moreover, other individuals characteristics related to creativity have been studied, including curiosity, autonomy, learning goal orientation, openness, creative self-efficacy, originality, creative personal identity, risk-taking, positive affect, innovation, mood states, prevention focus, and proactive personality (e.g., Amabile, 1988; Amabile et al., 2005; Baas et al., 2011; Barron & Harrington, 1981; George & Zhou, 2007; Gong et al., 2012; Hirst et al., 2009; Jaussi et al., 2007; Moukwa, 1995; Sacramento et al. 2013:Tesluk et al., 1997; Tierney & Farmer, 2011). However, interest in personality studies has declined due to limitations in explaining creative behaviour using personality approaches (Feist & Runco, 1993).

In terms of studying the relationship between cognitive style and individual creativity, findings indicate that innovators or those scoring higher in innovative style demonstrate higher levels of creativity compared to adapters with an adaptive style (i.e., an adaptive-style person who follows procedures without questioning them, while an innovative-style person willing to take risks is more creative) (e.g., Lowe & Taylor, 1986). Additionally, findings from Sagiv et al. (2010) indicate that individuals demonstrating a more systematic approach, as opposed to an intuitive one, exhibited lower levels of creativity, particularly when engaging in predominantly unstructured creative tasks.

Contrary to this, creative tasks with structure resulted in equally creative outcomes for different cognitive styles (i.e., systematic and intuitive cognitive styles). Conversely, creative tasks with more structure benefited systematic thinkers, not intuitive ones.

On the other hand, other studies have looked at the impact of contextual factors on employee creativity. Some studies have discovered a beneficial effect, while others have found a detrimental effect. Prior research suggests that high creativity results in a context that supports employees by designing jobs to enhance idea creation, having a supportive supervisor, providing a non-contingent reward, high autonomy and job complexity, giving developmental evaluations, applying time pressure, and having goals for each task with full freedom to shift between tasks (Andrews & Farris, 1972; Gong et al., 2009; Madjar & Shalley, 2008; Ohly et al., 2006; Oldham & Cummings, 1996; Shalley et al., 2000; Zhang et al., 2017; Zhou & Oldham, 2001). Moreover, Zhou & However (2014) found increasing consideration of contextual influences in studying creativity at work. They reviewed past literature that has been influenced by different aspects, such as tasks, physical settings, colleagues, teams, supervisors, and customers, which foster an employee's creativity. They also stated that fewer studies have focused on factors hindering employee creativity. For instance, work by Amabile (1996) and Amabile et al. (2002) found that providing contingent rewards and setting goals have detrimental consequences for creativity.

Furthermore, other research has investigated how contextual factors may interact with personal characteristics or different cognitive styles. Scholars such as Amabile (1988, 1996) and Woodman, Sawyer, and Griffin (1993) have contributed valuable insights in this area. They presented a foundation for understanding the importance of person-context interactions in affecting employee creativity (Shalley & Gilson, 2004). The interactionist work of Woodman et al. (1993) suggested that "individual creativity is a function of antecedent conditions (e.g., past reinforcement history, biographical variables), cognitive style and ability (e.g., divergent thinking, ideational fluency), personality factors (e.g., self-esteem, locus of control), relevant knowledge, motivation, social influences (e.g., social facilitation, social rewards), and contextual influences (e.g., physical environment, task and time constraints)" (p.294). This theory diverges from Amabile's componential theory (1988, 1996), which primarily focuses on the work environment. Instead, it highlights an interactionist process between contextual and individual factors that happened across three distinct levels: individual, group/team, and organisational. Specifically, organisational creativity is affected by team structure, characteristics, and processes, as well as environmental influences. In contrast, group/team creativity is affected by the contributions of individual group members, group dynamics, processes, characteristics and environmental factors.

Amabile's research on the ''Componential Theory of Organisational Creativity and Innovation'' (1988, 1996) integrates individual or employee creativity with organisational creativity in the workplace. Her model suggests that the workplace, including management practices like supervisory encouragement and workgroup support, adequate physical, temporal, and cognitive

resources, and organisational motivation (incentives for innovation), affects individual and/or team creativity, contributing to innovation. Notably, the theory highlights the significance of leader behaviours as a key determinant of creativity. This is because a leader's behaviour is highly likely to substantially influence the workplace's shape.

To specify how such leader-shaped contexts translate into creative output, I foreground creative process engagement (CPE). Creative process engagement, as defined by Zhang and Bartol (2010), refers to ‘’employee involvement in creativity-relevant methods or processes, including (1) problem identification, (2) information searching and encoding, and (3) idea and alternative generation‘’. Consistent with Amabile’s (1983, 1988, 1996) argument that intrinsic motivation is necessary but not sufficient, actively engaging in these processes is the more proximal driver of novel and useful solutions. In line with this, many scholars emphasise that actively engaging in the creative process is an essential step toward achieving creativity (e.g., Mainemelis, 2001; Shalley et al., 2004). When employees are fully engaged at work, putting effort into cognitive processes related to creative tasks such as problem-solving or idea generation, they are more likely to come up with new and useful solutions (Zhan & Bartol, 2010). Although this relationship is well established in creativity literature, it remains important to present it within the context of my study to provide clarity. This positioning clarifies how contextual inputs, especially leadership behaviours, are enacted through process engagement to yield creativity. Given this importance, various scholars have considered leadership's influence a crucial contextual factor. For instance, Drazin et al. (1999), Mumford (2000), and Mumford et al. (2002) have explored the role of leaders in impacting creativity. Oldham and Cummings (1996) and Shalley et al. (2000) have further demonstrated that leadership is a significant contextual factor that affects employee creativity.

In the decade following 1996, researchers investigated various theoretical perspectives to better understand the relationship between leadership and employee creativity. Scholars such as Amabile et al. (2004), DiLiello and Houghton (2006), Jaussi and Dionne (2003), Kahai et al. (2003), Tierney et al. (1999), Tierney and Farmer (2004), and Zhou and George (2003) contributed to this growing body of literature. As Hughes et al. (2018) noted, this research direction continued to expand significantly in the following decade.

Building upon this foundation, several studies further explored the relationship between leadership styles and employee creativity. For instance, P. Ruiz-Palomino and P. Zoghbi-Manrique-de-Lara (2020) examined the impact of servant leadership on employee creativity by exploring new relationships that indirectly test the effect through servant attitude. Others focused on the impact of leadership on team creativity by exploring psychological mechanisms such as social learning and dominance complementarity theories. They have integrated these theories to understand how interactions between leaders and followers can impact the creativity within teams (e.g., Ali et al., 2020).

Despite ongoing efforts, research to date has largely overlooked the role of self-regulatory processes in exploring the relationship between leadership and employee creativity. This omission may partly stem from Hughes et al. (2018)'s recommendation to avoid overemphasising motivational processes given their dominance in the literature. However, this research contends that self-regulation processes, unexplored mechanisms that manifest general motivations, play a critical role in linking leadership behaviours to employee creativity and merit further investigation. I argue that a deeper understanding of this relationship could yield valuable insights in this area of research. Consequently, this study departs from previous leadership and employee creativity research by applying self-regulatory theoretical lenses to develop a new framework explaining why and how leadership behaviours influence employee creativity. The following section turns to a review of self-regulation theories.

2.2. Self-Regulation Theories

Self-regulation is highly beneficial for individuals who aim to function well and, consequently, for societies that strive for optimal functioning (e.g., Baumeister et al., 1994; Moffitt et al., 2011). Self-regulation theory constitutes a complex system of aware and conscious personal management that entails the guidance and management of an individual's thoughts, behaviours, feelings, and attitudes to accomplish goals (e.g., Carver & Scheier, 1982; Baumeister & Heatherton,1996; Inzlicht et al., 2021; Muraven & Baumeister, 2000). Research on self-regulation has a rich and intriguing history that dates back to ancient Greek philosophers like Plato and Aristotle. Later, it was further explored by pioneers such as Sigmund Freud, who delved into the subject broadly (Hofmann et al., 2009). Half a century ago, Walter Mischel and his colleagues conducted groundbreaking research on delayed gratification. Their work contributed to the subject's resurgence in contemporary empirical psychology. The studies conducted in 1970, 1972, 1974, and 1988 examined the circumstances in which children choose to delay a smaller presented reward (i.e., marshmallows) in favour of a larger future reward.

Since then, scholars have suggested several prominent models of self-regulation. Examples of these are the cybernetics model, goal systems theory, strength model, and dual-systems model (see Hofmann et al., 2009; Inzlicht et al., 2021). Most of these models are described as conflict models because conflict, defined as the discrepancy between standards or goals, is an essential aspect of self-regulation processes. These conflicts lead individuals to engage in different feelings, emotions and behaviours (Inzlicht et al., 2021). Specifically, in self-regulation literature, negative feelings or behaving badly are frequently associated with continuous exertion of self-control, resulting in ego depletion. In contrast, positive emotions and acting autonomously are usually associated with more autonomy, resulting in less depletion or even gaining more energy. Accordingly, scholars and scientists often distinguish between two forms of self-regulation: autonomous self-regulation (e.g., Nix et al., 1999; Muraven, 2008; Muraven et al., 2008; Rivkin et

al., 2016; Ryan & Deci, 2008) and self-control (resource depletion), which is the controlled regulation as explained by Buimaster and colleagues.

Autonomous self-regulation describes the process of how the autonomous exertion of self-control impacts individual behaviour through feelings and acting autonomously, resulting in restoring limited regulatory resources. In contrast, self-control describes the process of how exerting (compelled) self-control influences individual behaviour through controlled regulation, resulting in depleted resources (e.g., see Baumeister et al., 2000, 2007; Hofmann et al., 2012; Muraven, 2007; Muraven et al., 2008). Both processes regulate individuals' behaviours, thoughts, and emotions; however, autonomous self-regulation does this with more volitional action (Muraven, 2007).

In several experiments, autonomous self-regulation was related to gains in subjective vitality and energy, whereas self-control drained psychological energy and vitality and resulted in ego depletion (e.g., Kazén et al., 2015; Muraven, 2007; Muraven et al., 2008; Vohs & Heatherton, 2000). Individuals who are autonomously self-regulated engage more in self-congruent and expressive behaviour of their interests and beliefs. They are less sensitive to external forces, such as contingent rewards and punishment, or internal forces, such as conflict. In contrast, highly self-controlled individuals lose energy in subsequent tasks due to the effortful behavioural regulation of the first task. They feel more controlled by external and internal forces. As a result, they fail to regulate themself due to the failure to manage their goal-directed behaviour (i.e., managing the conscious process toward achieving an individual’s objectives) and their strength (e.g., Baumeister et al., 1998, 2007; Baumeister & Heatherton, 1996; Hirt et al., 2016; Hofmann et al., 2012; Lian et al., 2014a; Muraven et al., 2007, 2008). This struggle is further clarified in the next section, which discusses the resource or strength model of self-control.

2.3. Strength Model of Self-Control

Baumeister et al. (e.g., Baumeister, Bratslavsky, Muraven, & Tice, 1998; Baumeister et al., 2000; Baumeister & Vohs, 2007; Muraven & Baumeister, 2000; Muraven et al., 1998) argue that all acts of self-control, self-regulation, and choice are negative and lead to poorer outcomes because they consume energy through self-control exertion. Self-control refers to an individual's exertion of control over himself or herself, with attempts to alter the way he or she would differently behave, feel, or think (Muraven & Baumeister, 2000). According to the Model of Self-Control Strength (Muraven & Baumeister, 2000), different processes of self-control draw on and consume a common limited regulatory resource capacity. Specifically, this depletion occurs when a person tends to display lesser self-control (i.e., has less energy to engage in the subsequent performance), possibly due to prior self-control exertion, resulting in a psychological state that psychologists describe as an “ego-depletion” state (Baumeister et al., 1998; Muraven, 2007; Muraven et al., 2008; Rothbard, 2001). Ego-depletion is described by Baumeister et al. (1998) as a momentary decrease in a

person's capacity to engage in intentional or volitional actions, such as coping with the environment, making choices, and regulating actions due to previous exertion of volition.

Numerous studies (e.g., Baumeister et al., 1998; Schmeichel & Baumeister, 2004; Schmeichel et al., 2003) that support ego depletion, which is known as the Model of Self-Control Strength, have found that self-control depends on self-control strength as a limited resource that can be depleted through self-control exertion resulting in performance failure in a subsequent, but seemingly unrelated, effort that demands self-control.

Emotional self-control, for instance, has frequently been linked to ego depletion. Muraven, Tice, and Baumeister (1998) conducted a study in which participants watched a painful and sad video clip. They were then given particular instructions. Some were told to repress their emotional reactions, while others were told to heighten them. After completing these emotional self-control tests, participants took part in a handgrip test examining their physical stamina. Participants instructed to regulate their emotions, whether by reducing or increasing their emotional responses, showed decreased persistence on the handgrip task compared to a control group who were not given emotional regulation instructions. In 1998, in study 3, Baumeister and his colleagues found that participants who were asked to restrain their emotional responses while watching highly emotional films, whether humorous or sad, exhibited decreased performance on a subsequent anagram challenge compared to those who could freely express their emotions without exerting self-control.

In several studies, ego depletion has also been linked to a more abstract understanding of self-regulation. In one study, Wallace and Baumeister (2002) demonstrated that, compared to a control group that did not participate in the Stroop task, the Stroop task caused people to perform worse on a subsequent self-regulation task. Another study that reflects the abstract definition of self-control was conducted by Baumeister et al. (1998). Specifically, in Study 4, the researchers asked the participants to identify and mark every occurrence of the letter "e" in a text page. However, they were not allowed to cross out an "e" that was close to another vowel. This rule was designed for this activity as a self-control task. This is because it challenged participants to fight against their impulses to cross out every letter "e" they detected. Conversely, another group of participants worked out complex three-digit multiplication tasks. These tasks were intended to be mentally burdening but did not necessitate self-control. Following these activities, participants moved on to the second phase, where they could watch a tedious film for as long as they wished. In this phase, half of the participants were assigned to an active response group, where they were informed that pushing a button would halt the film. In contrast, the other half were assigned to a passive response group, where they were instructed that releasing a button would stop the film. According to the findings, participants in the e-hunting group stopped viewing the film sooner than those in the control group, who were working on multiplication problems. This was especially true when halting required only a passive response. They waited longer, however, when they had to actively and intentionally halt. Hence, after an activity

that required active self-control, participants were passive and did not exert as much effort on the following tasks.

Furthermore, other studies have shown that ego depletion can result from different activities, such as thought suppression and decision-making (making choices). According to the study by Baumeister et al. (1998), they argued that making choices resulted in ego depletion. This study investigated how choice impacts participants' selection of a side to support in an influential speech (raising tuition debate). Participants in the low-choice scenario (counterattitudinal) were informed that they had been chosen to deliver one speech (i.e., pro-tuition raise speech) because the study team had enough participants to deliver the other (i.e., anti-tuition raise speech). In contrast, participants in the high-choice scenario were informed that they may select their speech theme, either anti-tuition raise speech or pro-tuition raise speech. However, as told by the study team, because one of the groups already had sufficient participants, it would be beneficial for the study if they selected the other speech debate. As a result, participants in high-choice scenarios (both proattitudinal and counterattitudinal positions) were divided into two groups, each receiving half of the participants. Interestingly, all participants in the two high-choice groups agreed to give their assigned speech.

Participants in the control condition, which is the no-speech condition, skipped this part of the study. They weren't told about the problem of tuition increases.

In the second part of the study, participants were given a puzzle activity that was unsolvable, involving the tracing of geometric figures. According to the study results, participants who were given a high degree of choice were less successful in completing an unsolvable puzzle activity and made fewer efforts before giving up than those with limited or no choice. This was true whether they were allocated to a proattitudinal or counterattitudinal position. The researchers concluded that making a personal decision can tax one's strength.

A number of studies have demonstrated that ego depletion can result from attempts to suppress thoughts (Muraven et al., 1998). Specifically, Wegner, Schneider, Carter, and White (1987) conducted two studies in which participants were asked to repress thoughts of a white bear. This increased the chances of giving up on challenging anagrams in one study (Study 2) and impeded efforts to manage the expressions to convey enjoyment and amusement in another study (Study 3).

2.4. Autonomous Versus Controlled Regulation

Baumeister and colleagues tend to use the terms self-control and self-regulation interchangeably; for example, Muraven et al. (1998) stated that “if self-regulation conforms to an energy or strength model, then self-control should be impaired by prior exertion” (p. 774). However, this view is not consensual. Deci and Ryan (1985, 1987, 1991, 2000, 2008) distinguish between autonomous regulation and controlled regulation. Their self-determination theory (SDT) proposed that various motivations or behavioural regulations fall on a continuum. These motivations range

from the most controlled regulation (extrinsic motivation) to the highest form of autonomous regulation (intrinsic motivation). Intrinsic and integrated motivations are autonomous forms of regulation (with identified motivation appearing to be relatively autonomous). In contrast, controlling regulations encompass a lower level of identified motivation, such as introjected motivation or external regulation.

Most importantly, individual regulations (i.e., autonomous self-regulation and effortful self-control (ego depletion)) for a specific task can change depending on the situation (e.g., De Ridder et al., 2012; Fabes et al., 1999; Kazén et al., 2014; Tangney et al., 2004). Situational factors may induce autonomous self-regulation by emphasising fully volitional behaviour through, for instance, feelings of autonomy (Muraven, 2007) or induce effortful self-control by previous effort at self-control through feelings of control (Baumeister et al., 1998; Muraven & Baumeister, 2000).

Previous research has shown that autonomous self-regulation can arise in different domains due to various influences. For instance, at work, autonomy support (Sandrin et al., 2021), need support (Hardré & Reeve, 2009; Williams et al., 2014), and a reasonable pay level for performance (Kuvaas et al., 2016). In the educational field, for example, parental support for autonomy (Guay & Chanal, 2008) and parental involvement in children's education (Grolnick & Slowiaczek, 1994; Ratelle et al., 2005). In the medical clinic field, autonomy support by health care providers (Williams et al., 1998). All of these are implied to enhance autonomous self-regulation through, for instance, feelings of autonomy, energy, and vitality.

In turn, autonomous self-regulation has a ripple effect on numerous positive outcomes within different domains, such as work, health, and education. In the workplace, research has shown that employees who are able to regulate themselves autonomously can enhance organisational commitment (Gagne´ & Koestner, 2002; Gagne´ et al., 2004), job satisfaction (Bono & Judge, 2003; Gillet et al., 2016), employee well-being (e.g., vitality; Olafsen & Frølund, 2018), work engagement (Austin et al., 2020; Hardré & Reeve, 2009), and work effort (Kuvaas et al., 2016). In the education field, autonomously self-regulated students tend to work harder and better attain their goals, focus more in class, and achieve better performance (Guay et al., 2008; Reeve et al., 1998; Vansteenkiste et al., 2004). In the field of health regulation, autonomous self-regulation toward health has been indicated to predict greater control over mental health (e.g., depression, Kotera et al., 2019), quitting smoking (Williams et al., 2006; Williams et al., 2009), abstaining from smoking tobacco (Ng et al., 2012), and managing diabetes (Williams et al., 2009).

Research also suggests that autonomous self-regulation can lead to improved cognitive control outcomes, such as delay of gratification and attention regulation (Muraven et al., 2008), concentration (Bernier et al., 2010), and persistence (Moller et al., 2006).

On the other hand, existing research on self-regulation, particularly the effortful self-control, has shown that ego depletion status, which is caused by exerting self-control, can occur in the work

environment because of coping with self-control demands (Gombert et al., 2020), compulsory citizenship behaviour (Chi et al., 2023), salesperson humour usage (Lei et al., 2023), job insecurity (Hur & Shin, 2023), emotional dissonance (Konze et al., 2019), value incongruence (Deng et al., 2016), and job stressors (Xia et al., 2020). These variables are implied to deplete the regulatory resources of individuals through, for instance, controlling their thoughts and actions.

In turn, having ego depletion status can lead to several negative effects on work outcomes, including reduced engagement (Lanaj et al., 2014), weakened work performance (Deng et al., 2016), hindered creativity (Hu et al., 2022), decreased helping behaviour (Gabriel et al., 2018), reduced organisational commitment (Walsh et al., 2016), diminished voice behaviour (Xia et al., 2020), and decreased job satisfaction (Rathi & Lee, 2016). When not at work, experiencing depletion can result in a lack of control over free time (Zhang et al., 2022) and unhealthy menu choices (Jeong et al., 2019).

Furthermore, extensive experimental studies conducted within the ego-depletion paradigm have shown that inducing factors such as autonomy in a situation can significantly impact how depleting a task is (e.g., Moller et al., 2006; Muraven, 2007; Muraven et al., 2007, 2008). Muraven et al. (2007), for instance, reported three experiments using both performance or contingent and non-contingent rewards. The purpose of using contingent rewards was to impose feelings of control on participants. On the contrary, they used non-contingent rewards to foster group feelings of autonomy. The results confirmed that participants who received contingent rewards behaved worse on the following self-control task than those who did not (i.e., participants who were given non-contingent rewards). The performance differences were unrelated to the group's mood, anxiety or arousal; however, autonomous feelings were linked to self-control exertion performance in the second task. Muraven et al. concluded from these results that externally imposed self-control is more draining than the autonomous self-control that stems from a free choice, and the level of effort exerted on the task is mainly determined by the feelings of autonomy surrounding the situation.

Muraven (2007) conducted another study to investigate the relationship between autonomous motivation (feeling of autonomy) and self-control strength (the ego-depletion effect). To begin, the experimenter asked participants to squeeze the handles of a handgrip in order to assess their self-control capacity. Following this, the experimenter set three dishes with cookies. Participants were given the option to eat the cookies, but the experimenter encouraged them not to. Three of them decided not to eat the cookies. Participants were then asked to complete a questionnaire to assess their feelings of autonomy. Finally, participants were asked to squeeze the handgrip once more before completing a brief questionnaire. The results showed that the depletion effect was observed in those resisting for controlled reasons (i.e., those who decided not to eat the cookies), but not in those resisting for autonomous reasons.

Researchers Moller, Deci, and Ryan (2006) also conducted various experiments to assess whether conditions termed "controlled choice" would result in ego depletion, as observed by Baumeister and his colleagues, while conditions reflecting what is called "autonomous choice" would not. The first experiment was designed to replicate Baumeister and his colleagues' 1998 Study 2. Baumeister and his colleagues studied ego depletion and utilised persistence at an unsolvable puzzle as a dependent measure. It also used a decision relating to speech topics as a manipulation activity to measure the choice under the controlled condition. On the other hand, Moller, Deci, and Ryan (2006) compared the controlled-choice condition with an autonomous-choice condition. The autonomous-choice condition was regulated by giving the participants a full volitional choice to either participate in the speech or not. They found that the autonomous-choice condition was not depleting. In addition, researchers conducted two more experiments and both results were replicated. Apparently, this suggests that there is a differentiation in the nature of the self-control process.

These studies, taken together, strongly support the distinction between autonomous self-control and effortful self-control (ego depletion). In line with this view, other researchers have conducted research integrating self-regulation processes (i.e., autonomous regulation and self-control regulations). They have demonstrated that factors such as autonomy support, positive affect, flows, commitment, and vitality can render the effortful self-control process less effortful or can even create energy (e.g., Muraven et al., 2008; Rivkin et al., 2015, 2016; Tice et al., 2007).

Based on these arguments, I will use this approach to examine the behavioural regulation processes in leadership and creativity literature.

2.5. Leadership Styles and Self-Regulation

2.5.1. Self-regulation

Self-regulation encompasses both trait-like and state-like components, reflecting stable individual differences as well as dynamic, context-dependent fluctuations in regulatory functioning. At the trait level, some individuals are consistently more adept at regulating impulses, emotions, and behaviours than others. These individual differences in trait self-control have been associated with a wide range of adaptive outcomes, such as more effective coping with anxiety and other negative moods and lower engagement in addictive behaviours (e.g., Finkel & Campbell, 2001; Mischel et al., 1988). The broad benefits associated with high trait self-control underscore the self-regulation role as a valuable and enduring personal resource that supports goal pursuit and adjustment across domains of life.

At the same time, self-regulation also varies situationally as a state-like process, fluctuating within individuals across time and contexts. Drawing on the strength model of self-control, acts of effortful regulation can temporarily deplete a limited self-regulatory resource, impairing subsequent performance (Muraven & Baumeister, 2000; Muraven, Tice, & Baumeister, 1998). Similarly, autonomous regulation can vary situationally, depending on contextual cues that support or thwart

volition (Deci & Ryan, 2000; Muraven, 2007). Hence, self-regulatory success is not constant; it depends on current resource availability and situational demands. In line with this understanding, this thesis reflects both aspects of self-regulation by considering trait self-control as a stable individual difference and situational self-regulation mechanisms, namely, autonomous self-regulation and compelled self-control, as context-dependent processes that capture employees' regulatory experiences across varying work situations.

Most importantly, situational cues in the workplace are crucial because employees want to know what behaviours are expected of them and the possible outcomes of those behaviours (i.e., the understanding of an employee's work experiences) (Chiniara & Bentein, 2016; Scott & Bruce, 1994). In this respect, leaders' behaviours or styles at work are a salient situational cue that is highly likely to elicit autonomously self-regulated situations or situational self-control in organisational employees (e.g., Epitropaki et al., 2017; Lian et al., 2014b; Mayer et al., 2008; Yam et al., 2016). Previous research has shown that autonomous self-regulation can arise when dealing with servant leader behaviours (Liden et al., 2008), autonomy-supportive leadership behaviours such as providing employees with some choice of tasks, and giving informational feedback (Baard et al., 2004), and transformational leaders (Bono & Judge, 2003; Conchie, 2013). On the other hand, existing research has demonstrated that effortful self-control can occur because of coping with destructive leadership styles, such as abusive supervision (Babu et al., 2023; Yuan et al., 2018). This thesis applied both self-regulation forms to investigate the relationship between opposing leadership styles (servant and abusive styles) and employee creativity.

With respect to servant leadership, prior research has primarily highlighted its impact on autonomous motivation, emphasising the motivational mechanisms through which it influences employee outcomes (Chiniara & Benteen, 2016; Rodríguez-Carvajal et al., 2018; van Dierendonck, 2011; van Dierendonck et al., 2009). However, the current research extends this perspective by examining not only the motivational, but also the behavioural and emotional dimensions of employee functioning, specifically through the lens of autonomous self-regulation.

In contrast, regarding abusive leadership style, although extant research has identified that depleted leaders engage in abusive leadership behaviours (e.g., Barnes et al., 2015; Lin et al., 2016; Mawritz et al., 2017; Yam et al., 2016), there is a scarcity of research examining the impact of effortful self-control exertion leading to ego depletion as an underlying process linking abusive leaders to their effects on followers themselves (Mackey et al., 2020). For example, Babu et al. (2023) found that coping with abusive leaders requires employees to exert self-control, which leaves them feeling depleted and then with limited self-control capacity to engage in non-work activities. In the next section, I will review both leadership styles.

2.5.2. Leadership Styles

Leadership has a focal role in the functioning and success of any organisation (Yukl, 2010). It involves more than just leading tasks; it involves influencing and guiding individuals toward achieving collective goals (Northouse, 2010). Following extensive research, the concept of leadership remains a complicated and multifaceted concept, devoid of a universally accepted singular definition (Stogdill, 1974). This complexity arises from the numerous perspectives through which leadership is regarded—whether as a trait, a behaviour, a relationship, or a process (Grint, 2010). Northouse (1998, p.3) provides a broad definition, stating that leadership is "the process through which an individual influences a group of individuals to achieve a common goal". This definition emphasises leadership as an influential process aimed at achieving goals.

Leaders are depicted in the literature as playing a boundary role, exerting influence over the activities of a structured group in order to achieve organisational objectives (Arnold et al.,2013; Dent, 2012; Tannenbaum et al., 1961). As a result, leaders frequently have a strong influence over various aspects of their followers' activities. They have the ability to influence followers' behaviour in such a way that they either improve or impair their performance, such as employee creativity (Amabile, 1998). Thus, leadership has been highlighted as a key aspect influencing employee creativity and performance (e.g., Han et al., 2015; Li and Hung, 2009; Liu et al., 2016; Williams et al., 2017; Yoshida et al., 2014; Zhang et al., 2012).

In the workplace, leadership styles are associated with the organisation’s culture, needs, and goals. Modern leadership literature has seen a development in leadership styles. It has been proven that different leadership styles, such as passive leadership, abusive leadership, transformational leadership, or servant leadership, affect outcomes in various ways. In this research, I look at two types of leadership: servant and abusive. Concentrating on both styles serves two primary purposes.

To begin with, research indicates that both approaches resulted in differing outcomes, which I will review later. Second, these styles reflect diametrically opposed motivations for how followers are treated. Although the abusive supervision definition expressly excludes the concept of intention, abusive leaders may evoke hostility toward subordinates for a variety of motives (e.g., threats of job loss in order to terrify people, or insulting or criticising someone in public; Aryee et al., 2007; Tepper, 2007). In contrast, a servant leader's motivation is to help others grow, so it is a people-oriented approach to leadership. Servant leaders put followers' needs before their own and the organisation's goals. By cultivating and tackling the needs of their subordinates, servant leaders enable them to perform at a high level. Furthermore, by examining different leadership styles concurrently, this research reduces the risk of construct redundancy. Specifically, comparing two positive leadership styles can be problematic because they often overlap in positive follower evaluations of intent, execution, and outcomes (Fischer & Sitkin, 2023). For instance, Hoch et al. (2018) and Lee et al. (2020) have demonstrated redundancy among highly positive styles, finding that ethical and

authentic leadership styles have limited incremental validity compared to the transformational leadership style. Hence, in terms of motivations and outcomes, servant leadership and abusive supervision are entirely opposed, and selecting such opposite styles also helps avoid the redundancy that can arise when comparing only positive leadership approaches.

A servant leader is defined as a leadership style that prioritises the needs of followers in order to assist them in growing, developing, and thriving (Grahm, 1991; Greenleaf, 1970, 1977). Servant leaders demonstrate holistic leadership behaviours in various dimensions of leader-follower relationships, including the moral, emotional, relational, rational, and spiritual dimensions (Liden et al., 2008; Sendjaya et al., 2008; van Dierendonck, 2011). According to Van Dierendonck (2010), servant leaders exhibit six characteristics: 1) empowerment and development of others, 2) sincerity, 3) authenticity, 4) interrelationship acceptance, 5) direction-giving, and 6) stewardship. In addition, in a comprehensive literature review conducted by Liden et al. (2008), seven key characteristics of servant leaders were explained. These characteristics include: 1) prioritising the needs of followers, 2) fostering community value, 3) providing emotional support, 4) facilitating empowerment, 5) promoting the growth and success of followers, 6) maintaining ethical conduct, and 7) possessing conceptual insight.

Servant leaders encourage others to be fully conscious of and plan for potential opportunities by demonstrating foresight (Greenleaf, 1977/2002). They emphasise altruistic behaviours that support and serve the collective well-being of the team. They also focus on cultivating quality and enduring relationships with their employees (Greenleaf et al., 2002). This leadership style is discernible from others by its emphasis on prioritising the needs of others over their own. In addition, servant leaders are not described as powerless or helpless; rather, they possess power that they control and generously give (Molyneaux, 2003).

Servant leaders, with their supportive characteristics, are able to establish a work environment that is secure and stable for their followers. This fosters deeper relationships (Batten, 1998), promotes collaboration (Sturm, 2009), and heightens trust among the organisation members (Sendjaya & Pekerti, 2010). Perhaps not surprisingly, servant leadership is associated with a diverse array of positive outcomes. Studies have shown that when practising servant leadership, leaders are able to fulfil their employees' basic psychological needs (i.e., autonomy, competence, and belongness) (Chiniara & Bentein, 2016). This, in turn, leads to increased job satisfaction (Donia et al., 2016) and overall psychological well-being (Rivkin et al., 2014). Thus, it seems that practising servant leadership has the power to reduce negative outcomes such as emotional exhaustion (Tang et al., 2015) and turnover intention (Jaramillo et al., 2006).

In terms of performance outcomes, there is compelling evidence indicating that servant leadership can foster employee creativity (Ruiz-Palomino & Zoghbi-Manrique, 2020; Malingumu et al., 2016), work performance (Stollberger et al., 2019), creativity and innovation (Yoshida et al.,

2014), knowledge sharing (Tuan, 2016), and work engagement (Clercq et al., 2014). At the organisational and team levels, servant leadership has been found to have a positive impact on team effectiveness (Taylor et al., 2007), firm performance (Huang et al., 2016), and organisational commitment (Ling et al., X., 2017; Miao et al., 2014).

On the other hand, abusive leadership, often referred to as “abusive supervision”, is described as “subordinates’ perceptions of the extent to which supervisors engage in the sustained display of hostile verbal and nonverbal behaviours, excluding physical contact” (Tepper, 2000, p. 178). Shouting, use of threats, public criticism, and rude behaviours are all characteristics of an abusive supervision style (Tepper, 2000). This style is perceptual in nature because it represents the subordinate's subjective assessment of their leader’s behaviour based on personal observations and experiences (Tepper, 2007).

Abusive supervision is also one of the recognised forms of unethical or destructive leadership (Krasikova et al., 2013). Tepper (2000) found that abusive leadership has a negative impact on subordinates' attitudes, psychological health, and performance and that victims of abusive supervision suffer from increased workplace distress (Duffy et al., 2002; Tepper, 2000). Subordinates have also been shown to engage in unethical behaviours, silence due to feelings of fear, and knowledge-hiding behaviours in response to abusive leadership (Greenbaum et al., 2017; Lam & Xu, 2019; Mackey et al., 2018; Sadia et al., 2019). Prior research also proves that abusive leaders cause employees to feel dissatisfied with their jobs, to intend to quit and to feel demotivated from seeking novel solutions to existing problems (Liu et al., 2016; Tepper, 2000). In addition, abusive supervision instils in subordinates the notion that their efforts are not respected by the organisation and that their jobs do not have a consequential impact on their own and the organisation's growth (Rafferty & Restubog, 2011).

Despite growing research attempts to understand abusive leadership, an integrated theoretical framework is lacking in this area (Tepper, 2007). To date, according to Mackey et al. (2017), there has been no progress in developing measuring models to evaluate abusive leadership, with Tepper's 15-item scale being the primary framework in this area; thus, Tepper’s (2000) measure was widely employed.

In this thesis, I will investigate how specific leadership behaviour influences employees’ self-regulatory processes in ways that affect creativity. Specifically, I examine servant leadership behaviours that are likely to induce situational autonomous self-regulation within their followers and abusive supervision behaviours that are more likely to trigger situational self-control (i.e., ego depletion). In doing so, this research contributes to a deeper understanding of the mechanisms through which leadership behaviours shape employee creativity. The following chapter outlines the specific research hypotheses.

CHAPTER 3: Hypotheses Development

3.1. Introduction

This chapter develops a theoretical model explaining the relationship between leadership behaviours and employee creativity from a self-regulatory perspective. This research focuses on two forms of self-regulation: autonomous self-regulation and self-control (resource depletion). It is proposed that autonomous self-regulation and self-control are likely to occur when dealing with servant and abusive leaders, respectively. Autonomously regulated employees are more likely to engage in fully volitional behaviour, while depleted employees are more likely to feel controlled.

While existing research has primarily focused on servant leadership's influence on employee autonomous motivation (e.g., Chiniara & Benteen, 2016; Rodríguez-Carvajal et al., 2018; van Dierendonck, 2011; Van den Broeck et al., 2021; van Dierendonck et al., 2009 and 2014), to our knowledge, less attention has been paid to its effects on employees from the perspective of autonomous self-regulation, as grounded in self-regulation theory by Muraven (2008) and Muraven et al. (2008). However, this autonomous self-regulation, in turn, has been linked to several positive outcomes (e.g., Rivkin et al., 2014, 2015, 2016). In addition, limited research has explored how abusive supervision affects employees through exerting self-control, which leads to ego depletion (Mackey et al., 2020), despite evidence that depletion predicts numerous adverse work outcomes (e.g., Babu et al., 2023; Gabriel et al., 2018; Xia et al., 2020).

With respect to leadership and creativity literature, various scholars have tested different theoretical perspectives to explore this critical relationship. However, despite these efforts, the role of both forms of self-regulatory processes, as grounded in self-regulation theory (Baumeister & Vohs, 2007; Muraven & Baumeister, 2000; Muraven, 2008; Muraven et al., 2008; Muraven, Tice, & Baumeister, 1998) has largely been overlooked. Addressing this gap is essential for advancing our understanding of how leadership behaviours can enhance or impair employee creativity. Building on this gap, the present research proposes that employees exposed to servant-leader behaviours are more likely to be stimulated to be creative through the autonomous self-regulation mechanism. In contrast, those exposed to abusive leader behaviours are likely to find their creativity stifled through the compelled self-control mechanisms. Drawing on self-regulation theory, the study argues that the behaviours of abusive leaders heighten the self-control demands that require employees to exert effortful self-control, resulting in resource (ego) depletion. In contrast, autonomous self-regulation energises individual resources that strengthen employees' relationships with servant leaders.

3.2. Servant Leadership and Autonomous Self-regulation

Servant leaders are effective because they focus on employees' autonomy, strengths, and goals (Chiniara & Bentein, 2016; van Dierendonck et al., 2014). When employees experience servant leadership, they are more likely to engage in autonomous self-regulation and exhibit greater willingness to learn. Consequently, they are expected to perform better by comprehending the relevance and purpose of their work, feeling discretion, and demonstrating competence in task execution (Rodríguez-Carvajal et al., 2018; van Dierendonck, 2011). Autonomously self-regulated employees engage in their behaviours more willingly than others. They can do this by freely making their own choices or by fully volitionally accepting externally induced demands (Muraven, 2007). This is because when individuals autonomously regulate their behaviours, they experience a greater sense of autonomy than individuals who are experiencing controlled behavioural regulation (i.e., self-control), which is usually associated with feelings of tension and stress (Muraven, 2007; Muraven et al., 2008).

Although servant leadership behaviours share certain theoretical similarities with other leadership approaches, such as ethical and transformational leadership, servant leadership is distinguished by its greater emphasis on promoting the interests and needs of others, particularly those of employees and society (Brown et al., 2005; Graham, 1991; Liden et al., 2008). Servant leaders focus on motivational and developmental behaviours to satisfy followers' needs, with the goal of helping them develop, grow, and thrive (Graham, 1991; Greenleaf, 1970, 1977; Mayer et al., 2008). By promoting employee empowerment and self-motivation (Horsman, 2001; van Dierendonck, 2011), servant leaders enable followers to feel a sense of control over their acts. They allow followers to initiate and regulate their actions, granting them autonomy (Deci & Ryan, 2000). They also help followers excel in managing personal resources (van Dierendonck, 2011). At the same time, servant behaviours might also cultivate autonomous self-regulation, a regulatory process through which individuals manage their behaviour and emotions autonomously. By allowing employees to choose how they structure their work and internalise its goals, they shift behaviour from compliance to choice, thereby enhancing volitional engagement and sustained self-initiated action (Deci & Ryan, 2000; Liden et al., 2008; van Dierendonck, 2011). Moreover, servant behaviours such as "putting subordinates first" and "emotional healing" may reduce defensive monitoring and inhibitory restraint, thereby spending fewer resources (i.e., drawing less on effortful self-control). Drawing on self-control theory, this reduction conserves regulatory resources, allowing greater capacity for more autonomous action (Muraven, 2007; Muraven et al., 2008). In parallel, "conceptual skills" sharpen goal clarity and provide action rules (Liden et al., 2008), which may reduce ambiguity and internal conflict, thereby further curbing regulatory waste. In concert, these dimensions increase perceived autonomy, reduce regulatory resource consumption, and channel effort into goal-directed, self-chosen behaviour.

Hypothesis 1: Servant leadership style is positively associated with followers' situational autonomous self-regulation.

3.3. Autonomous Self-Regulation, Creative Process Engagement and Creativity

Autonomous self-regulation involves individuals who willingly engage in a freely chosen or fully volitional behaviour (Muraven, 2007). Autonomously self-regulated people are fully engaged in accomplishing their goals. They exhibit a greater sense of autonomy, persistence, vitality, commitment, flow, and positive emotions than individuals who engage in highly effortful self-control (Muraven et al., 2008; Rivkin et al., 2015, 2016; Tice et al., 2007). In creative literature, these characteristics seem to fit practices found in individual creativity (e.g., Amabile et al.,2005; Sheldon, 1995; Visser et al., 2013). Autonomously self-regulated individuals are likely to produce creative ideas because they possess the ability to access creative capacities and manage deeper cognitive resources within themselves (Byron & Khazanchi, 2012; Komarraju,2009; Madjar et al., 2002; Sheldon, 1995; Zhang et al., 2017). Under autonomous self-regulation, people feel more volitional, more concerned about their goals, and more likely to make every effort to pursue them, which are preconditions for creativity (Davidson & De Stobbeleir, 2011; Zhou & Shalley, 2008). Furthermore, creative efforts are usually associated with high self-confidence and risk-taking (Sternberg & Lubart,1996), which are also consistent with autonomous self-regulation. Therefore, expecting a positive relationship between autonomous self-regulation and creativity is understandable.

Amabile's (1983) componential model of creativity asserts that while intrinsic motivation is necessary, it is not sufficient on its own to produce creativity. Therefore, engaging in creative processes is crucial and maybe even more vital for enhancing employee creativity (Amabile, 1983, 1988, 1996). In line with this, many scholars emphasise that actively engaging in the creative process is an essential step toward achieving creativity (e.g., Mainemelis, 2001; Shalley et al., 2004).

Creative process engagement, as defined by Zhang and Bartol (2010), refers to ‘’employee involvement in creativity-relevant methods or processes, including (1) problem identification, (2) information searching and encoding, and (3) idea and alternative generation‘’. When employees are fully engaged at work, putting effort into cognitive processes related to creative tasks such as problem-solving or idea generation, they are more likely to come up with new and useful solutions (Zhan & Bartol, 2010). Although this relationship is well established in creativity literature, it remains important to present it within the context of my study to provide clarity.

By combining these insights with the earlier hypothesis (H1), I theorise that leaders who can promote followers’ full potential, empower them, prioritise their needs and interests, invest in their growth, enhance autonomous self-regulation and help employees willingly engage in the creative process are more likely to foster followers’ creativity. Formally, I propose the following hypothesis.

Hypothesis 2: The positive relationship between servant leadership style and employee creativity will be mediated by autonomous situational self-regulation and creative process engagement.

3.4. Abusive Leadership and Self-Control Demands

Abusive leadership (supervision) refers to employees' perceptions of sustained hostile behaviours exhibited by leaders, such as yelling at employees, issuing threats, publicly criticising them, or displaying rudeness towards them (Tepper, 2000). When employees' motivation is regulated by external forces such as supervisory abuse, employees are more likely to indulge in deviant behaviour, be aggressive, or retaliate (e.g., Lian et al., 2014a; Martinko et al., 2013). This behaviour, in turn, can lead to negative consequences for employees' career advancement and compensation, such as through punishing or retaliating actions from the supervisor (e.g., Liu et al., 2010; Tepper et al., 2009).

Such leaders motivate employees to exert self-control effort (Lian et al., 2014a) (i.e., to cope with self-control demands (SCDs) such as constraining urges, controlling impulsive responses, or overcoming inner resistances that require employees to engage in self-control effort (Neubach & Schmidt, 2007; Mawritz et al, 2017). Self-control refers to an individual's exertion of control over himself or herself, with attempts to alter the way he or she would differently behaves, feels, or thinks (Muraven & Baumeister, 2000). Interacting with abusive leaders forces followers to invest more energy in coping with self-control efforts. When confronted with an abusive leader's reactions, employees must exercise self-control to refrain from retaliating, being aggressive, or indulging in deviant behaviour and instead react in more logical ways (e.g., Lian et al., 2014a; Martinko et al., 2013). This involves regulating their emotions, controlling impulses, resisting temptations, overcoming inner resistance, or modifying their own behaviour—in essence, managing self-control demands (e.g., Baumeister et al., 1994; Gross, 2001; Neubach & Schmidt, 2007). Consequently, being compelled to exert self-control due to external agents like abusive managers intensifies the effort required to meet these effortful self-control demands (Baumeister et al., 1998; Muraven, 2007; Muraven et al., 2008; Rothbard, 2001). Accordingly, I propose the following hypothesis.

H3: The abusive leadership style is positively associated with followers' situational self-control demands.

3.5. Self-Control Demands and Self-Control (Resource Depletion)

Considering the role of effortful self-control in surging the adverse effects of self-control demands (i.e., resource depletion), extant research has shown a relationship between self-control demands and self-control (resource depletion). According to the strength model of self-control (Muraven & Baumeister, 2000) and other researchers (e.g., Diestel & Schmidt, 2011; Rivkin et al., 2016), self-control demands cause individuals to engage in effortful self-control, which results in the depletion of limited regulatory resources (i.e., self-control strength). This depletion results in a

psychological state that is described by psychologists as an “ego-depletion” state (Baumeister et al., 1998; Muraven, 2007; Muraven et al., 2008; Rothbard, 2001).

Rivkin et al. (2016) indicate that when employees experience self-control demands, it can lead to resource depletion, which has a detrimental effect on their psychological well-being. Similarly, Gombert et al. (2020) showed that work stressors (i.e., self-control demands) resulted in employees' ego depletion at home, negatively impacting their subjective vitality. Mackey et al. (2020) also demonstrated that inhibiting thoughts or behaviours (SCDs) caused by experiencing abusive behaviours leads to resource depletion, which results in ego depletion. Hence, building on the theoretical arguments and prior research that stated links between self-control demands and resource depletion, I propose the following hypothesis to validate further or challenge these previous findings:

H4: Followers' situational self-control (demands) is positively associated with self-control (resource depletion).

3.6. Self-Control (Resource Depletion), Creative Process Engagement and Creativity

Research has demonstrated that exerting self-control, which results in ego depletion, influences employee behaviour (Lian et al., 2014b; Thau & Mitchell, 2010; Mackey et al., 2020; Yam et al., 2016). Specifically, as I will outline next, one way that depletion from experiencing abusive behaviours may impact employees is by diminishing their ability to engage in creative processes, thereby impairing their creativity. According to Amabile (1996) and other researchers (e.g., Ivcevic & Nusbaum, 2017; Stein, 1967), the creative process consists of several essential steps. These steps involve identifying a problem, collecting information, generating and evaluating ideas, and then communicating ideas. Each of these stages requires strenuous work and a substantial investment of personal resources, such as cognitive resources (Ivcevic & Nusbaum, 2017; Shalley et al., 2004).

For instance, when encountering problems, employees demand a great deal of time and energy to modify their ideas and tactics (Amabile, 1983; Ivcevic & Nusbaum, 2017). Employees need next to expand or reactivate their store of information related to the problem. A significant amount of learning can take place at this stage, which can be extremely lengthy (Amabile, 1983). Moreover, sustained attention and active search processes are required for idea generation (third stage). These processes involve the retrieval of existing ideas from LT memory, as well as the combination and transformation of these ideas in working memory (Finke, 1996; Nijstad & Stroebe, 2006). In most cases, much trial and error is involved in the process of cultivating creativity (George, 2007).

Known the requirements of effort and resources for employees to engage in the creativity process, exerting self-control likely depletes the limited resource (self-regulatory strength) and produces a diminished psychological state known as the ego depletion state, which is characterised by poorer subsequent performance (Baumeister et al., 2007; DeWall et al., 2007). Depleted

individuals are less likely to persevere through frustrating or difficult tasks (Baumeister et al., 1998) or to function inadequately in intellectual and cognitive activities (Schmeichel et al., 2003), and they are more likely to be unable to manage negative thoughts (Gailliot et al., in press). Thus, resource depletion reduces people's capacity for further self-control. When work-related challenges develop during the state of ego depletion, an individual is likely to be less creative than usual in finding novel solutions. Similarly, gathering information and generating fresh ideas are resource-depleting tasks. Employees with drained egos barely perform such work. Hence, engaging in self-control causes ego depletion, which affects employees' ability to be engaged in the creative process and has a detrimental impact on their creativity.

Building on these arguments, I propose that an employee's self-control (resource depletion) is negatively associated with creative process engagement. As mentioned earlier in the second hypothesis, Zhan and Bartol (2010) defined creative process engagement as being fully involved in the cognitive processes related to creative work, such as information searching or idea generation. The positive link between CPE and creativity is well established in creativity literature. However, ego depletion can reduce employees' ability to engage in these creative processes, ultimately impairing their creativity. Indeed, only one empirical study (Hu et al., 2022) has explicitly documented a negative link between ego depletion and creativity.

By combining these insights with the earlier hypothesis (H3 and H4), I argue that when employees experience abusive leaders' behaviours, for instance, managing resulting disputes and incidents, they are often required to exert considerable self-control. Such abusive behaviours lead to increased self-control demands (SCDs), which, in turn, result in resource or ego depletion for employees. Consequently, employees' depleted resources hinder their ability to engage in the creative process, ultimately impairing their creativity. Therefore, self-control (demands), self-control (resource depletion), and creative process engagement are expected to mediate abusive supervision and employee creativity. Accordingly, I propose the following fifth hypothesis.

Hypothesis 5: The negative relationship between abusive leadership style and employee creativity will be mediated by situational self-control (demands), self-control (resource depletion), and creative process engagement.

3.7. The Moderating Effect of Follower Proactive Personality in the Relationship Between Servant Leadership and Autonomous Self-Regulation

While I predict that the servant leadership style is positively associated with employee creativity through autonomous self-regulation and creative process engagement, the effectiveness of this relationship may vary depending on the employee's proactive personality level. Proactive personality refers to a behavioural proclivity to seek out opportunities for change and manoeuvre the environment in order to take advantage of such opportunities (Crant, 2000). Compared to less proactive individuals, highly proactive individuals actively seek out fresh ideas and take the initiative

to advance the environment, rather than waiting for information and opportunities to come to them (Fuller et al., 2012; Ng & Feldman, 2013). They are more likely to take personal initiatives to make a difference in their life than to allow their environments to shape them (Bakker et al., 2012). They are more energised and passionate about their job, making them more likely to engage in autonomous self-regulation (Grant et al., 2011). In addition, these individuals are motivated to internalise work values and objectives out of a sense of importance, which is also likely to contribute to their autonomous self-regulation (Parker et al., 2010).

Prior research, including Joo and Lim (2009) and Thompson (2005), has demonstrated that proactive employees are influenced by their organisational and team environment rather than operating in isolation. This suggests that the leadership style they encounter can impact their behaviour and performance. Supporting this idea, Newman et al. (2017) found that proactive personalities respond more constructively to servant-leader behaviours. Given this, I propose that highly proactive people benefit more from working with a servant leader than less proactive people. Precisely, I suggest that when highly proactive employees work with a servant leader, they are more likely to develop higher levels of autonomous self-regulation for two reasons. Firstly, those highly proactive people are more likely to effectively use the autonomy allocated to them by having a servant leader who selflessly prioritises their employees' benefits. (Newman et al., 2017; Ruiz & Zoghbi, 2020; van Dierendonck, 2011). This type of leader empowers employees by fostering self-motivation and encouraging personal growth (Horsman, 2001; van Dierendonck, 2011). Secondly, from the supervisor’s perspective, proactive people are more inclined to actively seek fresh ideas and take the initiative to advance the environment (Fuller & Marler, 2009), prompting servant leaders to grant them more autonomy, further contributing to their autonomous self-regulation.

Moreover, prior evidence suggests that a fit between proactive followers and their managers, in terms of more congruence between their actions, strengthens this relationship (Zhang et al., 2012). That suggests congruency and fit can also be higher between servant leaders and followers with high proactivity because, in itself, servant leadership entails a level of proactiveness (Zhang et al., 2012). This would then find a good fit with followers who have a high proactive that would make them respond better to them. This should strengthen the relationship and enhance mutual understanding and support, leading to even greater opportunities for acting more autonomously. By combining the proactive employees' effective use of autonomy, the servant leaders' willingness to provide it, and the strengthened relationship resulting from their congruent actions, a synergistic effect is created that is highly likely to enhance employees' autonomous self-regulation. I would then expect employees' proactive personality to interact with servant leadership in influencing employee creativity. Specifically, the positive impact of servant leadership is expected to be stronger when proactive personality is high, as such individuals are more likely to experience elevated levels of autonomous self-regulation. This, in turn, enhances their capacity to engage in the creative process and increases their likelihood of contributing to creative outcomes. Conversely, the positive effect of

servant leadership on employee creativity through autonomous self-regulation and creative process engagement is likely weaker when proactive personality is low.

Hypothesis 6: Follower's proactive personality moderates the effects of the servant leadership style on employee creativity via autonomous self-regulation and creative process engagement in such a way that this relationship becomes stronger as the proactive personality increases.

3.8. The Moderating Effect of Follower Trait Self-Control in the Relationship Between Abusive Leadership and Self-Control (Demands)

I predict that an abusive leadership style negatively impacts employee creativity through self-control demands, self-control (resource depletion), and engagement in the creative process. However, the effectiveness of this relationship may vary depending on the level of the employee's trait of self-control. Trait self-control is defined as an individual's ability to regulate his or her thoughts and behaviours as well as the general capacity to alter or override one's deep internal responses (Tangney et al., 2004). Individuals with high self-control are better at managing their impulses and thoughts. They outperform others academically and professionally and maintain a healthy lifestyle and interpersonal relations (de Ridder et al., 2012). Additionally, they exhibit less verbal and physical aggressiveness (Tangney et al., 2004) and have a better ability to suppress negative emotional reactions (Kieras et al., 2005).

Given this, I argue that the effortful SCDs caused by abusive leaders will be less pronounced in followers who possess high trait self-control, which should mitigate the harmful effects of abusive leadership style on employee creativity. Particularly, when employees possess adequate self-control, they should be able to regulate negative emotions or thoughts by, for example, reappraising the situation instead of retaliating or acting aggressively—reactions that are often triggered by abusive leadership. (Lian et al., 2014a). Moreover, when confronted with abusive behaviours, these employees are better equipped to regulate their self-control capacity by deploying self-control resources (i.e., the general capacity for self-control). This ability to regulate their capacity helps them alter or override their deep internal responses, such as controlled emotions (Lian et al., 2014a). In this context, employees are less likely to generate strong negative feelings or behaviours, such as anger, an urge to retaliate, or aggression, that would normally demand self-control to direct. Instead, they respond more logically by regulating their adverse reactions and deploying their self-control capacity. This reduces the need to cope with self-control efforts (SCDs), such as constraining urges, resisting temptation, controlling impulsive responses, or overcoming inner resistances.

Evidence from previous studies provides some validity to this argument. For example, Wang et al. (2011) found that employees who possess high dispositional self-control were less inclined to reciprocate poor treatment from consumers. Similarly, Lian et al. (2014a) discovered that employees with high self-control showed less retaliation and aggressive behaviour toward abusive leaders.

In sum, by efficiently regulating their adverse reactions and deploying their self-control capacity, employees can meet the heightened demands of self-control imposed by abusive leaders, thus experiencing less resource depletion. Therefore, I would expect employees' dispositional self-control to interact with abusive leadership in influencing employee creativity. Specifically, the negative impact of abusive leadership is expected to be weaker when trait self-control is high, as such individuals are more likely to encounter fewer self-control demands (SCDs). As ego depletion is expected to negatively impact creative process engagement (CPE), buffering the positive impact on SCD will lead to improved levels of CPE, which in turn contribute to creative endeavours.

Hypothesis 7: Follower trait self-control moderates the negative indirect effect of abusive leadership style on employee creativity through self-control (demands), self-control (resource depletion), and creative process engagement in such a way that this relationship becomes weaker as the trait self-control increases.

In summary, as illustrated in Figure 3.1, the theoretical model proposes that servant leadership directly relates to autonomous self-regulation, while abusive supervision directly relates to self-control demands leading to resource depletion. Furthermore, servant leadership is posited to relate indirectly to employee creativity through enhanced autonomous self-regulation and creative process engagement. In contrast, abusive supervision is theorised to relate indirectly to employee creativity through increased self-control demands, resource depletion, and reduced creative process engagement.

Additionally, the model suggests that a follower's proactive personality moderates the mediating effects of servant leadership on employee creativity via autonomous self-regulation and creative process engagement. Specifically, employees with a proactive personality are more likely to benefit from servant leadership in fostering employee creativity via an autonomous self-regulation mechanism. Finally, the model theorises that a follower's trait self-control moderates the mediating effects of abusive leadership on employee creativity through self-control demands, resource depletion, and creative process engagement. Employees with high-trait self-control are better equipped to mitigate the negative impacts of abusive supervision on employee creativity through self-control mechanisms.

3.9. Theoretical Framework

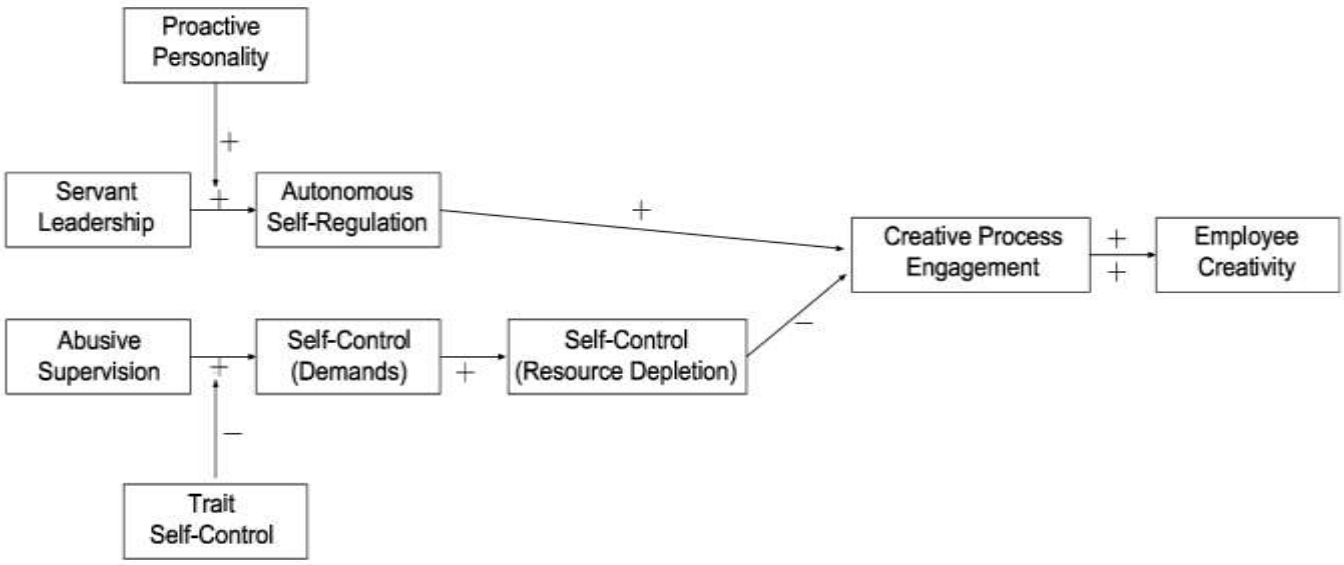


Figure 3.1: Conceptual framework

Overall, it is proposed that servant and abusive leadership styles will affect self-regulation mechanisms, resulting in improved or decreased employee creativity. Specifically, servant leadership is anticipated to enhance autonomous self-regulation and promote creative process engagement, increasing employee creativity. Conversely, abusive supervision is expected to elevate self-control demands, cause resource depletion and lead to less engagement in the creative process, thereby negatively impacting employee creativity.

This conceptual framework will be tested in two studies, the details of which are provided in the following chapters.

CHAPTER 4: RESEARCH METHODOLOGY (RESEARCH DESIGN OVERVIEW)

4.1. Introduction

Research methodology has been defined in the literature as “the general research strategy that outlines the way in which research is to be undertaken and identifies the methods to be used in it” (Cuervo-Cazurra et al., 2017, p. 233). Selecting the appropriate research method primarily depends on the researcher’s understanding of their perspective on knowledge. Therefore, the way the researcher sees the world will reflect his knowledge or research philosophical assumptions (Quinlan, 2011; Saunders et al., 2012). In this way, it provides a broad vision for every reader to understand the research strategy and consider the philosophical assumptions underpinning the research (Quinlan, 2011). This chapter aims to elucidate the underlying rationale behind the selected methodology and to illustrate the study’s design and strategy.

4.2. Research Philosophy

Guba and Lincoln (1985) classified research philosophies into four categories: The first category is ontology, which is represented as the nature of reality as it is investigated through research. The second category is epistemology. It is concerned with knowing, i.e., what can be implied from the nature of reality. The third category is methodology, which is referred to as the techniques used by the investigator to make observations in order to address a research problem. Finally, axiology is concerned with the ethical issues around research (Finnis, 1980).

Moreover, Lincoln and Guba (2000) proposed an extended approach that included four major philosophical schools: positivism, post-positivism, critical theory, and constructivism (i.e., phenomenology) in order to explain the categories of research philosophies (i.e., ontology, epistemology, and methodology).

Different perspectives on knowledge and how it is transmitted influence research paradigms, thus, in turn, informing research methodologies. Knowledge is usually seen as a continuum from positivism to phenomenology (Chia, 2002). Based on natural and knowable rules of knowledge, which can be found through logic and reason interpretation, is positivism, while people’s sense-making of knowledge is phenomenology. On the other hand, post-positivism is more in between, recognising the role of context and subjectivity. As researchers, we've made a lot of subjective choices about the methodology and how the data should be analysed, even if we are trying to understand how the world is. Next, I will discuss each philosophical school.

Positivism is a research paradigm focusing on empirical facts and scientific methods to explore social development that exists. It depends on the concept that one can acquire knowledge via the processes of observing and experimenting. It operates under the presumption that there is a reality that can be investigated using scientific methods. Positivists believe that the same methods employed for investigating natural phenomena can be applied to the study of social phenomena. Positivists also believe that it is possible to study social phenomena objectively, without having the researcher's own biases and values affect the study (e.g., see Babbie, 2016; Creswell, 2014; Guba & Lincoln,1994). Moreover, they aim to predict and clarify the causal effects between, for instance, behaviours or events in different contexts (Saunders et al., 2009). According to Holden & Lynch (2004), research on positivism endeavours to identify general causal laws that have the power of reasoning in explaining human behaviour regularities. Adopting the positivist paradigm in leadership research would involve assuming that doing research on leadership practices in an organisation would not influence the perceptions or thoughts of the employees regarding this topic.

Post-positivism, on the other hand, was developed as a philosophical reaction to the inadequacies of positivism in comprehensively encompassing the complex nature of human thought and comprehension. Drawing upon critical reflection and the significance of subjectivity and context, post-positivism presents a refined methodology for scientific investigation. Compared to positivism, which emphasises objectivity, empirical observation, and the proof of hypotheses via systematic research, post-positivism acknowledges natural biases and prejudices that influence the research methodology.

Fallibilism, a key tenet of post-positivism, recognises the tentative nature of scientific knowledge and its vulnerability to revision in reaction to newly obtained evidence. This position stands in opposition to the positivist concept of absolute certainty as it underscores the value of continual sceptical reflection and being open to other points of view. Post-positivists argue that researchers must consider broader contexts that influence knowledge interpretation, such as cultural, social, and historical contexts. These factors can influence the understanding of the phenomenon. Post-positivism also fosters both quantitative and qualitative research methods for a more comprehensive approach to investigating the associated phenomena. While quantitative methods are useful ways to identify patterns and trends as well as generate empirical data, qualitative methods provide an understanding of subjective experiences and meanings. Thus, post-positivism gives vital insights into scientific knowledge and human understanding by accepting positivism's shortcomings and adopting a more nuanced approach to inquiry (See Guba & Lincoln, 1994; Crotty, 1998).

Critical theory is a philosophical approach that investigates justice issues within societies, aiming to recognise and confront power structures and societal injustices that result in social domination, oppression, struggle, and conflict. Critical theory emphasises transformative action, liberation and social critique to enhance social justice in society. Thus, scholars, through critical

analysis, seek to confront systems of power, promoting liberation and social change (Horkheimer & Adorno, 2002).

Finally, the constructivism paradigm is a philosophical perspective that underscores individuals' active role in constructing an understanding of the world around them. Phenomenological constructivism theorises that individuals shape their own reality through experiences, perceptions, and understandings. Constructivists seek to investigate people's lived experiences and discover the fundamental structures and interpretations that shape their subjective reality. In this philosophical perspective, the idea of the theory comes after research. Therefore, it is based on the evidence collected throughout the research process (Crotty, 1998; Schütz 1967).

4.3. Research Philosophies in Leadership Research

After presenting an outline of the philosophical schools in consideration—positivism, post-positivism, critical theory, and constructivism—I shall proceed with a brief look at the dominant perspective within the leadership literature. This analysis will serve to guide the selection of a research philosophy for this thesis.

The vast majority of research on leadership phenomena within organisational behaviour has been conducted using the positivism philosophical school (i.e., the assumption that knowledge can be generalised) and the objectivism ontology philosophical school (i.e., the assumption that an objective reality exists) in order to justify the relationships between leadership phenomena. These studies have employed quantitative methods in an effort to explain this relationship (Alvesson, 1997; Johnson, P., & Cassell, 2001). The majority of research documented in the literature on leadership is concerned with hypothesis testing and generalising findings. A review of research published in The Leadership Quarterly examined articles published between 2000 and 2009 and revealed that 87.4% of the research utilised quantitative designs, while qualitative methods were employed in only 24.1% of cases (Gardner et al., 2010). Overall, previous leadership studies mainly used quantitative methods under positivist and objectivist ontological perspectives. Accordingly, this research adopts a positivist philosophical school, which is consistent with its aim to test theoretically grounded relationships among leadership behaviours, self-regulatory mechanisms, and employee creativity. According to Edmondson and McManus (2007), a quantitative, hypothesis-driven design grounded in the positivist tradition is most appropriate when research questions are focused on examining causal pathways and testing established constructs. The current study builds on well-established self-regulation theory to develop and empirically test a dual-pathway model. As such, the methodological approach reflects a strong theory-testing orientation that aligns with the philosophical assumptions of positivism.

4.4. Research Approach

Philosophical schools such as positivism follow a deductive approach to determining the reasons for a problem (Hirschheim & Klein, 1992). More specifically, adopting a positivist/deductive

approach entails developing research hypotheses, identifying research objective necessity, and designing a quantitative study (Bryman & Bell, 2011; Creswell, 2009; Gill & Johnson, 2010), as well as understanding the purpose of the study (Alvesson & Skoldberg, 2009). In this research, I follow the deductive approach, which examines the relationship between leadership styles, employee creativity, and self-regulation processes. This study aims to explore the effect of leadership styles on employee creativity via the impact of self-control and autonomous self-regulation. Accordingly, a positivist approach is advised.

4.5. Research Design and Strategy

4.5.1. Research Method (Quantitative Method)

As mentioned previously, this research will follow the deductive approach, which involves a quantitative method. Another reason for using the quantitative method to collect data is that this is a descriptive study whose objective is to determine the relationship between variables. This method is based on structural and formal scientific procedures, and it is statistically reliable. Therefore, this research will use a quantitative method for data collection and analysis in two studies. An appropriate scale will be used to measure each variable. Each scale includes several items that have been validated in previous studies.

4.5.2. Research Time Horizons

Researchers must consider whether they desire their research to be a single snapshot captured at a specific moment or more of a series of snapshots that depict occurrences over a certain period, similar to a diary. The snapshot time frame is known as cross-sectional studies, whereas the diary approach is known as longitudinal studies (Saunders et al., 2012).

This research considers both study designs, a cross-sectional or a multi-source study, because the data was collected from both employees and their supervisors, as well as a diary study (experience sampling study). The multi-source study investigates the impact of leadership styles on employee creativity through a self-regulation framework as a snapshot. According to Creswell (2009), academic research projects are typically cross-sectional due to time constraints. On the other hand, the diary study examines the impact of leadership styles on employee creativity through a self-regulation framework as a series of snapshots. This type of longitudinal study is a measure used by researchers if they want their study to occur over time (Saunders et al., 2012).

4.5.3. Research Strategy

Most importantly, it should be justified by the researcher as to which strategy best addresses the study's objectives and questions. In this research, I will conduct two studies using the survey strategy, allowing for a larger sample size of data and a more generalisable targeted population.

4.6. Data Collection

Sampling types include probability and non-probability sampling (Saunders et al., 2012). “Simple random sampling, systematic sampling, stratified sampling, and cluster sampling” are examples of probability sampling techniques, while non-probability sampling has four main techniques: “snowball sampling, judgment sampling, quota sampling, and convenience sampling” (Bruce & Chambers, 2002; Patton, 2002; Bryman & Cramer, 2011).

In most cases, non-probability sampling (i.e., convenience sampling) is used in organisational science research. This is based on respondents’ relative convenient access (Lee & Lings, 2008). While probability sampling is more likely to reflect the target population, it is usually not possible to achieve this in organisational research as employees typically self-select into an organisational study (Saunders et al., 2009). For this reason, both samples were obtained via non-probability (convenience) sampling.

This research investigates the relationship between leader behaviours and employee creativity in two field studies. In the first study, leaders and followers are studied in dyads, comprising multi-source data from each leader and each follower. In the second study, data were collected each day via experience sampling. The use of multi-source and longitudinal data addresses many of the issues inherent to purely cross-sectional designs (e.g., common method variance), permitting stronger inferences to be made. Regarding both studies stated in this research, a dyadic leader-follower interaction existed because both were conducted in real-life settings (i.e., field studies). For a comprehensive overview of the procedures employed in the studies, refer to the study 1 and study 2 chapters.

The first study's sample was full-time workers in a large, private-sector KSA organisation. The sample included managers who rated employees’ creativity. Regarding the sample size, the total sample included two hundred and fifty-one participants, consisting of two hundred and twenty-five employees and twenty-six of their supervisors. Please refer to the sampling section 5.2 for the study one for more details.

Regarding the second study, I contacted fourteen organisations from various sectors (e.g., telecommunications, marketing, information technology, product development, and manufacturing), and two consented to participate in a daily diary study. I recruited 80 people, but by the end of the study, only 69 remained (which is an adequate sample size according to Scherbaum and Ferreter (2009), who recommend a minimum sample size of 30 units to perform multilevel analysis) and obtained 607 daily responses. Please refer to the second study sample section 6.2 for more details.

4.7. Data analysis

Overview of Structural Equation Modelling Analysis

In social science, structural equation modelling (SEM) serves as a valuable tool for evaluating how well a hypothesised model aligns with the observed data. SEM also helps identify unsettled cause-and-effect relationships within a framework, supporting researchers in addressing substantive issues (Joreskog & Sorbom, 1982). When conducting human research, there is a potential for risk of sampling bias when the sample fails to reflect the target population. This is especially apparent in studies utilising surveys to gather empirical data. According to Joreskog & Sorbom (1997), most measurement instruments for behaviour and psychology were designed as proxies for unobservable (latent) variables, such as cognitions or emotions. Each latent variable is associated with a number of observed indicators. These indicators are incorporated into a measurement model to assess the effects of a latent variable and account for measurement error. In social research, by and large, instruments have measure error, which arises from differences among the population and the selected sample (Bryman, 2008). By using SEM, the statistical technique, the researcher can reduce the measurement error to a manageable level.

Furthermore, both studies aim to use structural equation modelling analyses with the maximum likelihood method to test research hypotheses. Both studies followed Anderson & Gerbing's (1988) procedure (i.e., conducting a two-step data analysis). Specifically, the first step entails testing a measurement model that specifies hypothesised relationships between latent variables and observed indicators. The procedure aims to establish the reliability and concurrent/discriminant validity of the latent variables measured through each scale. In the second step, hypothesised structural paths between latent variables are introduced, and this structural model is then tested to determine its fit to the observed data. For more information, please refer to section 5.6. On the other hand, in the second study, I used the same measures of Study 1 (after being modified), adapting them to the daily time frame, as discussed further in section 6.5.3.

After specifying a model, the next step involves deciding on a method for estimating the model parameters. Different estimation methods are available for SEM, and each has different distributional properties of the data (assumptions) and different discrepancy functions, which must be minimised. While Ullman (2001) describes SEM as a mix of exploratory factor analysis and multiple regression, Schreiber, Nora, Stage, Barlow, and King (2006) consider it a hypothesis-driven set of analytical techniques comprising confirmatory factor analysis (CFA) and path analysis. Since this research aims to determine the validity of the hypothesised model as an alternative to obtain a suitable model, it follows Schreiber et al.'s assumption.

After obtaining the estimating parameters of a structural equation model, it is possible to generate a theoretical or model-implied covariance matrix. This matrix can then be compared to the observed covariance matrix to see if they are consistent. If there is consistency between the two

matrices, it indicates that the hypothesised relationships among the variables are plausible. By doing so, the study's credibility will be improved. As a result, SEM is selected as an analytical approach in both studies. Study 1 and Study 2 seek to test the fundamental theoretical construct of leaders' behaviours and their effects on employees' creativity; employing SEM has advantages over alternative analytical approaches in that it allows for the testing of intricate theoretical models in a single analysis. Specifically, the first study uses the R package *lavaan* (Rosseel, 2012) to analyse raw data from data collection. As previously discussed, *lavaan* was used to test a confirmatory factor analysis and a subsequent structural equation model. For more details, please see chapter 5.

The second longitudinal study used lavaan to test a multilevel model. The first (within) level represented each daily measurement, and the second (between) level represented each study participant. The multilevel design enables the analysis of the variance associated with daily fluctuations in each variable (level 1) and stable individual differences (level 2). The model also enables the simultaneous testing of level 1, level 2, and cross-level effects to be estimated in a single analysis. Thus, a single, comprehensive, multilevel path model was applied here. For more details, please see chapter 6.

4.8. Ethical Considerations

The studies uphold the APA (American Psychological Association) and Code of Conduct ethical principles by considering potential issues that might occur during data collection and storage. Additionally, approval for the studies was sought from the Aston Business School Research Ethics Committee.

To begin, organisations were given a declaration outlining the research's purpose and methodology. The declaration informed organisations that the study's findings would not be made public and that the examiner, supervisor, and researcher would only see the results. It also drew attention to the fact that the data is protected and stored.

A consent form was given to potential participants. The purpose of the study was explained in this form, and their participation was entirely voluntary. Their managers would be unaware of employees' assessment scores, and therefore, employees would not suffer any possible consequences from expressing their opinions of leaders' behaviours. This form also stated that the names of participants would be replaced by a participant number, making their data anonymous. Participants may consider leaving the study at any time, per the consent form. Finally, once participants consented to complete the study, a form with a thank you and an explanation of the study rationale was sent to them.

In the following chapters, each study will be presented in further detail.

CHAPTER FIVE: STUDY 1

5.1. Introduction

This study adopts a multi-source approach to examine the overarching relationship between leaders' behaviours and followers' creativity, focusing on the mediating role of self-regulation processes and the moderating effects of relevant boundary conditions within a single time. The study was conducted in a large organisation in the information technology sector. The study employed a cross-sectional design, with all measurements taken at the same time. This design allowed us to provide initial indications of potential causal relationships and to assess the study's internal validity. Having managers assess their employees' creativity enhanced the validity of the creativity measure by avoiding self-report bias. This section outlines the sample, data collection procedure, measure instruments, data preparation and screening, and the analytical approach employed.

5.2. Sample

The study sample consisted of individuals employed full-time in a prominent private-sector organisation in the Kingdom of Saudi Arabia, specifically in the field of information technology. The organisation comprises a range of different departments, including but not limited to strategy, development, marketing, branding, design, customer service, and quality control. The final sample comprised individuals employed in all of the mentioned departments. It included supervisors who rated employees' creativity. In total, there were 251 participants, consisting of 225 employees and 26 supervisors. The gender distribution was equal, with 50% female and 50% male participants. The mean age of the group was 33 years (SD = 9.07), and all participants were employed full-time. On average, participants had 16 years of education (SD = 1.67).

Participants were recruited via the organisation's Human Resources (HR) department. The HR manager was contacted and emailed the questionnaires along with a code. The code matched each employee with their corresponding supervisor based on the workgroup in which they were recorded. Each work group ranged on average from 7 to 9 employees. The benefit of having such a code is to keep the participant's identity anonymous.

5.3. Procedure

Employee-manager dyads were invited to provide informed consent to complete the survey. Data collection took place during working hours, with each dyad completing the questionnaire only once. Employees were asked to evaluate their leaders' abusive and servant behaviours, as well as their own levels of self-regulation, indicating if they felt drained or invigorated throughout the last three months. Subsequently, managers assessed their employees' creativity based on observations over the same time frame. This time frame aligns with prior studies examining leadership effects on

psychological states and performance outcomes, including creativity. For example, previous research has used similar recall periods to assess creativity (e.g., Aragon et al., 2009), while others have used even more extended periods—such as 12 months—to evaluate engagement in response to leadership behaviours, such as transactional safety leadership (e.g., Probst, 2015). Moreover, a three-month window offers managers a sufficiently broad observation period to evaluate employee creativity based on sustained behavioural patterns rather than isolated events. This dyadic and temporarily framed data collection approach helps to reduce common method bias by avoiding sole reliance on employee self-reports for all key constructs.

Finally, this study used a self-completion questionnaire as a data collection method. According to Saunders et al. (2012), there are three types of self-completed surveys: “postal or mail questionnaires," “delivery and collection questionnaires,” and “web-based questionnaires.” Yet this study employed the web-based questionnaires**.** The researcher (through the human resource manager) distributed the questionnaire via email.

5.4. Measures and Control Variables

Servant Leadership. The concept of "servant leadership" first appeared in 1977, but extensive research was required to adequately conceptualise and establish the defining characteristics of this leadership style. During that process, several researchers formulated and implemented their own measurement instruments. For instance, Sendjaya et al.'s (2018) scale has six dimensions, including ‘’voluntary subordination, authentic self, covenantal relationship, responsible morality, transcendental spirituality, and transforming influence’’, 7 items scale by Liden et al.'s (2015), measuring 7 dimensions; ‘’Emotional healing, creating value for the community, conceptual skills, empowering, helping subordinates grow and succeed, putting subordinates first, behaving ethically’’, and 18-items scale by van Dierendonck and Nuijten's (2011) which cover 8 dimensions: ‘’empowerment, accountability, standing back, humility, authenticity, courage, interpersonal acceptance, stewardship’’. These scales were recommended by Eva et al. (2018) because they are well-constructed and validated. Thus, this thesis used the short version scale by Liden, R. C., Wayne, S. J., Meuser, J. D., Hu, J., Wu, J., & Liao, C. (2015). As an example, “my direct supervisor made my career development a priority.” Each employee was rated their leader on a short 7-item scale.

*Proactive Personality***.** Participants rated their proactive personality using the nine-item “Proactive Personality Scale” (PPS) developed by Bateman and Crant’s (1993).” Due to large residual values and high modification indices on proactive personality in the study's confirmatory factor analyses (CFAs), I removed one item (b10) from the original 10-item scale. Participants rated their proactive personality on a 5-point rating scale, “Strongly disagree” (1) to “Strongly agree” (5). A sample item is “I am constantly on the lookout for new ways to improve my life.

Autonomous Self-Regulation. Autonomous self-regulation was assessed using the autonomous motivation scale of Guay, F., Vallerand, R. J., & Blanchard, C. (2000) 8-item scale. A 5-point Likert scale was used to rate each item ranging from “Strongly disagree” (1) to “Strongly agree” (5). For example, “Because I believe that my work is important for me”.

Abusive Supervision. A shortened 5-item form of Tepper’s (2000) scale was used by subordinates to rate their leader's abusive supervision. The responses were scored on a 5-point scale (from “I cannot remember him/her using this behaviour with me at all” = 1 to “He/she used this behaviour with me very frequently” = 5). Examples include “ridicules me” and, “tells me I’m incompetent.”

Trait Self-Control. Trait self-control was measured using Lindner, C., Nagy, G., & Retelsdorf, J. (2015) 7-item scale. Due to large residual values and high modification indices on trait self-control in the study's confirmatory factor analyses (CFAs), I removed one dimension from the original scale, which had originally 2 dimensions equal to 13 items. After keeping one dimension, Self-Discipline, I decided to remove two items (g10 and g11) due to the poor loading factor. A 5-point Likert scale was used to rate each item, ranging from “Strongly disagree” (1) to “Strongly agree” (5). An example item is “I am good at resisting temptation.”

Self-Control Demands. This variable was measured using Schmidt, K. -H., & Neubach, B. (2010) 12-item scale. Due to large residual values and high modification indices on self-control demands in the study's confirmatory factor analyses (CFAs), I removed 3 items (k6, k7, k12) from the original 15-item scale. The responses were scored on a 5-point scale (from “Rarely or never” = 1 to “Very frequently, if not always” = 5). Examples include “For some of my tasks, I really had to force myself not to leave them unfinished and do more interesting activities” and “If I wanted to finish my work tasks successfully, I was not allowed to give in to any distractions”.

Ego Depletion. Employees rated their ego depletion using a 4-item scale developed by Ciarocco, N., Twenge, J. M., Muraven, M., and Tice, D. M. (2010). Due to large residual values and high modification indices on ego depletion in the study's confirmatory factor analyses (CFAs), I removed one item (h4) from the original 5-item scale. A 5-point Likert scale was used to rate each item, ranging from strongly disagree (1) to strongly agree (5). “I feel drained” and “I feel like my willpower is gone” are two examples.

Creative Process Engagement. The creative process engagement variable was assessed using Zhang, X., & Bartol, K. M. (2010) 10-item scale. Due to the n7 item cross-loaded on both dimensions, CP_is and CP_id, and weak factor loadings on creative process engagement in the study's confirmatory factor analyses (CFAs), I removed it from the original 11-item scale. The items were scored on a 5-point scale (from “strongly disagree” = 1 to “strongly agree” = 5). “I generated a significant number of alternatives to the same problem before I choose the final solution”, and “I tried

to devise potential solutions that move away from established ways of doing things" are two examples.

Employee Creativity. Employees' creativity was rated by their supervisors using a 3-item scale developed by Tierney, Farmer, and Graen (1999). Due to large residual values and high modification indices on creativity in the study confirmatory factor analyses (CFAs), I decided to use only 3 items out of the original 9-item. Participants rated employees' creativity on a 5-point rating scale "Strongly disagree" (1) to "Strongly agree" (5). An example item is, "He/she demonstrated originality in his work."

Considering previous research, the effect of demographic variables such as age, educational level, and gender (e.g., Farmer, Tierney, & Kung-McIntyre, 2003; George & Zhou, 2001, 2007; Tierney & Farmer, 2002; Zhang & Zhou, 2014) were controlled in order to account for their potential impact on employee creativity.

Employees reported their education level as: Technical/community college, Undergraduate degree (BA/BSc/other), Graduate degree (MA/MSc/MPhil/other), or Doctorate (PhD/other). I measured the educational level of employees by classifying the levels as follows: Technical/community college (equal to 14 years), Undergraduate degree (equal to 15 years), Graduate degree (equal to 17 years), or Doctorate (equal to 21 years).

5.5. Data Preparation and Screening

This section illustrates the preparation and screening process for data to prepare it for SEM analysis. It includes identifying missing data and data normality.

5.5.1. Missing Data

In the empirical research field, missing data is unavoidable. Missing data can make the statistical analysis unreliable and inaccurate (Schafer & Graham, 2002). Not only can the missing data cause a reduction in sample size, but it can also cause a bias in parameter estimates, a drop in statistical power, and eventually harm the study's internal and external validity (Enders, 2010; Little et al., 2002; Roth, 1994; De Vaus, 2001). Thus, this study has employed two strategies to handle the issue associated with the missing data. First, it designed an online survey, which helped us analyse the complete data. The second strategy is that this study employs a sophisticated statistical model (i.e., SEM), which provides unbiased estimates as long as certain assumptions are met (Enders, 2010; Little et al., 2002).

5.5.2. Normality

A normality test is a statistical procedure used to assess whether a particular dataset follows a normal distribution or not. It follows a symmetrical probability distribution and is known as a bell curve (Hairet al., 1998; Kline, 1998). If the dataset is found to be normally distributed, it will enhance the reliability of testing other statistical methods like the t-test or linear regression analysis. However,

if the normality test is found to be violated, it needs to be further investigated. Moreover, Structural Equation Modelling (SEM) presumes that the sample data follow a multivariate normal distribution. Based on this assumption, Maximum Likelihood (ML) estimation is the most commonly used method for parameter estimation in SEM (Hox & Bechger, 1998). Thus, normality tests on the observed variables are frequently used by researchers to validate this assumption and ensure the appropriateness of the selected estimation method.

To assess the normality of the dataset, skewness and kurtosis values were examined. West et al. (1995) stated that it is considered non-problematic data when the sample size is around 200 and the data is moderately non-normal (i.e., skewness=2; kurtosis=7). In such cases, the maximum likelihood estimation can be employed. Table 5.1 displays the skewness and kurtosis of the data being examined. It can be seen that the vast majority of variables included in the structural equation model, skewness and kurtosis values fall below 1 and 3, respectively. Only one variable has skewness greater than 2 (2.859 for the abusive supervision). Also, only one variable has a kurtosis greater than 7 (kurtosis =10.763), which is abusive supervision. In general, the data can be characterised as moderately non-normal; thus, the parameters of the hypothesised model can be estimated using the maximum likelihood estimation method with the study sample size of 225.

Table 5.1: Skewness and kurtosis of the Study1 data

Variable	Skewness	kurtosis
Servant leadership	0.003	2.657
Proactive personality	-0.621	3.291
Autonomous self- regulation	-0.706	2.747
Abusive supervision	2.859	10.763
Trait self-control	-0.332	2.469
Self-control demands	-0.482	3.880
Ego depletion	-0.181	2.052
Creative process engagement	-0.853	3.039
Creativity	-0.907	3.081

5.6. Data Analysis

Raw data collected has little value until it is systematically analysed and interpreted. After processing and converting this data into information, the data becomes useful (Burns and Burns, 2008). This study employed a quantitative, multi-source design, incorporating ratings from both employees and their direct supervisors.

All statistical analyses were conducted using R software version R 4.3.1, with the *lavaan* package (Rosseel Y, 2012), used to perform the SEM. SEM is a confirmatory statistical technique that estimates the strength of the relationship between dependent and independent variables (Byrne, 2013), comprising both confirmatory factor analysis and path analysis.

Initially, CFA was conducted to validate the hypothesised measurement model. The structural model was then tested to evaluate the direct and indirect effects among the study variables as hypothesised.

The study examined nine key constructs: servant leadership, proactive personality, autonomous self-regulation, abusive supervision, trait self-control, ego depletion, self-control demands, creative process engagement, and employee creativity. To ensure the adequacy of the measurement model, each construct was first tested independently for model fit (Maruyama, 1998). Following this, the whole structural equation model is tested. Based on the "two-step modelling" approach (Schumacker & Lomax, 1996), each scale was assessed individually, and then all scales were assessed in a single measurement model. The hypotheses were tested using a structural equation model in the second step. The rationale behind this process of testing, according to Byrne (2001), is to obtain more reliable findings for the assessment of the hypothesised structural model. Therefore, an analysis of measurement models and hypothesis testing are presented in the following sections.

All statistical analyses were conducted using R software. First, I used the confirmatory factor analysis (CFA) approach to evaluate the fit of the measurement models. Next, composite reliability was used to determine the model's degree of reliability. Finally, I conducted an SEM analysis to find the results of the study's hypotheses. The tested hypotheses examine causal relationships between the study constructs, i.e., servant leadership, proactive personality, autonomous self-regulation, abusive supervision, trait self-control, ego depletion, self-control demands, creative process engagement, and employee creativity.

5.6.1. Measurement Model Evaluation

The measurement model specifies how observed variables are employed to represent the latent constructs. The measurement model in SEM facilitates the assessment of the degree to which observed variables are effectively represented as valid measures of the underlying theoretical model. To ensure the adequacy of the measurement model, it is essential to assess its psychometric properties concerning dimensionality, reliability, and validity. Establishing a well-fitting and robust measurement model is a critical prerequisite for a valid interpretation of the structural model.

5.6.2. Confirmatory Factor Analysis

CFA is a statistical procedure used to validate the hypothesised measurement model, which consists of study constructs (i.e., latent variables) and their corresponding observed variables (measured items). It explains how well the measured items represent the underlying latent variables. The study's measurement model underwent thorough evaluation via Confirmatory Factor Analysis (CFA) to validate the scales. The CFA conducts a confirmatory evaluation of convergent validity and discriminant validity (Anderson & Gerbing, 1988). Convergent validity assesses the degree to which different scale items intended to assess the same underlying variable correlate. It can be indicated

by significant factor loadings, suggesting a strong relationship between the factor (latent variables) and the observed variables, as shown in Table 5.2 for this study.

On the other hand, discriminant validity measures the degree to which one variable's measures (scale items) are distinct from other variables' measures (Klein, Sollereder & Gierl, 2002). The correlation between the latent variables can indicate it. If the correlation is significantly smaller than 1, it suggests that each latent variable is measuring something unique (See the S1 descriptive Table 5.5).

A table with all of the items and associated factor loadings from the final measurement model (see Table 5.2).

Table 5.2: Items and Associated Factor Loadings from the Final Measurement Model of Study 1

Latent Variables	Loading Factors	P value
Servant leadership		
a1	0.403	
a2	0.722	0.000
a3	0.662	0.000
a4	0.672	0.000
a5	0.747	0.001
a6	0.525	0.000
a7	0.369	0.000
Proactive personality		
b1	0.626	
b2	0.755	0.000
b3	0.718	0.000
b4	0.701	0.000
b5	0.756	0.000
b6	0.561	0.000
b7	0.651	0.000
b8	0.668	0.000
b9	0.732	0.000
Intrinsic motivation		
c1	0.837	
c2	0.859	0.000
c3	0.803	0.000
c4	0.889	0.000
c5	0.496	0.038
Identified regulation		
c5	0.982	
c6	0.866	0.001
c8	0.809	0.003
c7	0.690	0.012
Autonomous motivation		
Intrinsic motivation	0.942	
Identified regulation	0.945	0.002
Abusive supervision		
f1	0.865	
f3	0.842	0.000

f6	0.749	0.000
f8	0.868	0.000
f9	0.877	0.000
Trait self-control		
g2	0.568	
g3	0.701	0.000
g4	0.617	0.000
g5	0.706	0.000
g6	0.682	0.000
g7	0.713	0.000
g8	0.718	0.000
Self-control demands		
Parcel3	0.707	
Parcel4	0.597	0.000
Parcel5	0.670	0.000
Ego depletion		
h1	0.556	
h2	0.793	0.000
h3	0.852	0.000
h5	0.888	0.000
Problem identification		
n1	0.770	
n2	0.883	0.000
n3	0.615	0.000
Information searching and encoding		
n4	0.874	
n5	0.842	0.000
n6	0.727	0.000
Idea generation		
n8	0.808	0.000
n9	0.767	0.000
n10	0.726	0.000
n11	0.786	0.000
Creative process engagement		
Problem identification	0.908	
Information searching and encoding	0.958	0.000
Idea generation	0.910	0.000
Creativity		
VAR00001	0.797	
VAR00003	0.764	0.000
VAR00005	0.683	0.000

As mentioned above, this study used Anderson & Gerbing's two-step approach (1988). I first tested a measurement model, and once it was established, I tested a structural model. I had taken the additional step of examining each scale individually before testing them in an overall measurement model. This makes diagnosing problems on individual scales easier before testing them together in a unified model. Since the questionnaire was developed based on previous

research, it is essential to assess the validity of each questionnaire in a distinct context, like this study, which was conducted in Saudi Arabia. Furthermore, the combination of scales I have used is unique. As a result, it is helpful to test each scale independently to improve the goodness of fit.

Before running CFA for each scale, it is essential to describe that SEM uses diverse criteria to evaluate the model fit is essential. These criteria involve several measures, such as $\chi 2$ (chi-squared), known as a goodness-of-fit measure that employs chi-squared test statistics and its associated significance test. Additionally, other fit indicators such as SRMR (Standardised Root Mean Square Residual), RMSEA (Root Mean Square Error of Approximation), and CFI (Comparative Fit Index) are considered in the evaluation process. All of these measures are descriptive and have a specific threshold for evaluating the proposed model. In the following paragraphs, I will briefly explain the CFA measures.

Chi-Squared Test

The chi-squared test is a commonly used tool to assess overall model fit in Structural Equation Modelling (SEM).

The chi-squared test is used to evaluate the appropriateness of the overall model fit; it is considered the traditional tool for assessing model fit. It assesses if the model-implied covariance matrix aligns with the population covariance matrix. A crucial aspect to consider in this area is the model fit, which should obtain an insignificant result at 0.05 to be considered a good fit (Barrett, 2007). However, the chi-squared has limitations that must be considered. The primary one concerns the influence of sample size. The larger samples often lead to significant chi-squared values, which makes it difficult to differentiate between good and weak model fits.

Additionally, the chi-square becomes sensitive to very small model misspecifications, which may be trivial. On the other hand, smaller samples may not yield accurate results (Bentler & Bonnet, 1980; Jöreskog & Sörbom, 1997). Along with using global fit indices, this study looked at two model diagnostics -- namely, the residual correlation matrices and modification indices (which will be explained later) to pinpoint any sources of model misspecification.

Root Mean Square Error of Approximation (RMSEA)

The Root Mean Square Error of Approximation (RMSEA) is an indicator of model fit, measuring the model's sensitivity to the number of parameters. RMSEA differs from traditional fit indices; it evaluates whether the null hypothesis of the proposed model (i.e., the initial fit) is practically false and likely to be rejected in adequately large samples. It takes into account the approximation errors in the population, highlighting the evaluation of how well the model fits relative to the population (Kaplan, 2000). Therefore, RMSEA, a measure proposed by Steiger (1990), is used to measure approximate fit in the population, dealing with any discrepancies due to approximation. According to MacCallum & Austin (2000), the advantageous feature of RMSEA is that it includes a

confidence interval. This allows for more precise testing of the null hypothesis (poor fit) (McQuitty, 2004). In a good-fitting model, the RMSEA's confidence interval should have a lower limit close to 0 and an upper limit close to .06 (Hu & Bentler, 1999).

Standardised Root Mean Square Residual (SRMR)

SRMR is a descriptive fit indicator that measures the standardised residuals and provides information about how well the model fits the observed covariance structure (Kline &Zhang, 2005). According to (Joreskog & Sorbom, 1982), the SRMR is calculated based on the discrepancies that remain between the observed covariance and the predicted covariance for the model's parameters, considering the model-implied covariances. SRMR values span a numerical range of 0 to 1. The acceptable range of values is 0.08 or below. A value of 0 suggests a perfect fit, while a value of 0.05 suggests a good fit (Byrne, 2013).

Comparative Fit Index (CFI)

Researchers employ CFI as part of a comprehensive assessment to examine how well the proposed model aligns with observed data. This is accomplished by comparing the fit to that of a null model. The CFI goes from 0 to 1, with values nearer to 1 indicating a better fit. It is common for researchers to employ a 0.95 threshold when evaluating the goodness of their models. Consequently, a CFI of 0.95 or higher is frequently regarded as an indicator of acceptable fit (Hu & Bentler, 1999).

In the present study, different fit indices were used to assess the scales, which included chi2 (χ^2), GFI (goodness of fit), SRMR (standardised root mean square), RMSEA (root mean square error of approximation) and CFI (comparative fit index) based on the cut-off points that discussed in the previous section. The assessment process involves improving each measurement model's fit indices based on the results of the modification index (MI) and residual values, as will be explained in the following paragraphs. Not only has this process been considered, but I have accounted for the theoretical justification that strictly advises looking at the item's interpretations because it is used in a different context, Saudi Arabia.

To improve the model fit indices, statistical approaches were considered prior to making any modifications to the measurement scales. Specifically, the modification indices (MI) and standardised residual values (from the residual correlation matrices) were used to guide item retention decisions. High MI and large residuals between pairs of observed indicators may indicate model misspecification. In such cases, allowing for covariance error terms between the indicators can help improve model fit. When correlating errors did not yield satisfactory improvements, problematic items were removed from the model. Additionally, cross-loading of items on multiple factors was allowed when empirically warranted and theoretically justifiable. All model modifications were guided not only by statistical criteria but also supported by relevant theoretical rationale to preserve the integrity and interpretability of the constructs. The primary theoretical consideration for

model modifications was the variation in the contextual application of established scales, which may influence how respondents interpret certain items. In some cases, cross-loadings were permitted based on theoretical justification, specifically, when the underlying latent construct was multidimensional and an item appeared to reflect a secondary dimension rather than the primary factor.

To further refine the measurement model, both scale shortening and item parcelling techniques were applied. The parcelling technique was applied exclusively to the self-control demands scale. Although the SCDs items capture three distinct facets of regulatory effort (impulse control, resist distractions, and overcome inner blockades), they are theoretically expected to tap into a common underlying self-regulatory resource (Schmidt et al., 2012). This conceptualisation justifies treating the scale as unidimensional. Parcelling helped reduce the number of indicators in the model, thereby enhancing model parsimony (Bandalos, 2002). Additionally, because the model had previously been described as complex and prone to fit issues, parcelling improved overall model fit, consistent with recommendations by Little, Cunningham, Shahar, and Widaman (2002).

These procedures collectively enhanced the measurement quality of individual constructs, thereby enhancing the overall integrated CFA indices.

For the overall CFA model – including servant leadership, abusive leadership, proactive personality, trait self-control, autonomous self-regulation, self-control (ego depletion), self-control demands, creative process engagement, and employee creativity - the cluster function was employed. This adjustment accounts for the nested data structures, where employees are grouped under supervisors. Since supervisors rated employee creativity, clustering by supervisor code was necessary to produce robust standard errors and avoid biased parameter estimates due to non-independence of observations.

The fit indicators of the proposed model after modifications, as shown in Table 5.3, indicate superior performance compared to alternative models. Accordingly, the CFA indices were reasonable and supported the nine-factor model ($\chi2$ (1432) = 2315.915, $\chi2$ / df =1.617, Robust root mean square error of approximation [Robust RMSEA] = 0.053, Robust comparative fit index [Robust CFI] = 0.885, Standardized Root Mean Square Residual [SRMR] = 0.077).

Table 5.3: Alternatives CFAs of Study 1

Models	χ2	Df	Robust CFI	Robust (TLI)	Robust RMSEA	SRMR
Model 1: Single-factor model	5266.949	1474	0.501	0.479	0.109	0.15
Model 2: 9 factors (the hypothesised model)	2315.915	1432	0.885	0.876	0.053	0.077
Model 3: 8 factors (2	2903.099	1440	0.81	0.797	0.068	0.127

Models	χ2	Df	Robust CFI	Robust (TLI)	Robust RMSEA	SRMR
leadership styles combined)						
Model 4: 7 factors (2 leadership styles combined, Ego depletion removed)	2558.274	1238	0.808	0.795	0.07	0.131
Model 5: 7 factors (2 leadership styles combined, SCD removed)	2614.832	1288	0.82	0.807	0.069	0.13
Model 6: 6 factors (2 leadership styles combined; trait self-control, self-control demands, and self-control (ego depletion) as a single factor)	3142.581	1453	0.781	0.768	0.073	0.131

Although the fit indices of the revised measurement model, particularly the CFI (CFI = 0.885), did not exceed the conventional cut-off values (e.g., CFI ≥ .90), the model can still be considered to exhibit a reasonable fit. This conclusion is supported by the model's complexity, reflected in the high number of degrees of freedom (see Table 5.3), which can attenuate fit indices in large, multifactor models (Bagozzi and Edwards, 1998; Hu and Bentler, 1999). In addition, it is worth mentioning that all standardised factor loadings were statistically significant, as shown in Table 5.2, supporting the convergent validity of the constructs. Based on these results, the next step involves assessing composite reliability to further evaluate each latent construct's internal consistency.

5.6.3. Composite Reliability

In many research fields, particularly those involving latent or abstract constructs, the reliable measurement of hypothesised variables is often a central methodological concern. Straub (1989) states that reliability is achieved when a scale produces consistent measures. Composite reliability, which evaluates the measurement consistency for each construct in the model, is computed by dividing the sum of factor loadings by the total summation of factor loadings and error variances (Fornell & Larcker, 1981). The cut-off point commonly used for composite construct reliability is 0.70,

as advised by Gable and Wolf (1993) and Hair et al. (1998). Nonetheless, there is no commonly agreed-upon criterion; Koufteros (1999) proposed a cut-off point of 0.80, whereas Bagozzi and Yi (1988) specified that values exceeding 0.60 are considered desirable.

The results in Table 5.4 indicate that the composite reliability values for this study's nine constructs are within the acceptable level, indicating the tool has high reliability. Thus, the results indicate that each group of items is correlated and measures the same construct.

Table 5.4: Composite reliability Coefficient of Study 1

Construct	Number of items	Composite reliability Coefficient
Servant Leadership	7	0.79
Proactive Personality	9	0.89
Autonomous Self-Regulation	8	0.91
Abusive Supervision	4	0.91
Trait Self-Control	7	0.86
Ego Depletion	4	0.86
Self-Control Demands	12	0.88
Creative Process Engagement	10	0.92
Creativity	3	0.80

5.7. Results

5.7.1. Descriptive statistics

Table 5.5 presents the key variables' means, standard deviations, and correlations. Pearson's correlation coefficient was used to measure the strength and the direction of the relationships between two variables.

Table 5.5: Means, standard deviations, and correlations (Study 1)

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11
1. Servant Leader	3.34	0.37											
2. Proactive Personality	3.77	0.60	.44**										
3. Autonomous Self-Regulation	3.5	0.96	.29**	.47**									
4. Abusive Supervision	1.46	0.84	.26**	.29**	-.52**								
5. Trait self-control	3.19	0.63	.24**	-.03	-.30**	.34**							
6. Self-control demands	3.14	0.65	.29**	.32**	-.16*	.48**	.47**						
7. Self-control (Ego depletion)	2.98	0.63	.06	-.06	-.48**	.38**	.77**	.61**					
8. Creative process engagement	3.54	0.76	.15*	.39**	.74**	-.53**	-.20**	.16*	-.25**				
9. Creativity	3.51	0.72	.23**	.26**	.66**	-.68**	-.35**	-.30**	-.53**	.69**			
10. Age	33	9.07	.08	.08	.00	.05	.14*	.03	.10	-.03	-.02		
11. Gender	0.50	0.50	-.02	.07	-.02	.03	-.08	.05	.00	.01	-.02	-.07	
12. Years_of_education	16	1.67	.11	.16*	.07	.09	.07	.06	.02	-.00	.04	.34**	.02

Note. M and *SD* are used to represent mean and standard deviation, respectively. n = 225. For Gender (0 = female, 1 = male); Years of Education (Technical/community college = 14, Undergraduate degree (BA/BSc/other) =15, Graduate degree (MA/MSc/MPhil/other) = 17, Doctorate degree (PhD/other) = 21).

* indicates $p < .05$. ** indicates $p < .01$.

5.7.2. Structural Model

Before testing the research hypotheses, the hypothesised structural model was evaluated using standard fit indices. The initial model yielded a poor fit: Comparative Fit Index (CFI) = 0.786; Tucker-Lewis Index (TLI)= 0.413; RMSEA = 0.316; SRMR = 0.142. To identify sources of model misfit, modification indices (MI) and residual correlation matrix were examined.

Diagnostics indicated the need for additional paths to account for unmodelled relationships among variables. As a result, the following theoretically plausible, though initially not hypothesised, paths were added: from abusive supervision to autonomous self-regulation; from autonomous self-regulation to ego depletion; from proactive personality to self-control demands; from proactive personality to creativity; and from proactive personality to creative process engagement. These modifications were justified based on the model's complexity, as discussed in the CFA section, and were necessary to achieve acceptable model fit. In line with methodological recommendations (Byrne, 2016; Kline, 2023), model respecifications were guided by both empirical and theoretical considerations (e.g., Kim et al., 2009; Liu et al., 2012; Parker et al., 2010; Zhang & Bartol, 2010) to improve the model's parsimony, ensuring that the newly added, albeit initially un-hypothesised, paths captured theoretically defensible relations that reduced unexplained covariance and overall model error. Such theoretically grounded adjustments are consistent with best practices in SEM, which recognise that complex models often require refinement to capture interrelations among conceptually connected constructs (MacCallum, 1986; Saris et al., 2009). After incorporating these paths, the model demonstrated substantial improvement with the following fit statistics: Robust comparative fit index [Robust CFI] = 0.988; Robust Tucker-Lewis Index (TLI)= 0.954; Robust root mean square error of approximation [Robust RMSEA] = 0.088; SRMR = 0.020.

5.7.3. Test of hypotheses

This section presents the test of the study hypotheses and the corresponding results, which are displayed in Table 5.6. In this study, the structural equational model method was applied with the aid of R software using the *lavaan* package. The SEM analysis was conducted based on the proposed revised model. All the subsequent analyses were performed on the factor score estimates, which were calculated from the measurement model. The revised theoretical model was also examined using maximum likelihood analysis within the structural equation modelling (SEM) framework (Preacher & Hayes, 2008). The 10000 bootstrapping procedures were also applied to obtain an accurate estimate of testing the mediation effects. Accordingly, I tested all variables simultaneously by specifying a single comprehensive path model in R.

Specifically, I regressed all model variables as follows: I regressed autonomous self-regulation on servant leadership for the first hypothesis. For the second hypothesis, I regressed autonomous self-regulation on servant leadership, creative process engagement on autonomous

self-regulation and finally, I regressed creativity on creative process engagement and autonomous self-regulation. For H3, I regressed self-control demands on abusive supervision. For H4, I regressed ego depletion on self-control demands. For the second mediation hypothesis, I regressed self-control demands on abusive supervision, ego depletion on self-control demands, creative process engagement on ego depletion, and finally I regressed creativity on creative process engagement, ego depletion, self-control demands, and abusive supervision. For the moderation mediation hypotheses (H6 and H7), I used regression criteria similar to those of the mediation hypotheses (H2 and H5), except I regressed autonomous self-regulation on servant leadership, proactive personality, and their interaction term for H6; also, I regressed self-control demands on abusive supervision, trait self-control interaction and their interaction term for H7. The control variables (gender, age, and years of education) have been included in each regression. To better visualise the regression paths, please refer to Tables 5.7 and 5.8 for the results of the indirect paths.

H1: Hypothesis 1 proposed that servant leadership has a positive relationship with autonomous self-regulation. The SEM results have shown a positive and significant relationship between the direct effect of servant leadership on autonomous self-regulation (b = 0.618, p < .05). Thus, the SEM results supported H1.

H2: It was proposed that the relationship between servant leadership and employee creativity would be sequentially mediated by autonomous self-regulation and creative process engagement. As shown in Table 5.7, servant leadership had a negative and non-significant indirect relationship with employee creativity (b = -0.006, p = .051) through autonomous self-regulation and creative process engagement, which does not support the second hypothesis.

H3: It was proposed that abusive supervision would have a positive direct effect on self-control demands. As presented in Table 5.6, the SEM result was as expected. More specifically, the direct relationship between abusive and self-control demands was positive and significant (b = 0.313, p < .05).

H4: It was proposed that self-control demands would positively affect self-control (resource depletion). As presented in Table 5.6, and consistent with H3, the SEM results aligned with expectations. More specifically, the relationship between self-control demands and ego depletion was positive and significant (b = 0.604, p < .05).

H5: It was proposed that the relationship between abusive supervision and employee creativity would be sequentially mediated by self-control demands, self-control (ego depletion) and creative process engagement. The SEM results show that abusive supervision had a positive and significant indirect relationship with employee creativity (b = 0.001, p < .05) via self-control demands, self-control (ego depletion) and creative process engagement. Although this result is significant, the

direction of the effect is opposite to what was predicted. This finding is examined in the discussion section.

H6: proposed that proactive personality would positively moderate the mediated effect of servant leadership behaviours on employee creativity through autonomous self-regulation and creative process engagement. This moderating effect was negative and non-significant (b = -0.239, p = 0.192). Therefore, the indirect effect was not significantly larger or smaller at high/low levels of proactive personality. In other words, the difference in the indirect effect sizes was small and non-significant (b = 0.003, p = 0.283).

H7: proposed that trait self-control would negatively moderate the indirect effect of abusive supervision on employee creativity via self-control demands, self-control (resource depletion) and creative process engagement. The first-stage moderation was confirmed: the interaction between abusive supervision and trait self-control in predicting self-control demands was negative and significant (b = –0.142, p = .013). As Figure 5.2 shows, at low levels of trait self-control, the relationship between abusive supervision and self-control demands was stronger (b = 0.402, p < .05). In contrast, at high levels of trait self-control, the relationship was weaker but remained statistically significant (b = 0.224, p < .05), indicating a buffering effect. However, the indirect effect was not significantly larger or smaller at high/low levels of trait self-control. In other words, the difference in the indirect effect sizes was small and non-significant (b = -0.001, p = 0.111).

Table 5.6: Direct Paths Results of Hypothesis Testing (Study 1)

	Autonomous self-regulation (ASR)			Self-control demands (SCDs)			Ego depletion (ED)			Creative process engagement (CPE)			Creativity (CR)		
Variables	Est	SE	P	Est	SE	P	Est	SE	P	Est	SE	P	Est	SE	P
Age	-0.005	0.004	0.221	-0.004	0.005	0.392	0.002	0.002	0.362	-0.000	0.003	0.882	-0.001	0.001	0.177
Gender	-0.054	0.068	0.427	0.071	0.068	0.299	0.039	0.042	0.363	-0.021	0.048	0.666	0.014	0.011	0.187
Years of education	0.021	0.024	0.383	-0.006	0.021	0.786	-0.005	0.012	0.702	-0.015	0.018	0.400	0.002	0.003	0.488
Servant leadership (SL)	0.618*	0.109	0.000							-0.038	0.084	0.651	0.156*	0.020	0.000
Proactive personality (PP)	0.914*	0.074	0.000	0.290*	0.067	0.000				0.367*	0.060	0.000	-0.158*	0.014	0.000
Autonomous self-regulation (ASR)							-0.232*	0.025	0.000	0.198*	0.054	0.000	0.696*	0.013	0.000
Abusive supervision (AS)	-0.839*	0.036	0.000	0.313*	0.057	0.000	-0.134*	0.027	0.000	-0.608*	0.048	0.000	-0.154*	0.015	0.000
Trait self-control (TSC)				0.395*	0.065	0.000	0.550*	0.043	0.000						
Self-control demands (SCDs)							0.378*	0.041	0.000	0.649*	0.062	0.000	-0.034*	0.013	0.008
Ego depletion (ED)										-0.234*	0.064	0.000	-0.021	0.012	0.067
Creative process engagement (CPE)													-0.051*	0.018	0.004
Servant leadership × Proactive personality	-0.239	0.183	0.192												
Abusive supervision × Trait self-control				-0.142*	0.057	0.013									

Note. Est. = estimate; SE = standard error; P = two-tailed p value. N = 251. *p < .05.

Table 5.7: Indirect Paths Results of Hypothesis Testing (No Moderation) (Study 1)

	Est.	SE	P
SL → ASR → CPE→ CR	-0.006	0.003	0.051
AS → SCDs →ED → CPE→ CR	0.001	0.001	0.049

Note. Est. = estimate; SE = standard error; P = two-tailed p value; SL = Servant leadership; ASR = Autonomous self-regulation; CPE = Creative process engagement; CR = Creativity; AS = Abusive supervision; SCDs = Self-control demands; ED = Ego depletion. N = 251. *p < .05. Bootstrap iteration = 10,000.

Table 5.8: Indirect Paths Results of Hypothesis Testing (Moderated Mediation) (Study 1)

	Indirect Effects (Low; -1 SD Moderator)			Indirect Effects (High; +1 SD Moderator)			Indirect Effects Difference (High minus Low)		
	Est.	SE	P	Est.	SE	P	Est.	SE	P
Moderator: Proactive personality (PP) SL → ASR → CPE→ CR	-0.008	0.004	0.061	-0.005	0.003	0.083	0.003	0.003	0.283
Moderator: Trait self-control (TSC) AS → SCDs →ED → CPE→ CR	0.002	0.001	0.055	0.001	0.001	0.053	-0.001	0.001	0.111

Note. Est. = estimate; SE = standard error; P = two-tailed p value; SL = Servant leadership; ASR = Autonomous self-regulation; CPE = Creative process engagement; CR = Creativity; AS = Abusive supervision; SCDs = Self-control demands; ED = Ego depletion; PP = Proactive personality; TSC = Trait self-control. N = 251. *p < .05. Bootstrap iteration = 10,000.

Table 5.9: First Additional Test of Indirect Effect (No Moderation) (Study 1)

	Est.	SE	P
AS → ASR → CPE→ CR	0.008	0.004	0.035

Note. Est. = estimate; SE = standard error; P = two two-tailed p value; ASR = Autonomous self-regulation; CPE = Creative process engagement; CR = Creativity; AS = Abusive supervision. N = 251. *p < .05. Bootstrap iteration = 10,000.

Table 5.10: First Additional Test of Indirect Effect (Excluding CPE) (No Moderation) (Study 1)

	Est.	SE	P
AS → ASR → CR	-0.575	0.023	0.000

Note. Est. = estimate; SE = standard error; P = two two-tailed p value; ASR = Autonomous self-regulation; CR = Creativity; AS = Abusive supervision. N = 251. *p < .05.

Table 5.11: Second Additional Test of Indirect Effect (Excluding Ego Depletion and CPE) (No Moderation) (Study 1)

	Est.	SE	P
SL → ASR → CR	0.426	0.076	0.000
AS → SCDs →CR	-0.023	0.004	0.000

Note. Est. = estimate; SE = standard error; P = two-tailed p value; SL = Servant leadership; ASR = Autonomous self-regulation; CR = Creativity; AS = Abusive supervision; SCDs = Self-control demands. N = 251. *p < .05. Bootstrap iteration = 10,000.

Table 5.12: Second Additional Test of Indirect Effect (Excluding Ego Depletion and CPE) (Moderated Mediation) (Study 1)

	Indirect Effects (Low; -1 SD Moderator)			Indirect Effects (High; +1 SD Moderator)			Indirect Effects Difference (High minus Low)		
	Est.	SE	P	Est.	SE	P	Est.	SE	P
Moderator: Proactive personality (PP) SL → ASR → CR	0.525	0.119	0.061	0.327	0.070	0.083	-0.198	0.124	0.110
Moderator: Trait self-control (TSC) AS → SCDs → CR	-0.029	0.006	0.000	-0.016	0.004	0.000	0.013	0.006	0.032

Note. Est. = estimate; SE = standard error; P = two-tailed p value; SL = Servant leadership; ASR = Autonomous self-regulation; CR = Creativity; AS = Abusive supervision; SCDs = Self-control demands; PP = Proactive personality; TSC = Trait self-control. N = 251. *p < .05. Bootstrap iteration = 10,000.

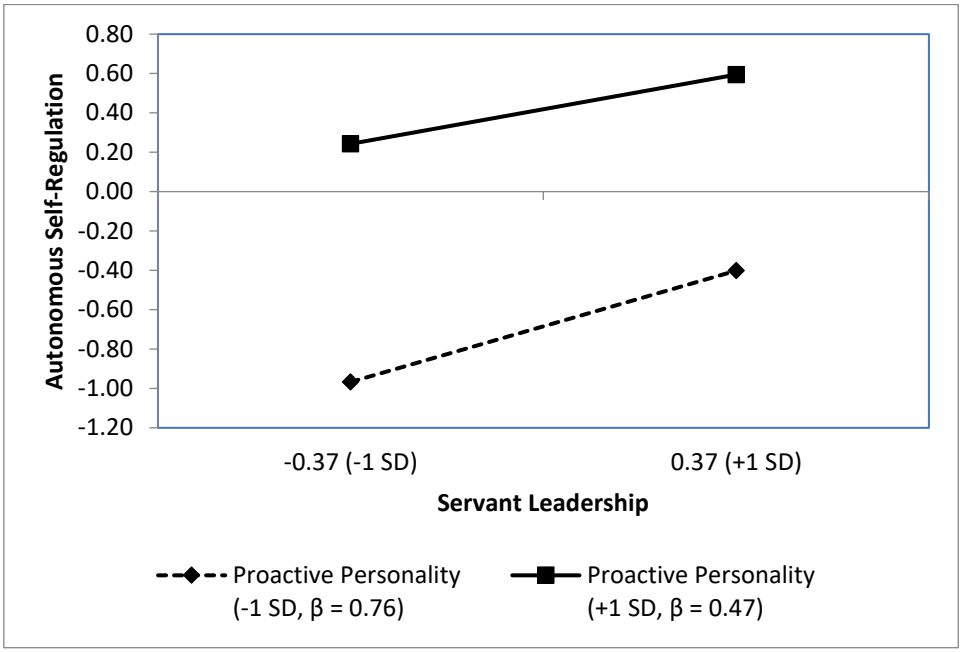


Figure 1.1: Interaction between servant leadership and proactive personality on autonomous self-regulation Study 1

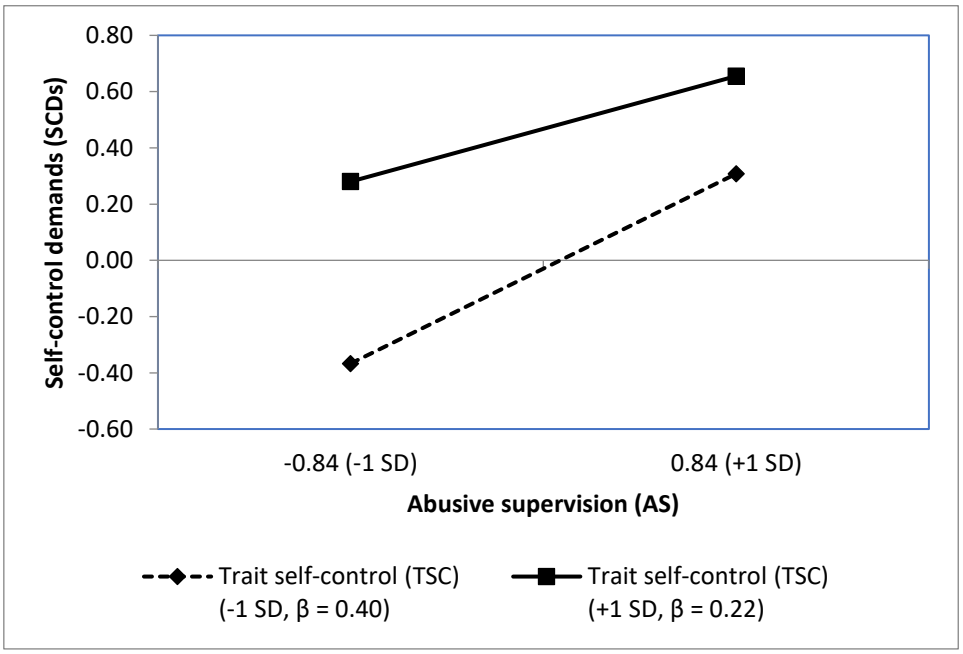


Figure 1.2: Interaction between abusive supervision and trait self-control on self-control demands Study 1

Results – Study 1 (Main Model)

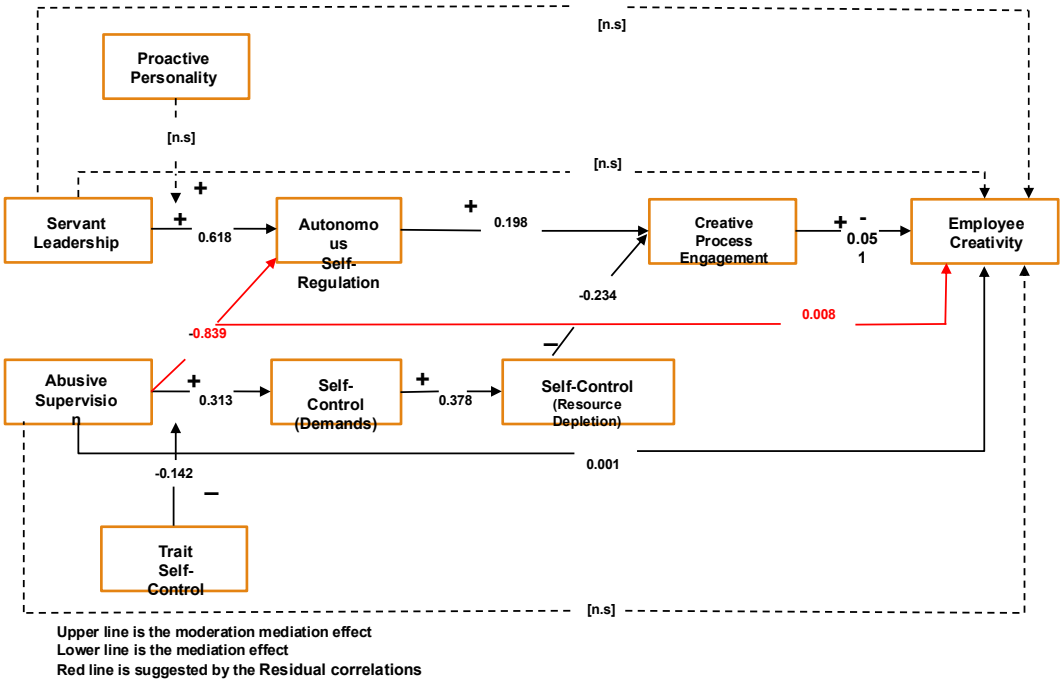


Figure 1.3: Results (main model) Study 1

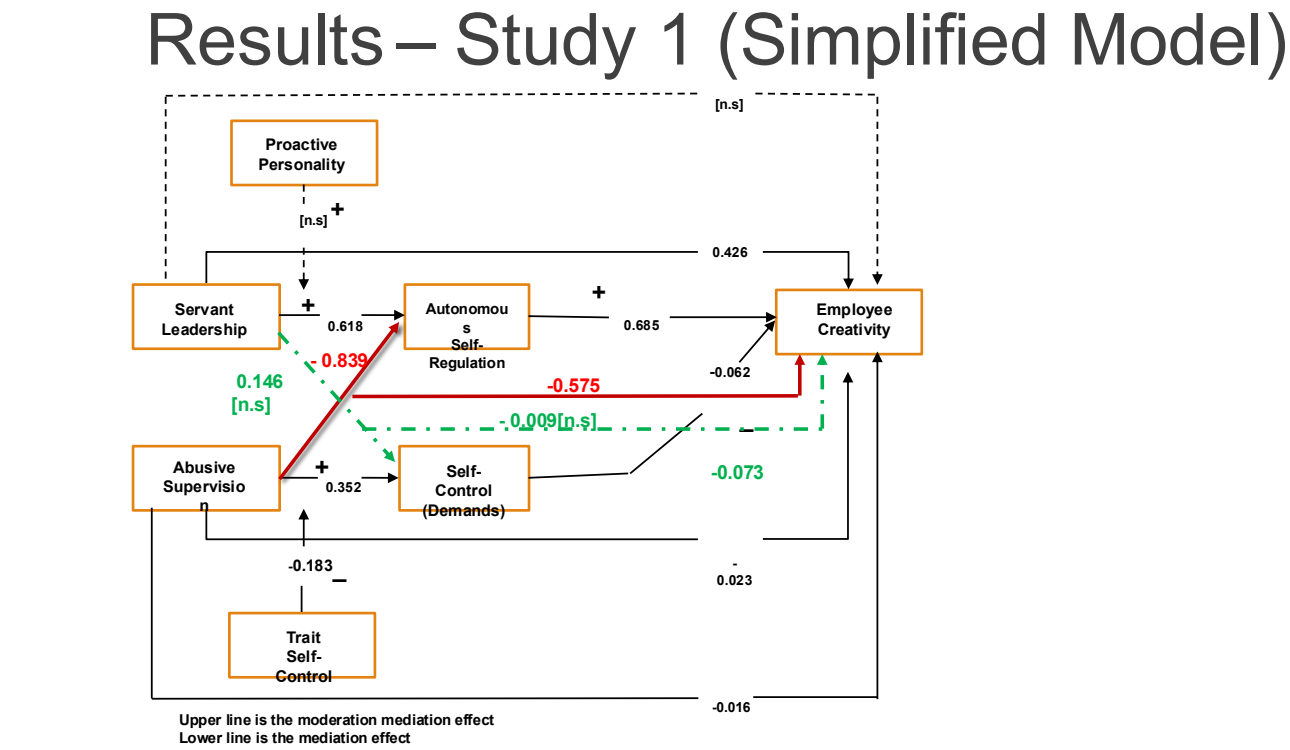


Figure 1.4: Results (simplified model) Study 1

5.7.4. Additional Analysis

This supplementary analysis was conducted to explore the inverse relationship between CPE and creativity, which alters the interpretation of both mediation mechanisms. Notably, this pattern indicates a suppression effect, as it contrasts with a previously identified positive correlation between these variables (r = .69, p < .01; see Table 5.5), a point which will be elaborated in the discussion. Considering this anomaly observed, CPE was excluded from the model to assess its potential impact on the indirect pathways.

Upon re-estimating the model without CPE, the effect of servant leadership on employee creativity, mediated by autonomous self-regulation, was positive and significant (b = 0.424, p < .05), consistent with the initial theoretical expectation. This result suggests that the original non-significant findings may have been obscured by the inclusion of CPE, potentially due to the complexity of the mediation chain and the lack of power to detect the indirect effect. In contrast, the indirect effect of abusive leadership on employee creativity, mediated through self-control demands (SCDs) and ego depletion, remained negative but non-significant (b = -0.001, p = 0.369). Once again, this might be

related to a long mediation chain and the lack of power to detect the indirect effect. To address this, ego depletion and CPE were both removed from the model.

Following this adjustment (i.e., excluding both ego depletion and CPE), the re-estimated model revealed that servant leadership continued to exert a positive and significant indirect effect on creativity via autonomous self-regulation (b = 0.426, p< .05). More importantly, the effect of abusive leadership on employee creativity meditated solely by SCDs, was turned to negative and significant (b = -0.023, p< .05), as presented in Table 5.10, thus aligning the initial theoretical expectation.

Concerning the moderation mediation results, the first-stage moderation was confirmed, as explained before in the original (hypothesised) model: the interaction between abusive supervision and trait self-control in predicting self-control demands was negative and significant (b = –0.142, p = .013). Simple slope analysis revealed that this relationship was stronger at low levels of trait self-control (b = 0.402, p < .05), and weaker—yet still significant—at high levels of trait self-control (b = 0.224, p < .05), suggesting a buffering role of trait self-control. Crucially, after removing ego depletion and CPE, the moderated indirect effect was significant at both high/low levels of trait self-control (b = -0.029, p < .05) and (b = -0.016, p < .05) respectively, as detailed in Table 5.10. These effects were not observed in the original (hypothesised) model, underscoring the suppressive influence of the removed variable, particularly CPE, as well as the possibility that the extended mediation chain, coupled with the lack of power, impeded the detection of the original indirect effects.

In a separate, exploratory analysis, the relationship between abusive supervision and employee creativity was examined via autonomous self-regulation and CPE. Although not hypothesised, the residual correlation matrix suggested that abusive supervision would negatively impact autonomous self-regulation, as shown in Table 5.6. This was then integrated into the model. Indeed, results showed a significant direct effect of abusive supervision on autonomous self-regulation (b = -0.839, p < .05). Following this, the mediation pathway linking abusive supervision to creativity via autonomous self-regulation and creative process engagement was tested, with results showing a positive relationship (b = 0.008, p < .05), as shown in Table 5.9. This showed that abusive supervision negatively predicted autonomous self-regulation, yet paradoxically, it related to higher creativity. This counterintuitive result can be attributed to the negative relationship between CPE and creativity, which inverts the direction of the mediation. To clarify this pattern, a second model excluding CPE was tested. In this revised pathway, abusive supervision is indirectly related to lower creativity through its negative effect on autonomous self-regulation (b = –0.575, p < .05; see Table 5.10), aligning more closely with theoretical expectations.

5.8. Discussion

The main objective of Study 1 was to investigate how leadership influences employee creativity within a cross-sectional design by applying self-regulation theory to the creativity and

leadership relationship. Specifically, the study examines how servant and abusive leadership behaviours impact employee creativity via two distinct self-regulatory mechanisms: autonomous self-regulation and self-control. Furthermore, it also assessed how these effects are moderated by followers' proactive personality and trait self-control capabilities.

Seven hypotheses were developed to examine how servant and abusive leadership styles affect employee creativity, taking into account followers' proactive personality and trait self-control capabilities. Based on self-regulation theory, servant leadership is expected to positively influence followers' autonomous self-regulation (ASR) (H1). ASR, in turn, mediates the positive relationship between servant leadership and employee creativity through creative process engagement (H2). Conversely, abusive leadership is hypothesised to increase followers' self-control demands (SCDs) (H3), which, in turn, leads to self-control resource depletion (ego depletion; ED) (H4). SCDs and ED mediate the negative relationship between abusive leadership and employee creativity via reduced creative process engagement (H5). Additionally, a follower's proactive personality is expected to positively moderate the mediating effects of servant leadership on employee creativity (H6), while a follower's trait self-control is predicted to positively moderate the mediating effects of abusive leadership on employee creativity (H7).

The results of the hypotheses revealed that the direct effects hypotheses were supported. In particular, servant leadership demonstrated a significant and positive relationship with autonomous self-regulation (H1). Similarly, abusive leadership was positively linked to self-control demands (H3). Furthermore, self-control demands (SCDs) was significantly and positively associated with self-control (resource depletion) (H4).

Regarding mediation hypotheses, the relationship between servant leadership and employee creativity was not mediated by autonomous self-regulation and creative process engagement. This finding does not support hypothesis H5, although the effect approached significance. This might be due to the inverse relationship found between CPE and creativity.

In contrast, the study observed a positive and significant indirect effect of abusive supervision on creativity through self-control demands, self-control (resource depletion), and creative process engagement. This unexpected directionality seems to be driven by a negative direct effect of CPE on employee creativity. This will be further considered later in the discussion.

Additionally, in relation to the moderation of the servant leadership-creativity pathway, the proactive personality of followers did not moderate the mediating effects of servant leadership on employee creativity, failing to support Hypothesis (H6).

Specifically, the interaction effect between proactive personality and servant leadership on autonomous self-regulation was insignificant. This suggests that proactive employees may need less

servant behaviour to stay motivated, possibly because they are naturally self-driven to motivate, irrespective of the level of servant leadership they experience. According to Bauer et al. (2019), these two behaviours can substitute for each other. Similarly, Parker et al. (2006) explain that supportive leadership might have a limited effect on fostering proactive behaviour, as leaders do not always take actions that directly encourage proactivity.

Further consideration lies in the high correlation that exists between proactive personality and autonomous self-regulation (r = .47, $p < .01$; see Table 5.5). This high correlation may imply that individuals who demonstrate a proactive personality possess higher levels of autonomous self-regulation, regardless of the presence of a servant leader (the latter less strongly related to autonomous self-regulation, creative process engagement and creativity).

Building on this, employees can act proactively even without the presence of a servant leader. This concept is emphasised by the observation that, while the interaction between proactive personality and servant leadership on autonomous self-regulation was not significant, it showed a negative direction. Interestingly, this suggests that employees with low proactive personality may benefit more from their interactions with servant leaders in predicting greater autonomous self-regulation compared to those with highly proactive personality, as shown in Table 5.6.

Similarly, trait self-control did not moderate the overall indirect (mediated) effect of abusive supervision on employee creativity, so Hypothesis 7 was also not supported. Nevertheless, trait self-control did significantly moderate the first path in the chain: its interaction with abusive supervision predicted self-control demands. Specifically, at high levels of trait self-control, the relationship between abusive supervision and self-control demands was weaker, which indicates a buffering effect.

In sum, the findings indicate a positive and significant direct relationship between servant leadership and autonomous self-regulation (H1), abusive leadership and self-control demands (H3), and self-control demands and resource depletion (H4). These results are consistent with previous studies. (e.g., Byrne et al., 2014; Lian et al., 2014b; Liden et al., 2008; Rodríguez-Carvajal et al.,2018; Thau & Mitchell, 2010; van Dierendonck, 2011; Yam et al., 2016).

Unexpectedly, the mediating effect of autonomous self-regulation and creative process engagement in the relationship between servant leadership and employee creativity is non-significant. Although all direct paths showed a significant relationship, the full mediation was not supported. Furthermore, although not statistically significant, the overall effect was surprisingly opposite to what was expected. This unexpected outcome is driven by a negative coefficient between creative process engagement and employee creativity in the SEM model.

This effect is surprising and worthy of reflection. One possible explanation is that greater creative process engagement may reflect greater task complexity, making the work more difficult to perform effectively. More complex tasks are likely to require increased effort, leading to a higher cognitive load and potentially resulting in cognitive overload, which might hinder overall creativity. Cognitive overload during problem-solving has been linked to reduced performance and motivation (Sweller, 1988), a phenomenon that can also be extended to creativity. While some researchers view creativity as problem-solving and others see it as generating creative output, most agree that both perspectives involve the same core cognitive processes necessary for creativity (Reiter-Palmon & Illies, 2004). One of these core processes is called idea evaluation, during which individuals assess their ideas and identify solutions. Engaging in this process requires considerable executive functioning to maintain focus on finding the optimal solution (Radel et al., 2015), potentially resulting in cognitive overload.

Similarly, the idea-generation process also necessitates a large degree of cognitive effort (Reiter-Palmon & Illies, 2004). This process includes problem identification, researching information, and generating new ideas. For instance, during extensive information search and encoding efforts, individuals demand substantial cognitive resources to organise and reshape collected information. Building on this, Henker et al. (2014) found that while activities such as problem identification and generating new ideas did not negatively impact employee creativity, engaging in information integration and collection led to a decline in creativity. They suggest that the decline in creativity may arise because intensive engagement in problem-identification and idea-generation activities may deplete the cognitive resources required for effectively integrating and collecting information. These findings imply that not all CPE activities contribute equally to creative outcomes.

From this perspective, CPE is not uniformly beneficial and may entail costs that offset its intended effects—an idea supported in prior research examining the “dark sides” of creativity (e.g., Feldman & Ruble, 1981; Janssen, 2003; Mao et al., 2020). Notably, when CPE was not considered in the analysis, the results of the hypothesis were positive and statistically significant ($b = 0.430$, $p < 0.05$). This finding further supports the argument that employees' intense effort in engaging in the creative process can be seen as a demanding endeavour that may impair creativity. Therefore, the relationship between CPE and creativity appears to be complex and may be influenced by how creativity is evaluated within organisations.

In line with this complexity, another explanation for the observed results could be that engagement in creative processes influences supervisors' expectations of employee creativity. Specifically, it is possible that supervisors primarily value the tangible outcomes of these creative efforts rather than the processes themselves. Consequently, the negative direct relationship observed in this study indicates that supervisors do not fully acknowledge the effort employees invest

in creative processes. Instead, their evaluations appear to prioritise the quality or benefit of the final output over the effort expended during the creative process.

However, although the several theoretical explanations discussed above might account for the unexpected finding, considering the positive correlation between creative process engagement (CPE) and creativity, as well as the overwhelming literature consistently demonstrating a positive effect of CPE on creativity, this pattern is most likely a statistical artefact.

It is possible that multicollinearity among the mediators distorted the estimates, particularly in the presence of a long mediational chain and a relatively small sample size. Another possibility is that some mediators may have acted as suppressors, inflating or reversing the apparent direction of effects. Indeed, the previously identified positive correlation between these variables, as indicated in Table 5.5 ($r = .69$, $p < .01$), suggests a potential suppression effect.

Suppression effects occur when a third variable is added to a regression model; it can cause the regression coefficient between the independent variable and dependent variable to increase (Conger, 1974). Additionally, it can alter the relationship between the variables, potentially making them smaller or even changing their direction (Cohen & Cohen, 1983).

To explore this suppression effect further, creativity was first regressed on creative process engagement, yielding a positive coefficient ($b = 0.658$, $p < 0.05$). Afterwards, additional variables were added to the model to identify which variable reversed the direct relationship. The analysis revealed that autonomous self-regulation, a variable highly correlated with creative process engagement ($r = .74$, $p < .01$; see Table 5.5) and creativity ($r = .66$, $p < .01$; see Table 5.5), altered the direct relationship ($b = -0.038$, $p = 0.373$), indicating suppression effects.

Given this, we concluded that the negative coefficient should not be interpreted as evidence of a detrimental effect of CPE on creativity. To avoid biased inferences in the path model, we have therefore conducted subsequent analyses excluding CPE. This decision is further supported by concerns that the extended mediation path and limited sample size may have introduced estimation artefacts. These post-hoc analyses are further discussed later in this section.

Regarding the proposed model for the second mechanism, the overall mediation was statistically significant, examining the indirect effect of abusive supervision on employee creativity via self-control demands, self-control (resource depletion), and engagement in the creative process on the relationship. However, as was the case before, the pattern diverged from the initial hypothesis again due to an unexpected negative relationship between creative process engagement and employee creativity. Notably, all other direct paths were statistically significant and consistent with the proposed model. This mirrors the same issue identified in the servant leadership – creativity pathway and further reinforces the need for careful further examination.

One possible explanation relates to the residual resources available during ego depletion. As Baumeister et al. (2000) note, even individuals who reveal ego depletion may still retain some of their residual resources, a notion supported by Muraven (1998), who notes that even depleted individuals can still exert effort by relying on residual resources. However, these remaining resources may be insufficient to fully engage the employees in the creative process. As explained earlier, this is because idea generation demands a large amount of cognitive resources, and evaluating these ideas requires substantial executive functioning. As a result, this disturbance that happens during the making of an effort to be fully engaged in the creative process impacts creativity.

At the same time, as discussed earlier, the observed negative path from CPE to creativity may reflect a suppression effect arising from the inclusion of multiple correlated mediators. To explore this possibility systematically, this mediation model (abusive supervision – creativity pathway) was re-estimated in two stages. In the first stage, we removed CPE to assess whether the unexpected negative effect would disappear. In the second stage, ego depletion was also removed to examine the relationships within a more concise framework. This decision is further supported by concerns that the extended mediation chain, coupled with the lack of power, may have impeded the detection of the hypothesised indirect effects. This post-hoc analysis is discussed in more detail later in this section.

The seventh hypothesis was not supported. This hypothesis proposed that followers' trait self-control would positively moderate the sequential mediating effect of abusive leadership style on employee creativity through self-control demands, self-control (resource depletion), and creative process engagement. However, although the interaction effect between trait self-control and abusive supervision on self-control demands was significant, it did not significantly affect the overall mediation effect at different levels of the moderator. This suggests that while trait self-control might help employees cope better with abusive behaviours, it does not significantly alter the indirect pathway from abusive supervision to employee creativity. The demands imposed by abusive leadership, in terms of increased SCDs and subsequent resource depletion, likely suppress employee self-control capacity, thereby impacting creative process engagement and creativity.

One plausible explanation is the complexity of the mediation chain, which may have reduced statistical power to detect a moderated mediation effect. To clarify this, we re-estimated the model excluding both ego depletion and CPE. In this simplified model, the moderated mediation analysis revealed that employees with high trait self-control experienced a weaker adverse indirect effect of abusive supervision on employee creativity. In contrast, those with low trait self-control experienced a strong adverse effect. This pattern indicates a potential buffering role of trait self-control in mitigating the detrimental impact of abusive supervision. Thus, while the full moderated mediation

was unsupported, the post-hoc analysis, as will be discussed later, reveals that trait self-control buffers the adverse effects of abusive supervision.

Finally, two additional analyses were conducted to probe further the mechanisms linking leadership behaviours to employee creativity. In the first analysis, the aim was to clarify the distinct self-regulatory mechanisms through which servant and abusive leadership influence employee creativity. In contrast to the main analysis, which examined complete sequential mediation chains involving ego depletion and creative process engagement (CPE), this analysis excluded these two variables stepwise, first removing CPE, and then re-estimating the model after excluding both ego depletion and CPE. This decision was based on two considerations. First, it allowed for the examination of more direct behavioural pathways, isolating the effects of leadership on creativity through autonomous self-regulation and self-control demands (SCDs). Second, and more critically, it addressed a conceptual inconsistency identified in the main analysis: an unexpected inverse relationship between CPE and creativity, which distorted the directionality of the mediation and led to a counterintuitive adverse indirect effect of servant leadership and a positive indirect effect of abusive supervision.

The results from this revised model revealed that servant leadership enhances autonomous self-regulation, which in turn positively predicts employee creativity. This finding is consistent with prior research linking servant leadership to creativity via motivational mechanisms such as self-regulatory promotion focus and psychological empowerment (as conceptualised within self-determination theory; Gagné & Deci, 2005) (e.g., Neubert et al., 2008; Yang et al., 2019). However, our mechanism explicitly provides a process-oriented lens for understanding how autonomous regulation may facilitate the recovery or maintenance of regulatory resources (Muraven, 2008; Muraven et al., 2008), thereby sustaining creativity under demanding conditions This theoretical extension contributes to the literature by positioning autonomous self-regulation not merely as a motivational state but as a regulatory function that enables employees to remain creative despite potential resource depletion.

In parallel, the additional analysis revealed that abusive supervision induces controlled behaviour by increasing self-control demands (SCDs), which in turn impairs employee creativity. According to the strength model of self-control (Muraven & Baumeister, 2000), SCDs require individuals to self-regulate effort, thereby depleting limited regulatory resources. Although the decision to exclude ego depletion from this analysis could be considered a limitation, it was theoretically and methodologically justified. As discussed earlier, the exclusion was necessary due to the statistical complexity of the whole sequential mediation chain and the limited power to detect long indirect effects. Moreover, this simplification aligns directly with the strength model itself, which

posits that resource depletion results from engaging in these self-control demands, making SCDs a proximal and theoretically sufficient indicator of resource strain.

While prior studies have explored the impact of abusive leadership on creativity through mediators such as emotional exhaustion, psychological safety, organisational identification, and sleep deprivation (e.g., Han et al., 2015; Liu et al., 2016; Zhang et al., 2012), the role of self-control demands as a distinct regulatory burden remains underexplored. By isolating SCDs in this additional analysis, the current study contributes a novel theoretical insight, demonstrating how controlled regulation, triggered by abusive supervision, undermines creativity through its resource-depleting demands. This mechanism extends existing leadership–creativity research by emphasising the effortful nature of controlled self-regulation as a pathway through which adverse leadership impairs creative performance.

With regard to the moderated mediation involving trait self-control, both the main model and the additional analysis confirmed the first-stage moderation effect—that is, trait self-control weakened the positive relationship between abusive supervision and SCDs. In this simplified model, the moderated mediation effect became significant, aligning with prior research that highlights trait self-control as a key buffer in high-demand contexts (e.g., De Clercq & Belausteguigoitia, 2021; Lian et al., 2014b; Yam et al., 2016).

The second additional analysis, abusive supervision, was found to exert an indirect positive effect on creativity through its influence on autonomous self-regulation and subsequent engagement in creative processes. This finding contradicts existing literature, which typically shows that abusive supervision has a negative impact on creativity (e.g., Han et al., 2015; Liu et al., 2016; Zhang et al., 2012). As previously discussed in the hypothesised mediation tests, there is an unexpected inverse relationship between creative process engagement and employee creativity. This discrepancy influences the overall mediation outcome. To further examine this pattern, a follow-up model excluding CPE was tested. Once CPE was removed, the indirect effect of abusive supervision on creativity shifted direction, revealing a pattern more consistent with prior research that highlights the detrimental impact of abusive supervision on creative outcomes (e.g., Han et al., 2015; Liu et al., 2016).

Furthermore, the respecification process led to the inclusion of several additional, theoretically plausible paths, which were not originally hypothesised. While the modification indices and residual diagnostics empirically indicated this step, it was guided by conceptual reasoning grounded in self-regulation and creativity theories. Specifically, relationships such as between abusive supervision and autonomous self-regulation, and between proactive personality and creativity-related processes, are theoretically supported in prior literature suggesting that leadership and dispositional factors exert broad influence on motivational, self-regulatory, and creative

processing—shaping how employees generate, refine, and express novel ideas at work (e.g., Kim et al., 2009; Liu et al., 2012; Parker et al., 2010; Zhang & Bartol, 2010).

While interpreting the implications of this study, it is important to be aware of its limitations. First, a cross-sectional design cannot establish the temporal order of the variables, as each measure was captured at the same time. Thus, it cannot establish a definitive cause-and-effect relationship. Accordingly, Study 1 should be viewed as an exploratory study, providing initial, tentative evidence on the two self-regulatory mechanisms of autonomous self-regulation and self-control in the relationship between leadership and creativity. Second, collecting data at a single point in time and analysing it cross-sectionally makes the study more susceptible to confounding variables, such as the survey taker's response style or, more generally, common method variance. Third, the cross-sectional study does not enable investigators to account for fluctuations (within-person variability) in both constructs over time (Dalal et al., 2014; Hoffman & Lord, 2013) and are affected by recall bias (Hansbrough et al., 2015). Collectively, these design considerations limit the causal inferences that can be drawn from this study.

As an additional limitation, it is worth noting that although the core assertions of the model were supported, the full mediation chain was not. The hypothesised indirect pathway only emerged after removing variables, namely ego depletion and creative process engagement, which, likely due to statistical artefacts, produced unexpected results. This limitation underscores the need for further investigation.

Finally, only after implementing theoretically informed modifications, which included the addition of several unanticipated paths, did the final structural model show good fit indices. As MacCallum (1986) points out, even theoretically justified post hoc respecifications in structural modelling can overfit the data. As a result, sample-specific variance may be captured instead of relationships that are generalisable. Future research should replicate the model using independent samples or a longitudinal design to assess the robustness of these modified paths.Therefore, longitudinal field studies such as diary studies and multilevel analyses can help to mitigate the previously mentioned methodological issues by investigating relationships over time (e.g., diary studies; Binnewies & Wörnlein, 2011). Because the longitudinal design is more robust, it is less likely to reveal spurious relationships among variables. Furthermore, since variables in diary studies are measured relatively close to the end of the investigated episodes or events (Hansbrough et al., 2015), researchers can reduce recall bias and account for within-person variability in data analysis. Accordingly, I conducted a second study, designed as a diary study, to address these limitations and to test the replicability of these complex mediational relationships.

CHAPTER SIX: STUDY 2 (DAILY DIARY STUDY)

6.1. Introduction

As previously described, the first study comprised data that was only collected at a single point in time. The second study adopts a daily diary approach, collecting data across 10 workdays. The daily diary method enables stronger inferences to be drawn about the relationships between variables, as it reveals the temporal order in which changes to each variable occur. Furthermore, the increased robustness of the longitudinal design reduces the likelihood of revealing spurious relationships among variables. By employing both cross-sectional and longitudinal designs, these studies collectively provide a thoroughly examined relationship between leader behaviour and employee creativity.

In this study, I intended to examine the within-person relationships between servant and abusive leader behaviours and follower creativity for two reasons. Firstly, Dalal et al. (2014) and Hoffman & Lord (2013) argue that it is helpful to investigate the processes that underpin the relationship between leadership and follower performance outcomes from a within-person perspective, enabling investigators to account for fluctuations in both constructs over time. Secondly, studies (within-person research) reduce recall bias. This is due to the fact that these studies measure study variables relatively close to the end of the investigated episodes or events (Hansbrough et al., 2015). For instance, the exhibit of specific leader behaviours shortly following an event (Ohly et al., 2010).

After establishing the applicability of a within-person approach for this study, determining the time frame for within-person research of leadership and creativity (e.g., within-day or daily) presents a challenge. According to Hoffman and Lord (2013), evaluating leader behaviours using a within-person, across-time or event approach would be beneficial. This is because, as reported by Barnes et al. (2015), leadership behaviours and follower states vary day to day. As an extension of this perspective, a diary-daily design was particularly apt for this research, as it can capture short-term within-person variability. There is empirical evidence that both leader behaviours and follower experiences vary meaningfully on a day-to-day basis. Amabile et al. (2005), for example, demonstrated that contextual cues at work can shift creative thought daily. According to Barnes et al. (2015) and Lanaj et al. (2016), leadership behaviours also change daily, reflecting shifting moods, demands, and interactions between leaders and followers. Self-regulatory states are equally dynamic; previous research shows that ego depletion and autonomous regulation vary throughout

the day in response to leader support and work pressure (e.g., Babu et al., 2023; Tadić Vujčić, Oerlemans & Bakker, 2017).

Therefore, I investigated servant and abusive leader behaviours, follower self-regulation processes, and employee creativity on a daily-level approach.

6.2. Sample

Study participants included employees of two medium-sized organisations from the Saudi Arabian manufacturing and information technology sectors, resulting in a final sample of 69 participants. Numerous studies on creativity have been conducted in settings where the primary objective is a creative and innovative outcome, such as research and development (Shalley et al., 2000). At the same time, numerous researchers have examined creativity and innovation in various industries, including insurance and manufacturing (e.g., Gong et al., 2009; Han et al., 2015), thereby reinforcing confidence in the suitability of the sample.

In total, 80 employees who were contacted completed the pre-survey. Eleven participants were eliminated because they did not meet the minimum requirement of participating for at least 5 days for the diary studies, which is consistent with the previous studies that have used within-individual research (e.g., Bakker and Xanthopoulou, 2009; Grech et al., 2009). This approach helps maximise statistical power and reduce the amount of missing data (Schilpzand et al., 2018). This process resulted in a final sample size of 69. Out of a potential 690 days (69 participants × 10 days), the 69 participants contributed data for 607 days, yielding an 88% response rate at the day level. As a result, this study achieved response rates of 86% on the person (between) level and 88% on the day (within) level, which are considered satisfactory given the challenging nature of this methodology (e.g., Bakker & Xanthopoulou, 2009; Dumas & Perry-Smith, 2018; Menges et al., 2017). Participants were 75% male. The mean age was equal to 37.75 years (SD = 10.01). All participants worked full-time. The average years of education was 15.64 years (SD = 1.06).

6.3. Procedure

Employees were requested to give informed consent to complete a questionnaire and to participate in the study as part of the general survey. After employees agreed to take part, they were provided with a pre-survey to collect information about their demographics and personal characteristics, such as proactive personality and trait self-control. During the diary period, employees were required to answer two brief questionnaires: the first was at the middle of the workday, while the second was at the end of the workday, for 10 consecutive working days. The mid-work survey, sent to participants between 11 am and 3 pm daily, measured the levels of employees' self-regulation. This timing was chosen because self-regulatory states are expected to fluctuate throughout the workday in response to ongoing tasks and demands, making midday an appropriate

time to capture these within-person variations. The end-of-work survey, sent to employees between 3 pm and 5 pm daily, measured leaders' abusive and servant behaviours, employees' creative process engagement, and employees' creativity. Assessing leadership and creativity at the end of the workday is consistent with diary research showing that employees evaluate leader behaviour and their own creative performance based on experiences accumulated throughout the day (e.g., Amabile et al., 2005; Liao et al., 2020; Rushika De Bruin and Finkelstein, 2023). A reminder was sent if a survey was not completed within an hour of receiving it. The diary study was suspended on weekends and resumed on weekdays.

All surveys were conducted electronically. Participants were emailed daily questionnaire links. Participants were advised to use their smartphones or preferred devices to complete the surveys.

This approach is supported by previous research, which shows that Web-based research conducted via email and smartphone devices produces accurate data (Gosling et al., 2004; Miller, 2012).

6.4. Measures and Control Variables

The measures of servant leadership, abusive supervision, proactive personality, autonomous self-regulation, trait self-control, ego depletion, and creativity are identical to those used in Study 1, adapted to the daily time frame. Self-control demands and creative process engagement measures were, however, reduced to shorter scales for participant convenience. Specifically, the 6-item Creative Process Engagement Scale, developed by To, M. L., and colleagues (2012), was adopted for this study. For the self-control demands scale, a shorter 5-item was adopted, focusing exclusively on one dimension: Impulse Control. This scale was adapted from the original developed by Schmidt, K.-H., and Neubach, B. (2010), as referenced by Gerpott et al. (2022). This practice of shortening scales is consistent with other diary studies, which aim to make the survey easier for respondents to complete on a daily basis. At the between-person level, age, gender, and years of education were included as control variables, following the same rationale as in Study 1. The measurement scales and their sources are listed in Appendix C.

6.5. Data Analysis

The analytical procedure section discussed the data analysis approach (see section 6.6.3)

6.5.1. Preliminary Analyses

The preliminary analysis includes descriptive statistics (such as means, standard deviations, correlations, skewness, and kurtosis) and composite reliability coefficients. The mean is the average of a variable, while the standard deviation measures how much the variable values are close to or away from the mean (Bhandari, 2023; Anderson, 2009; Saunders et al., 2012). Skewness and

kurtosis give insights into the normality of the investigated data. While skewness assesses the asymmetry of a distribution, kurtosis measures the tail thickness of a distribution (West et al., 1995). Composite reliability (alpha) evaluates the measurement consistency for each construct in the model. As discussed in Study 1, the cut-off point commonly used for composite construct reliability is 0.70, as advised by Gable and Wolf (1993) and Hair et al. (1998). Nonetheless, there is no commonly agreed-upon criterion; Koufteros (1999) proposed a cut-off point of 0.80, whereas Bagozzi and Yi (1988) specified that values exceeding 0.60 are considered desirable. R software was used to obtain the descriptive statistics, alphas, and correlations, as presented in Table 6.1.

6.5.2. Construct Validity

The proposed measurement model of this study (i.e., study constructs), which includes the observed variables, was validated before testing the study hypotheses. Because the study design involved nested data—days at Level 1 (representing time variations) nested within individuals at Level 2 (representing group level or between individuals' level)—multilevel modelling (MLM) was the most appropriate analytical approach (Heck & Thomas, 2020; Preacher et al., 2010). Consequently, the measurement model also required consideration within a multilevel framework. Accordingly, multilevel confirmatory factor analysis was employed using R software.

6.5.3. Multilevel Structural Equation Modelling

The first study examined the relationship between leadership behaviours and employee creativity through self-regulation, along with the moderating mediation effects of proactive personality and trait self-control, using single-level Structural Equation Modelling (SEM). In contrast, this study employed daily measures to capture both within- and between-individual differences in these relationships, thus utilising Multilevel Structural Equation Modelling (MSEM). The analyses were conducted using R software to test the proposed relationships.

Unlike single-level SEM, which cannot account for nested data structures, and traditional multilevel modelling (MLM), which aggregates individual responses by estimating group means, MSEM provides a more accurate approach (Preacher et al., 2011). Moreover, traditional MLM overlooks the effect of variations within individuals, which is crucial for this study, and leads to a misinterpretation of the variability between individuals or groups (Preacher et al., 2011). However, MSEM overcomes this problem by allowing the estimation of the effect of within and between individuals separately (Preacher et al., 2011; Zhang et al., 2009). A further drawback of traditional MLM is that it only allows for testing of mediator and outcome study variables at level 1, not level 2 (Preacher et al., 2011). Consequently, numerous experts endorsed the utilisation of MSEM for assessing studies, including multilevel mediation designs (Preacher et al., 2010).

6.6. Results

The following sections will present the study results, including preliminary analyses, multilevel confirmatory factor analysis, the analytical procedure, and the findings of hypothesis testing.

6.6.1. Preliminary Analyses

Table 6.1: shows descriptive statistics, composite reliability measures (alphas), and correlations within and between person-level variables.

No.	Variable	M	SD	Skewness	Kurtosis	A	1	2	3	4	5	6	7	8	9	10	11	12
							Servant leadership	Autonomous self-regulation	Creative process engagement	Creativity	Self-control demands	Abusive supervision	Ego depletion	Proactive personality	Trait self-control	Age	Gender	Years of Education
1	Servant leadership	2.742	1.173	0.300	2.422	0.720	1.000	0.180**	0.184**	0.337**	-0.067	-0.136**	-0.066					
2	Autonomous self-regulation	3.687	1.025	-0.849	3.736	0.910	0.474**	1.000	0.309**	0.384**	-0.081*	-0.229**	-0.498**					
3	Creative process engagement	3.576	1.042	-0.709	3.444	0.910	0.451**	0.689**	1.000	0.506**	0.075	-0.080	-0.003					
4	Creativity	3.332	1.070	-0.366	2.962	0.880	0.580**	0.765**	0.681**	1.000	0.030	-0.242**	-0.151**					
5	Self-control demands	2.494	1.318	0.434	2.163	0.930	-0.118	-0.015	0.178	-0.020	1.000	0.140**	0.228**					
6	Abusive supervision	1.382	0.831	2.029	5.755	0.970	-0.454**	-0.486**	-0.242*	-0.649**	0.115	1.000	0.137**					
7	Ego depletion	1.096	0.047	0.579	2.076	0.910	-0.274*	-0.606**	-0.248*	-0.472**	0.326**	0.293*	1.000					
8	Proactive personality	3.848	0.776	-0.449	4.123	0.880	0.269*	0.553**	0.518**	0.401**	0.159	-0.123	-0.211	1.000				
9	Trait self-control	2.703	0.990	0.318	2.909	0.750	0.083	-0.190	-0.069	-0.144	-0.021	-0.027	0.324**	-0.342**	1.000			
10	Age	37.754	10.012				-0.099	0.108	-0.152	-0.012	0.138	0.031	-0.259*	0.045	-0.313**	1.000		
11	Gender	0.750	0.436				-0.156	0.080	0.050	0.094	0.239*	0.119	-0.075	0.165	-0.234	0.072	1.000	
12	Years of Education	15.647	1.062				-0.010	-0.157	-0.142	-0.065	-0.114	-0.012	0.091	-0.180	0.185	-0.309**	-0.157	1

Note. M and *SD* are used to represent mean and standard deviation, respectively. * Indicates $p < .05$. ** indicates $p < .01$. Within-person correlations are shown above the diagonal, and between-person correlations are shown below the diagonal.

6.6.2. Multilevel Confirmatory Factor Analysis (MCFA)

To ensure the validity of the proposed measurement model used in this study, a multilevel confirmatory factor analysis was conducted. According to Muthén (1994), the CFA procedure is designed to test for errors in the measurement model, thereby obtaining a well-fitting model that precisely describes the underlying structure of the observed variables. This study employed the same indices presented in the previous study (Study 1) to test the model fit. Specifically, it examines the chi-square (χ2), CFI, TLI, RMSEA, and SRMR (between and within).

According to Thompson's (2004) recommendations, this study examined alternative CFA models to ensure the proposed measurement model produced superior model fitness, given the possibility that several models could fit the same dataset. As a result, the proposed nine-factor model was compared with five alternative models. More specifically Model 2, the proposed 9-factor model (including 7-Factor-Within level for servant leadership, abusive supervision, autonomous self-regulation, ego depletion, creativity, self-control demands, creative process engagement as well as proactive personality, and trait self-control for 2 Factor-Between level) was compared with Model 1, the two-factor model (includes 1-Factor-Within level for servant leadership, abusive supervision, autonomous self-regulation, ego depletion, creativity self-control demands, creative process engagement variables, and 1-Factor-Between level for proactive personality, and trait self-control). The MCFA results of the proposed 9-factor model showed superior results χ2 = 2311.588, P= 0,000, CFI = 0.917, TLI= 0.907, RMSEA = 0.06, SRMR within = 0.06, SRMR between = 0.117, compared to the two-factor model χ2 = 12007.329, P= 0,000, CFI = 0.407, TLI= 0.359, RMSEA = 0.156, SRMR within = 0.164, SRMR between = 0.144. Moreover, the rest of the alternative models were compared to the proposed 9-factor model, and it was found that the latter offers the best fit, as shown in Table 6.2.

Table 6.2: Alternatives CFA Models

Models	χ2	Df	CFI	TLI	RMSEA	SRMR within	SRMR between	p
Model 1: 1-Factor-Within, 1-Factor-Between (Two factor model)	12007.33	761	0.407	0.359	0.156	0.164	0.144	0.000
Model 2: 7-Factor-Within, 2-Factor-Between (the hypothesised model)	2311.588	733	0.917	0.907	0.06	0.06	0.117	0.000
Model 3: 6-Factor-Within (2 leadership styles combined), 2-Factor-Between	3174.111	739	0.872	0.857	0.074	0.089	0.117	0.000
Model 4: 5-Factor-Within (2 leadership styles combined, Ego depletion removed), 2-Factor-Between	2798.239	606	0.868	0.851	0.077	0.094	0.117	0.000
Model 5: 5-Factor-Within (2 leadership styles combined, SCDs removed), 2-Factor-Between	2783.836	574	0.864	0.847	0.08	0.097	0.117	0.000
Model 6:5-Factor-Within (2 leadership styles combined; SCDs and self-control (ego depletion) as a single factor), 2-Factor-Between	5179.807	744	0.766	0.741	0.099	0.133	0.117	0.000

6.6.3. Analytical procedure

The longitudinal data were analysed within a random-intercepts multilevel model within the R package, *lavaan* (Rosseel, 2012). Each daily observation (servant leadership, abusive supervision, autonomous self-regulation, ego depletion, creativity, self-control demands, and creative process engagement) was represented at level 1 (within) of the model, and each person's level data (proactive personality and trait self-control) was represented at level 2 (between). This study used the latent variable estimates of all measures, which automatically grand-mean centres each variable at zero. This centring approach was also adopted to reduce the risk of multicollinearity in testing the interactions (Enders & Tofighi, 2007). The model was set up as in the first study, meaning no further modifications were necessary. The model fit measures indicated a good fit as follows: Comparative Fit Index (CFI) = 0.940, Tucker-Lewis Index (TLI) = 0.826, RMSEA = 0.051, SRMR (within covariance matrix) = 0.025, and SRMR (between covariance matrix) = 0.144. Accordingly, I tested all variables simultaneously by specifying a single comprehensive multilevel path model in the R package lavaan.

Model variables for the within (level 1) level were regressed, following the same process as the first study. Regarding the regression process at the between-person level (level 2), each related variable was regressed on the control variables (gender, age, and years of education).

After grand-mean centring, the variables were entered into a multilevel model. At the within-person level, the model group-mean by default. To test the cross-level interactions between servant leadership (measured at level 1) and proactive personality (measured at level 2), I computed interaction terms between the within-person (group mean-centred) component of servant leadership and proactive personality. A similar approach was used to test the interactions between abusive supervision and trait self-control.

In the multilevel analysis, each variable was split into components at level 1 (i.e., the daily observations) and level 2 (i.e., the random intercepts). The relationships were examined in the data at level 1 to test each hypothesis. At level 2, I allowed the relationships between the between-level components to be freely estimated. This helped mitigate the threat of omitted person-level variables, such as survey response style, gender, age, and education.

To estimate the indirect effect, Bayesian estimation was used within the blavaan package. The default (non-informative) priors was applied. As the Bayesian approach produces parameter estimates over many iterations, it produces a posterior distribution of effect sizes that can be used to infer the significance of an indirect effect. Similar to bootstrapping, it provides 95% confidence intervals and does not assume that these intervals are symmetrical. Unlike the traditional approach to bootstrapping, the Bayesian approach can be used in conjunction with a multilevel model. The

presence of an indirect effect is considered significant if the credible interval, represented by pi.lower and pi.upper as in Table 6.4, does not include zero (Milica Miočević et al., 2018).

6.6.4. Hypotheses testing

The results of the MSEM analysis are presented in Tables 6.3, 6.4 and 6.5. All direct effects specified in the first, third, and fourth hypotheses were supported. Specifically, Hypothesis 1 proposed a positive relationship between servant leadership and autonomous self-regulation, which was supported (b = 0.189, p < .05). Hypothesis 3 suggested a positive relationship between abusive supervision and self-control demands, which was also supported (b = 0.466, p < .05). Similarly, Hypothesis 4 proposed a positive relationship between self-control demands and ego depletion, and this was confirmed as well (b = 0.105, p < .05).

Hypothesis 2 proposed that autonomous self-regulation and creative process engagement mediate the positive relationship between servant leadership and employee creativity. In line with this prediction, the indirect effect of servant leadership on employee creativity via autonomous self-regulation and creative process engagement was significant, as the 95% credible interval did not include zero (b = 0.038, p < .05; 95% CI [0.012, 0.064]), which supports the proposed hypothesis.

Hypothesis 5 suggested that the negative relationship between abusive supervision and employee creativity is mediated by self-control demands, self-control (ego depletion) and creative process engagement. As shown in Table 6.4, the indirect effect was positive and significant, supported by the 95% credible interval excluding zero (b = 0.004, p < .05; 95% CI [0.000, 0.008]). A closer inspection of the MSEM coefficients revealed that this is due to the unexpectedly positive direct effect of self-control (resource depletion) on creative process engagement (b = 0.182, p < .05).

Hypothesis 6 proposed that proactive personality would positively moderate the mediated effect of servant leadership behaviours on employee creativity through autonomous self-regulation and creative process engagement. This hypothesis was not supported; although the interaction effect was positive, it failed to reach significance (b = 0.070, p = 0.666). As demonstrated in H2, although the indirect effect was positive and significant, it did not significantly vary at high (+1 SD) or low (-1 SD) levels of proactive personality. As a result, the difference in the indirect effect sizes was small and non-significant (b = 0.011, 95% CI [-0.038, 0.060]) as the credible interval included zero.

Hypothesis 7 proposed that trait self-control would negatively moderate the mediated effect of abusive supervision on employee creativity via self-control demands, self-control (ego depletion) and creative process engagement. In contrast with the findings of study 1, this moderating effect was non-significant (b = 0.284, p = 0.581). Therefore, the indirect effect was not significantly larger or smaller at high/low levels of trait self-control. In other words, the difference in the indirect effect sizes

was small and non-significant (*b* = 0.002, 95% CI [-0.004, 0.009]) as the credible interval included zero.

Table 6.3: Direct Path Results of hypothesis testing (Study 2)

	Autonomous self-regulation (ASR)			Self-control demands (SCDs)			Ego depletion (ED)			Creative process engagement (CPE)			Creativity (CR)		
Between-person direct effects	Est.	SE	P	Est.	SE	P	Est.	SE	P	Est.	SE	P	Est.	SE	p
Intercept	0.248	1.148	0.829	-0.063	1.864	0.973	0.580	1.269	0.648	1.469	0.956	0.124	-0.131	0.899	0.885
Gender	0.079	0.166	0.634	0.505	0.214	0.018	-0.015	0.144	0.916	0.033	0.111	0.764	0.224*	0.111	0.043
Age	0.008	0.007	0.243	0.013	0.012	0.293	-0.011	0.007	0.113	-0.010	0.005	0.065	0.000	0.005	0.985
Years of education	-0.041	0.067	0.543	-0.050	0.107	0.641	-0.010	0.072	0.895	-0.072	0.056	0.197	-0.004	0.052	0.943
Proactive personality (PP)	0.987*	0.181	0.000	0.536	0.376	0.155				0.704*	0.166	0.000	0.501*	0.152	0.001
Trait self-control (TSC)				0.178	0.274	0.516	0.355*	0.141	0.012	0.027	0.111	0.806	-0.095	0.114	0.406
Within-person direct effects															
Servant leadership (SL)	0.189*	0.061	0.002							0.201*	0.075	0.007	0.382*	0.085	0.000
Abusive supervision (AS)	-0.332*	0.074	0.000	0.466*	0.183	0.011	-0.000	0.082	0.998	-0.020	0.076	0.791	-0.296*	0.087	0.001
Servant leadership × Proactive personality	0.070	0.163	0.666												
Abusive supervision × Trait self-control				0.284	0.515	0.581									
Autonomous self-regulation (ASR)							-0.525*	0.065	0.000	0.435*	0.072	0.000	0.235*	0.045	0.000
Self-control demands (SCDs)							0.105*	0.028	0.000	0.046	0.027	0.092	0.040	0.025	0.105
Ego depletion (ED)										0.182*	0.054	0.001	-0.050	0.057	0.378
Creative process engagement (CPE)													0.462*	0.067	0.000

Note. Est. = unstandardized estimate; SE = standard error; P = two-tailed p-value. N between = 69. N within = 607. * p < .05

Table 6.4: Indirect Path Results of hypothesis testing (No Moderation) (Study 2)

	Est.	Post.SD	pi.lower	pi.upper
SL → ASR → CPE→ CR	0.038	0.013	0.012	0.064
AS → SCDs → ED→ CPE → CR	0.004	0.002	0.000	0.008

Note. Est. = unstandardized estimate; Post.SD = posterior standard deviation; pi.lower = lower bound of a credible interval (95%); pi.upper = upper bound of a credible interval (95%). N between = 69. N within = 607. Confidence intervals that do not contain zero are highlighted in bold.; SL= Servant leadership; ASR = Autonomous self-regulation; CPE= Creative process engagement; CR= Creativity; AS= Abusive supervision; SCDs = Self-control demands; ED = Ego depletion.

Table 6.5: Indirect Path Results of hypothesis testing (Moderated Mediation) (Study 2)

	Indirect Effects (Low; -1 SD Moderator)				Indirect Effects (High; +1 SD Moderator)				Indirect Effects Difference (High minus Low)			
	Est.	Post.SD	pi.lower	pi.upper	Est.	Post.SD	pi.lower	pi.upper	Est.	Post.SD	pi.lower	pi.upper
Moderator: Proactive personality (PP) SL → ASR → CPE→ CR	0.033	0.020	-0.007	0.072	0.044	0.016	0.011	0.076	0.011	0.025	-0.038	0.060
Moderator: Trait self-control (TSC) AS → SCDs →ED → CPE→ CR	0.003	0.002	-0.001	0.007	0.005	0.003	-0.001	0.012	0.002	0.003	-0.004	0.009

Note. Est. = unstandardized estimate; Post.SD = posterior standard deviation; pi. lower = lower bound of a credible interval (95%); pi. upper = upper bound of a credible interval (95%). N between = 69. N within = 607. Confidence intervals that do not contain zero are highlighted in bold.; SL= Servant leadership; ASR = Autonomous self-regulation; CPE= Creative process engagement; CR= Creativity; AS= Abusive supervision; SCDs = Self-control demands; ED = Ego depletion; PP= Proactive personality; TSC= Trait self-control.

Table 6.6: First Additional Test of Indirect Effect (No Moderation) (Study 2)

	Est.	Post.SD	pi.lower	pi.upper
AS → ASR → CPE→ CR	-0.067	0.017	-0.100	-0.034

Note. Est. = unstandardized estimate; Post.SD = posterior standard deviation; pi.lower = lower bound of a credible interval (95%); pi.upper = upper bound of a credible interval (95%). N between = 69. N within = 607. Confidence intervals that do not contain zero are highlighted in bold.; ASR = Autonomous self-regulation; CPE= Creative process engagement; CR= Creativity; AS= Abusive supervision.

Table 6.7: Second Additional Test of Direct Effect (Excluding Ego Depletion and CPE) (Study 2)

	Autonomous self-regulation (ASR)				Self-control demands (SCDs)				Creativity (CR)			
Between-person direct effects	Est.	Post.SD	pi.lower	pi.upper	Est.	Post.SD	pi.lower	pi.upper	Est.	Post.SD	pi.lower	pi.upper
Intercept	0.055	1.477	-2.799	3.047	-0.131	2.115	-4.373	3.860	-0.209	1.081	-2.342	1.903
Gender	0.095	0.188	- 0.260	0.462	0.467	0.264	-0.057	0.991	0.225	0.139	-0.044	0.496
Age	0.009	0.008	-0.007	0.026	0.011	0.012	-0.013	0.036	0.000	0.006	-0.012	0.013
Years of education	-0.031	0.085	-0.204	0.134	-0.039	-0.122	--0.268	0.206	0.000	0.062	-0.121	0.124
Proactive personality (PP)	1.133	0.229	0.686	1.570					0.569	0.187	0.197	0.569
Trait self-control (TSC)									-0.090	0.137	--0.369	0.178
Within-person direct effects												
Servant leadership (SL)	0.186	0.060	0.067	0.301					0.475	0.068	0.341	0.611
Abusive supervision (AS)	-0.320	0.066	-0.450	-0.189	0.473	0.140	0.200	0.745	-0.306	0.082	-0.467	-0.142
Servant leadership × Proactive personality	0.066	0.159	-0.250	0.379								
Abusive supervision × Trait self-control					0.301	0.385	-0.448	1.050				
Autonomous self-regulation (ASR)									0.418	0.053	0.316	0.522
Self-control demands (SCDs)									0.065	0.026	0.014	0.117

Note. Est. = unstandardized estimate; SE = standard error; P = two-tailed p-value. N between = 69. N within = 607. * p < .05

Table 6.8: Second Additional Test of Indirect Effect (Excluding Ego Depletion and CPE) (No Moderation) (Study 2)

	Est.	Post.SD	pi.lower	pi.upper
SL → ASR → CR	0.078	0.027	0.025	0.130
AS → SCDs → CR	0.031	0.016	0.000	0.061

Note. Est. = unstandardized estimate; Post.SD = posterior standard deviation; pi.lower = lower bound of a credible interval (95%); pi.upper = upper bound of a credible interval (95%). N between = 69. N within = 607. Confidence intervals that do not contain zero are highlighted in bold.; SL= Servant leadership; ASR = Autonomous self-regulation; CR= Creativity; AS= Abusive supervision; SCDs = Self-control demands.

Table 6.9: Second Additional Test of Indirect Effect (Excluding Ego Depletion and CPE) (Moderated Mediation) (Study 2)

	Indirect Effects (Low; -1 SD Moderator)				**Indirect Effects (High; +1 SD Moderator)**				**Indirect Effects Difference (High minus Low)**			
	Est.	Post.SD	pi.lower	pi.upper	Est.	Post.SD	pi.lower	pi.upper	Est.	Post.SD	pi.lower	pi.upper
Moderator: Proactive personality (PP) SL → ASR → CR	0.067	0.041	-0.013	0.147	0.088	0.033	0.023	0.154	0.021	0.052	-0.081	0.124
Moderator: Trait self-control (TSC) AS → SCDs →CR	0.022	0.015	-0.007	0.051	0.040	0.024	-0.008	0.088	0.018	0.026	-0.032	0.068

Note. Est. = unstandardized estimate; Post.SD = posterior standard deviation; pi. lower = lower bound of a credible interval (95%); pi. upper = upper bound of a credible interval (95%). N between = 69. N within = 607. Confidence intervals that do not contain zero are highlighted in bold.; SL= Servant leadership; ASR = Autonomous self-regulation; CR= Creativity; AS= Abusive supervision; SCDs = Self-control demands; PP= Proactive personality; TSC= Trait self-control.

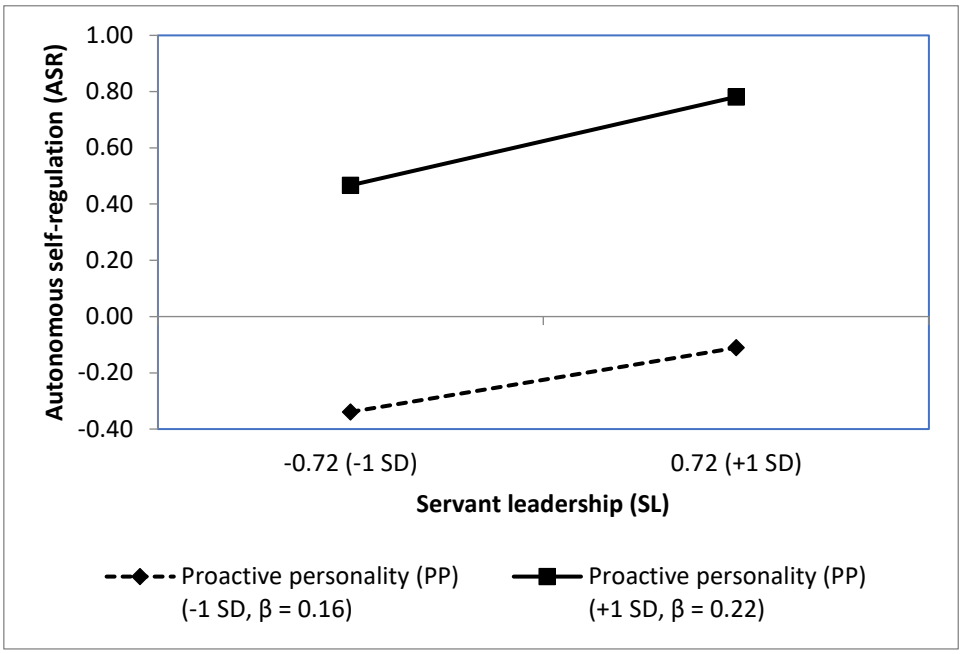


Figure 6.1: Interaction between servant leadership and proactive personality on autonomous self-regulation Study 2

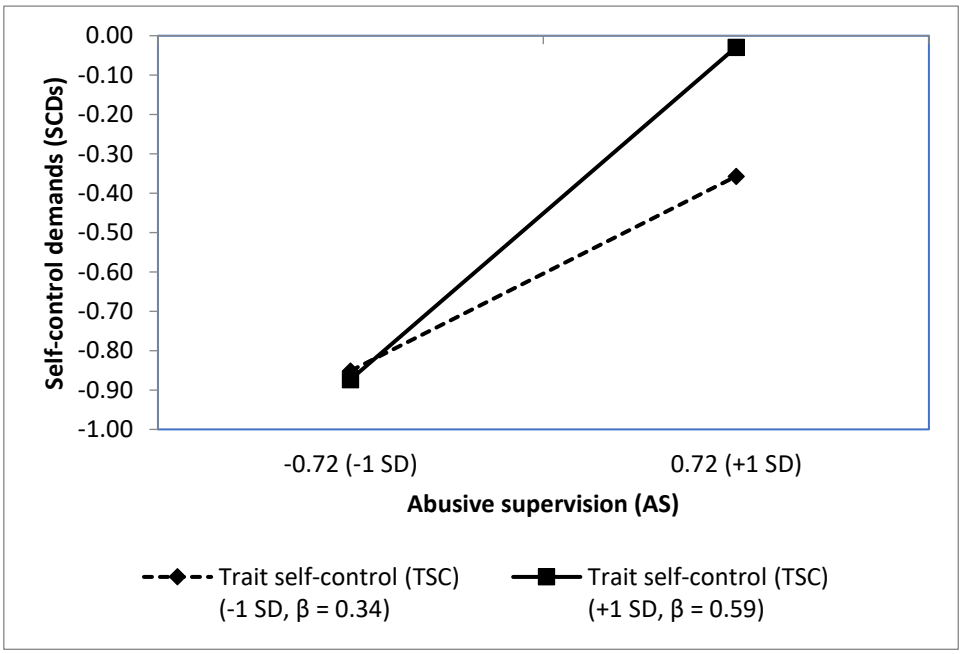


Figure 6.2: Interaction between abusive supervision and trait self-control on self-control demands Study 2

Results – Study 2 (Main Model)

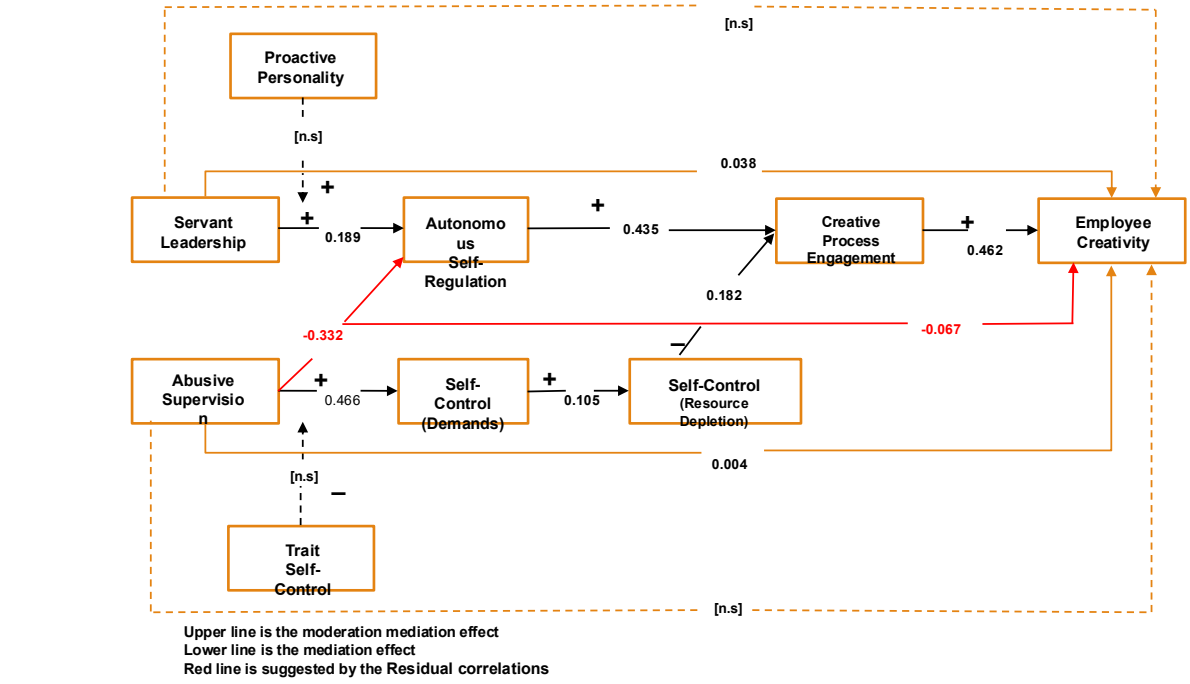


Figure 6.3: Results (main model) Study 2

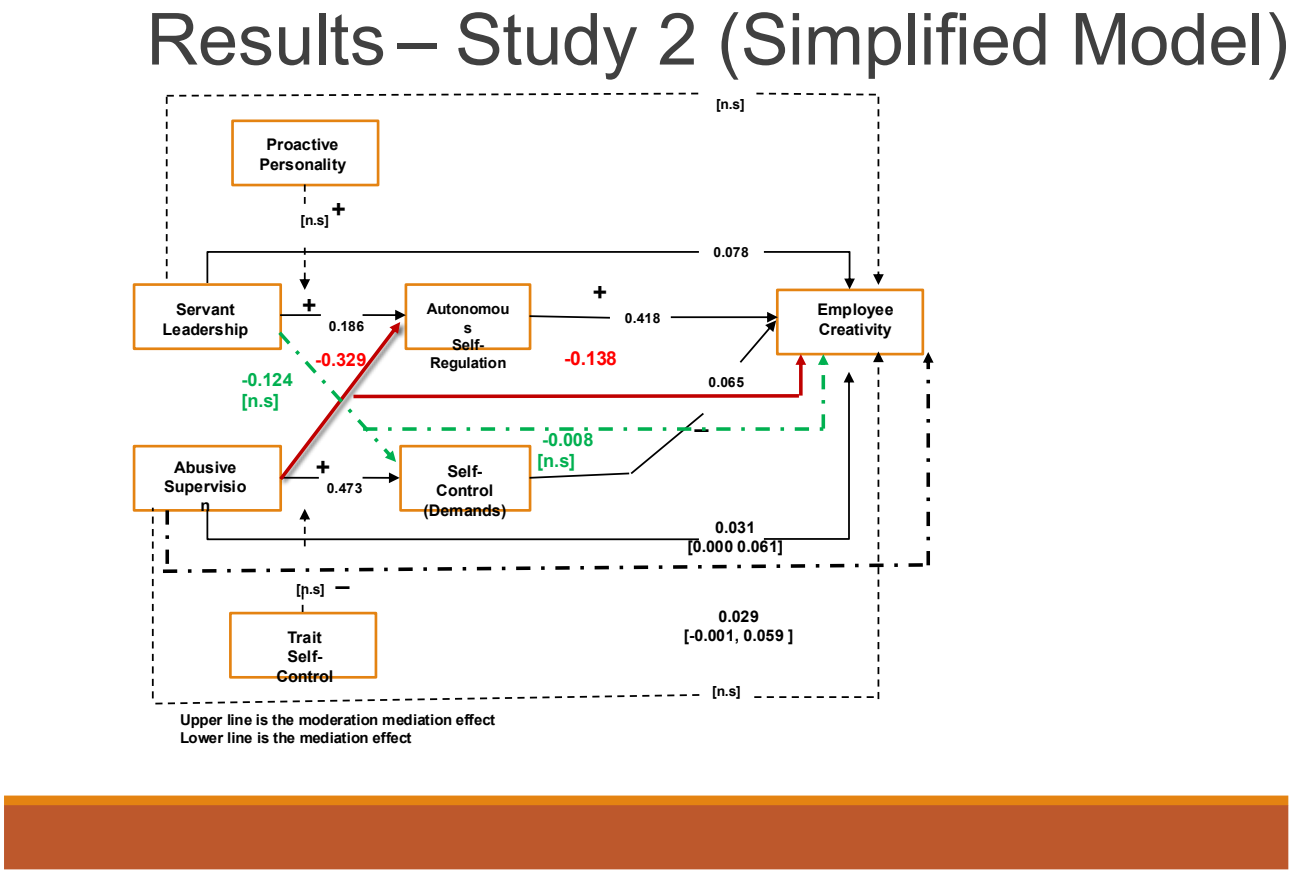


Figure 6.4: Results (main model) Study 2

6.6.5. Additional Analysis

This study again explored the relationship between abusive supervision and employee creativity via autonomous self-regulation and creative process engagement, once again highlighting that this analysis has not been hypothesised, but it is suggested by the residual correlation matrix that abusive supervision would negatively impact autonomous self-regulation, as shown in the Appendix A. This was then integrated into the model in a manner like that used in Study 1. The findings revealed a significant direct effect of abusive supervision on autonomous self-regulation (*b* = -0.332, p < .05). Building on this, the mediation pathway linking abusive supervision to employee creativity through autonomous self-regulation and creative process engagement was tested. The results indicated a negative relationship (*b* = -0.067, 95% CI [-0.100, -0.034]), as the credible interval did not include zero, as shown in Table 6.6.

Similar to the first study, a supplementary analysis was conducted to investigate further the unexpected pattern between ego depletion and creative process engagement (CPE). This analysis focused on the relationships involving ego depletion and creative process engagement (CPE) rather

than the CPE-creativity link examined in the first study. In light of the anomalies observed, both ego depletion and CPE were excluded from the model to assess their potential impact on the indirect pathways.

As CPE had been shown to produce inconsistent coefficients in study 1, and here again the relationship between ego depletion and CPE was opposite to what was expected, it was decided to estimate the model excluding CPE. The results revealed that the top-chain pathway (i.e., through autonomous self-regulation) was positive and significant (*b* = 0.082, 95% CI [0.025, 0.138]), consistent with the findings from both the main model of this study and the supplementary analysis of the first study.

In contrast, the bottom-chain pathway (i.e., through self-control demands and ego depletion) remained positive but non-significant (b = 0.002, 95% CI [-0.004, 0.007]), echoing the results of the first study's supplementary analysis, albeit in the opposite direction. The relationship between ego depletion and creativity appears to be inconsistent. This was to investigate potential suppression effects that may have influenced this indirect effect. However, a negative correlation was identified between these two variables (r = -0.151, *p* < .01; see Table 6.1). This shift in direction suggests the potential existence of a multicollinearity-induced suppression effect.

To explore this further, creativity was first regressed on ego depletion, revealing a negative coefficient (*b* = -0.434, *p* = 0.000). Afterwards, additional variables were added to the model to identify which variable reversed the direct relationship. The analysis revealed that autonomous self-regulation, a variable highly correlated with ego depletion (r = -0.498, *p* < .01; see Table 6.1), had a reverse effect (*b* = 0.012, *p* = 0.904). The inclusion of autonomous self-regulation altered the direct relationship, rendering it positive, thereby indicating the presence of suppression effects.

Subsequently, and again following the approach of the first study, ego depletion was also excluded from the model. In this revised model, the indirect effect became significant and again emerged in a positive direction (b = 0.031, 95% CI [0.000, 0.061]), as shown in Table 6.8. This finding once more contradicts theoretical expectations, which predicted a negative relationship between SCDs and creativity. One potential explanation is the presence of a suppression effect. However, inspection of the within-person correlations among the relevant variables suggests otherwise: the observed correlation between SCDs and creativity was positive, not inverse, casting doubt on a suppression interpretation. To further rule out suppression, exploratory regression was conducted in which creativity was regressed on SCDs. The result yielded a positive coefficient (*b* = 0.020, *p* = 0.795). It appears that self-control demands (SCDs), particularly daily impulse control, may capture aspects of regulatory effort that are not uniformly detrimental to creativity, a topic that will be discussed further in the next section.

6.7. Discussion

The second study had several main objectives. First, it aimed to expand upon Study 1 by investigating how leadership behaviours impact employees' creativity through self-regulatory processes on a daily basis. Second, the study sought to replicate the model from Study 1 within a multilevel framework, allowing for a more nuanced analysis of the data. Third, by employing this multilevel approach, the study intended to mitigate the limitations of the cross-sectional design applied in Study 1, addressing concerns previously observed. Finally, consistent with the first study, this research also examined how followers' proactive personality and trait self-control capabilities moderated the effect of leadership behaviours on employee creativity.

Similar to results from study 1, the hypotheses related to the direct effects (specifically, H1, H3, and H4) were supported. Consistent with Study 1, the findings reveal a significant and positive direct relationship between servant leadership and autonomous self-regulation (H1), as well as between abusive leadership and self-control demands (H3). In addition, there was a significant and positive direct relationship between self-control demands and resource depletion (H4).

Regarding proposed indirect effects, it was initially hypothesised that servant leadership would indirectly enhance employee creativity through increased autonomous self-regulation and subsequent creative process engagement (H2). While this proposed mediation pathway was not supported in the first study, the current study provided empirical support for this indirect effect. Turning to the second indirect hypothesis, the abusive supervision model, it was originally posited that higher self-control demands would deplete self-regulatory resources, thereby diminishing creative process engagement and ultimately reducing employee creativity (H5). Contrary to predictions, findings from both studies revealed a significant but unexpected positive indirect effect. In the first study, this unexpected positive effect was primarily due to an unanticipated negative relationship between creative process engagement and employee creativity. Conversely, in this study, it arose from an unexpected positive relationship between self-control (resource depletion) and creative process engagement, which will be discussed later.

As was the case with S1, the proposed moderation effect (i.e., proactive personality) was not supported, and consequently, the moderated mediation was also not supported. Specifically, for H6, no evidence was found for the proposed moderation mediation effect where the follower's proactive personality was expected to positively moderate the mediating effects of servant leadership style on employee creativity through autonomous self-regulation and creative process engagement. As was the case in study 1, the interaction effect between proactive personality and servant leadership style on employees' autonomous self-regulation was not significant. This finding may once again be attributed to the high correlation between proactive personality and autonomous self-regulation ($r = 0.553$, $p < .01$; see Table 6.1)). In addition, as discussed in Study 1, proactive employees may need

less servant behaviour to stay motivated, possibly because they are naturally self-driven to motivate, irrespective of the level of servant leadership they experience, suggesting that servant and proactive behaviours can substitute for one another (Bauer et al., 2019).

Furthermore, in H7, it was proposed that a follower's trait self-control positively moderates the mediating effects of an abusive leadership style on employee creativity through self-control demands, self-control (resource depletion), and creative process engagement. However, this hypothesis was not supported, as the interaction between followers' trait self-control and abusive leadership on self-control demands was non-significant. This contrasts with the first study, which found a significant interaction effect on self-control demands. While the extant literature highlighted that inner resources such as self-control capacity (i.e., trait self-control) could help employees resist temptations and override the impulses to align their actions with gaining long-term benefits (Myrseth & Fishbach, 2009), the current findings indicate that this capacity may be constrained in highly stressful environments, such as those created by abusive supervisory behaviours, potentially reducing the buffering effect of trait self-control.

One possible explanation is that in highly adverse contexts, such as those marked by abusive leadership, the need to regulate one’s emotions and suppress impulses may impose such high self-control demands that even those with high self-control struggle to cope. This increased effort may stem from their need to regulate their emotions and behaviours to avoid retaliating against abusive leaders (e.g., McAllister et al., 2017). This is also precisely what the positive interaction effect captures: higher trait self-control corresponds with even greater experienced demands under abuse, as shown in Table 6.3. Indeed, the positive direct relationship between the trait of self-control and self-control demands suggests that, rather than reducing the impact of abusive leadership, individuals with high trait self-control may experience increased self-control demands in stressful situations. This is illustrated by the positive direct path presented in Table 6.3.

Complementing this perspective, the strength model of self-regulation offers a broader theoretical explanation. This model posits that self-control relies on a finite resource that is susceptible to temporary depletion (Baumeister & Heatherton, 1996). Within this framework, factors such as fatigue and stress may potentially explain failure in self-regulation. These factors can drain an individual's strength, weakening their self-control capacity. Perhaps not all individuals' strength is fully depleted; some may remain accessible even after exertion (Baumeister et al., 2000; Muraven, 1998). Individuals proficient in self-control strategically manage their limited regulatory resources (Muraven et al., 2006) by actively avoiding tempting situations, facilitating successful self-control attempts. However, such successes do not come without costs. These costs come in such a way that individuals lose their ability to resist temptations (Imhoff et al., 2014). This ability to resist temptations can be explained by the strength model of self-control (Muraven & Baumeister, 2000),

where actively resisting one's desires builds the self-control "muscle," increasing the likelihood of successfully overcoming temptations in the future (Muraven, Baumeister, & Tice, 1999; Oaten & Cheng, 2006b). Consequently, when individuals are forced to confront typically avoided temptations, such as daily interactions with abusive leaders as in this study, they become particularly exposed to self-control failure, precisely because their ability to resist these temptations has been diminished (Imhoff et al., 2014).

Moreover, findings from prior studies provide additional insight. For instance, Externbrink et al. (2019) found that self-control capacity can be impeded when individuals cope with stress, leading to strain. Specifically, in situations involving multiple stressors, such as managing work and academic self-control demands simultaneously, those with high-trait self-control fail to overcome the strain. This perspective aligns with the Job demands-resources model (Bakker & Demerouti, 2007), which posits that excessive demands can undermine the effectiveness of personal resources in maintaining employee well-being. According to this model, high demands can attenuate the positive impact of resources such as trait self-control. Therefore, in aversive situations like those created by abusive leadership, where self-control demands are elevated, even employees with high trait self-control may struggle to meet the increased demands.

Another possible explanation for the non-significant interaction effect between trait self-control and abusive leadership on self-control demands relates to the sample size and statistical power. This study employed a relatively small sample size, which may have reduced the ability to detect interaction effects. Specifically, trait self-control was measured only once per participant, resulting in a total of 69 data points for this variable. In contrast, abusive supervision and self-control demands were measured an average of nine times per participant, accumulating 609 data points in total. The limited number of measurements for trait self-control at the individual level (level 2) may have reduced the statistical power necessary to detect a significant interaction effect between trait self-control and abusive leadership.

The unexpected positive direct effect of self-control (resource depletion) on creative process engagement deserves particular attention. This unexpected outcome is driven by a positive coefficient between ego depletion and creative process engagement in the SEM model.

This effect is surprising and worthy of reflection. One possible explanation is that employees may continue to engage in creative processes even when they feel depleted. This is because depleted mental states are associated with impairments in the executive system (Hagger et al., 2010; Persson et al., 2007), which is responsible for higher cognitive functions (Deacon, 1997), including planning, decision-making, goal-directed behaviour, problem-solving, and self-regulation (i.e., self-control). These functions are considered active and volitional acts of the self. According to the self-regulatory strength model, the depletion of strength resources should selectively impair these active

self-regulatory acts—the deliberate processes of executive functions—while sparing more automatic processes (Vohs & Baumeister, 2011). Consequently, even when individuals feel depleted, they might still engage in creative processes that rely more on automatic processes, such as imagination and the generation of ideas (Radel et al., 2015).

Supporting this notion, there is evidence in the creativity literature suggesting that a depletion of resources can, in fact, stimulate the generation of new ideas (e.g., Radel et al., 2015). Specifically, when individuals feel depleted, their inhibitory control, which is responsible for preventing unnecessary information that is not related to the same task, becomes less effective due to exert inhibition. As a result, more ideas are likely to enter the working memory, facilitating the generation of new ideas.

Additionally, as discussed in the first study's findings, employees may continue to engage in creative processes by drawing on residual self-regulatory resources even after exerting self-control, as supported by Muraven (1998).

Another interpretation is that on days when employees experience heightened depletion, they may actively attempt to counteract or overcome these resource shortages, drawing on trained self-regulatory capacities consistent with the strength model of self-control (Baumeister et al., 1998), which conceptualises that repeated exertion of self-control, coupled with adequate recovery, can gradually expand one's regulatory capacity, like a muscle. From this perspective, sustained creative activity following demanding days may signal a trained, resilient regulatory capacity. This resilience might imply that the depletion experienced in the present study was not severe but rather mild and manageable, leaving enough resources to support creativity.

This notion of mild, rather than severe, depletion dovetails with a growing body of evidence examining "mild" ego-depletion effects. Baumeister and Vohs (2016) note that several studies have reported circumstances (i.e., various manipulations) under which depletion can be mitigated or even reversed. For example, laboratory work by Vohs et al. (2008) showed that the impact of making choices on the depleting effect depends on how pleasant those choices were when the task was relatively brief (approximately 4 minutes). However, when the duration increased significantly (to about 12 minutes), depletion effects emerged irrespective of choice pleasantness. Such evidence suggests that mild depletion may leave individuals with enough cognitive resources to sustain creative engagement, despite momentary depletion.

However, although several theoretical explanations discussed above might account for the unexpected positive relationship between ego depletion and creative process engagement (CPE), this pattern appears more likely to be a statistical artefact. Specifically, given the negative correlation between ego depletion and CPE (r = -0.003; see Table 6.1), and the substantial body of literature consistently documenting the detrimental effects of ego depletion on self-regulatory and

performance-related outcomes, the observed result warrants caution. One probable explanation involves multicollinearity or suppression effects within the model.

To explore this further, creative process engagement was first regressed on ego depletion, revealing a negative coefficient (*b* = -0.005, *p* = 0.928). Afterwards, additional variables were added to the model to identify which variable reversed the direct relationship. The analysis revealed that autonomous self-regulation, a variable highly correlated with ego depletion (r = -0.498, p < .01; see Table 6.1), had a significant effect (*b* = 0.435, *p* = 0.000). The inclusion of autonomous self-regulation altered the direct relationship, rendering it positive, thereby indicating the presence of suppression effects.

Given this, the observed positive coefficient should not be interpreted as evidence of a beneficial effect of ego depletion on creative engagement. Rather, the results are likely distorted due to statistical artefacts. To avoid misleading inferences, subsequent analyses were conducted excluding CPE, as in Study 1. These results again revealed a positive but non-significant effect. Thus, supporting the decision to remove ego depletion from the final model. These post-hoc analyses are further discussed next.

Building on this refinement, and consistent with the analytic strategy in Study 1, two supplementary analyses were undertaken. In the first supplementary analysis, ego depletion and CPE were removed from the model to explore further the unexpected inverse relationship identified between these two variables, consistent with the simplified model tested in Study 1. This analysis indicated that servant leadership positively enhances autonomous self-regulation, which subsequently increases employee creativity, thereby replicating the findings of the first study. In contrast, the pathway linking abusive supervision to creativity via self-control demands produced results that once again contradicted theoretical expectations and differed from those obtained in the first study's additional analysis. Specifically, abusive supervision indirectly predicted increased creativity through heightened self-control demands.

A potential explanation for this counterintuitive result is that on particularly demanding days, employees may actively attempt to counteract or overcome these demands, drawing on trained self-regulatory capacities consistent with the strength model of self-control (Baumeister et al., 1998), which conceptualises that repeated exertion of self-control (SCDs), coupled with adequate recovery, can gradually expand one's regulatory capacity, like a muscle. Viewed through this lens, the creative behaviours following high-demand days may reflect employees' strengthened and resilient self-regulatory capacities, potentially clarifying the unexpected positive relationship observed between self-control demands and creativity.

The discrepancy between Studies 1 and 2 likely stems from methodological differences. The potential explanation is that maybe in days when people had a lot of demands, they valued their

creativity in having been able to cope with those demands. However, in Study 1, as it was rated by external leaders, they were unaware of these small creative acts.

In the second supplementary analysis, guided by the residual-correlation matrix (though not hypothesised initially), the current study examined the indirect relationship linking abusive supervision to employee creativity via autonomous self-regulation and creative process engagement (CPE). The results revealed a negative indirect effect of abusive supervision on employee creativity, driven primarily by the negative link between abusive supervision and autonomous self-regulation suggested by the residual-correlation matrix. This finding diverges from the pattern observed in Study 1 but aligns with previous research documenting abusive leadership's harmful effects on employee creativity (e.g., Han et al., 2015; Liu et al., 2016; Zhang et al., 2012).

In the next chapter, I will integrate the findings of the first and second studies regarding the underlying theories and existing empirical evidence. Likewise, I will discuss the practical implications of the research outcomes and suggest future research tendencies, considering this research's limitations.

CHAPTER 7 GENERAL DISCUSSION

7.1. Introduction

Motivational processes have been central to the development of leadership and creativity literature. However, Hughes et al. (2018) observed their predominance in existing studies and recommended a shift in focus to alternative frameworks. Responding to this call, recent research has increasingly embraced theories such as social learning theory and dominance complementarity theory (e.g., Palomino & Zoghbi-Manrique-de-Lara, 2020; Ali, Wang, & Johnson, 2020). This shift in focus implies a mutual consensus that motivational processes in leadership and creativity have been thoroughly explored. However, this consensus is premature and significant opportunities remain to develop new theoretical insights in this area.

In this research, I highlight the untapped potential of a self-regulatory framework to deepen our understanding of how and why leadership behaviours shape employee creativity. While self-regulation theory incorporates general motivational processes, it extends beyond them to include behavioural and emotional regulations. This distinction adds a layer of complexity and uniqueness that sets it apart from other motivational theories. Drawing on self-regulation theory within leadership and creativity research, I introduce two novel mechanisms—autonomous self-regulation and self-control (resource depletion)—through which opposing leadership styles, such as servant and abusive leadership, influence employee creativity. Moreover, by developing a self-control model (i.e., self-regulation model), I suggested that trait self-control serves as a boundary condition on the effects of abusive leaders on employees' creativity through self-control demands, self-control (resource depletion) and creative process engagement. In parallel, anticipating a synergistic effect, I suggested that employees' proactive personality interacts with servant leadership to strengthen autonomous self-regulation, ultimately enhancing employees' creativity through both autonomous self-regulation and creative process engagement. Accordingly, this research tested a series of hypotheses to examine these proposed mechanisms and boundary conditions.

Across both studies, the first, third, and fourth hypotheses were supported. Specifically, servant leadership was found to directly influence autonomous self-regulation. At the same time, abusive supervision had a direct negative effect on self-control demands, as did self-control demands on self-control (resource depletion). These findings were replicated in both a multi-source and a diary study. Notably, the diary study provided empirical support for the hypothesised mediating pathway linking servant leadership to employee creativity via autonomous self-regulation and creative process engagement (CPE). In contrast, the mediation pathway from abusive supervision

to creativity through self-control demands, ego depletion, and CPE did not receive support in either study. Instead, an opposite pattern of effects emerged, suggesting a potential statistical artefact influencing the observed relationships.

Further examination of the models revealed that, in Study 1, suppression effects involving CPE obscured the expected relationships. When CPE was removed from the model, support emerged for the hypothesised mediation pathway linking servant leadership to creativity via autonomous self-regulation. In contrast, the mediation pathway involving abusive supervision became evident only when both CPE and ego depletion were excluded. Under these refined model conditions, support also emerged for the moderated mediation pathway involving trait self-control, which significantly influenced the indirect effect of abusive supervision on creativity via self-control demands. Conversely, in Study 2, suppression effects involving CPE were not problematic. Although the servant leadership pathway was supported as hypothesised, the abusive supervision pathway was unsupported due to an unexpected positive association between resource depletion and CPE, as indicated by the suppression. When the model was tested, excluding these variables, the servant leadership pathway remained supported, but the abusive supervision pathway via self-control demands still lacked support. In addition, the moderated mediation involving trait self-control was not supported in Study 2, and proactive personality did not emerge as a significant boundary condition in either study.

These findings provide partial support for the role of self-regulation in explaining the differing effects of servant leadership and abusive supervision on creativity. However, some important inconsistencies require discussion and will be addressed.

In the first study, the hypothesised mediation linking servant leadership to creativity via autonomous self-regulation and CPE, as well as the indirect effect of abusive supervision through self-control demands, ego depletion, and CPE, were not supported due to the negative link between CPE and creativity. This counterintuitive relationship may reflect the higher task complexity inherent in creative engagement, leading to increased cognitive load (Sweller, 1988) and impairing creative problem-solving and motivation (Reiter-Palmon & Illies, 2004). Indeed, specific cognitive processes underpinning creativity, such as idea generation and evaluation, require substantial executive resources (Radel et al., 2015; Reiter-Palmon & Illies, 2004), which may become depleted under strain. Further, not all aspects of CPE may be equally beneficial. While tasks like idea generation can support creativity, others, such as information integration, may drain cognitive resources and impair performance (Henker et al., 2014). This aligns with emerging research highlighting the potential costs of creative engagement (Feldman & Ruble, 1981; Janssen, 2003; Mao et al., 2020). In addition, the negative direct relationship observed in this study indicates that supervisors do not fully acknowledge the effort employees invest in creative processes. Instead, their evaluations

appear to prioritise the quality or benefit of the final output over the effort expended during the creative process.

In contrast, Study 2 confirmed that servant leadership fosters creativity through autonomous self-regulation and CPE, yet the negative indirect effect of abusive supervision through self-control demands, resource depletion, and CPE was not supported; it yielded an unexpected positive indirect effect through a positive link between resource depletion and CPE. This counterintuitive relationship can be explained by the fact that depletion of mental states is associated with impairments of the executive system (Hagger et al., 2010; Persson et al., 2007), which is responsible for supporting deliberative self-regulation (Deacon, 1997). However, according to the self-regulatory strength model, depletion selectively impairs active self-regulatory acts while sparing more automatic processes (Vohs & Baumeister, 2011). Consequently, even when depleted, employees may continue to engage in creative processes that rely on automatic mechanisms (e.g., imagination and idea generation) because diminished inhibitory control permits a wider array of ideas to enter working memory (Radel et al., 2015). Additionally, employees may sustain their creative process engagement (CPE) by drawing on residual self-regulatory capacity even after initial exertion of self-control (Muraven, 1998). Utilising such a residual capacity may be particularly effective when depletion is mild, since mild depletion potentially leaves individuals with sufficient cognitive resources to continue engaging creatively despite momentary depletion. Finally, another interpretation is that on days when employees experience heightened depletion, they may actively attempt to counteract or overcome these resource shortages, drawing on trained self-regulatory capacities consistent with the strength model of self-control (Baumeister et al., 1998), which concepulise that repeated exertion of self-control, coupled with adequate recovery, can gradually expand one's regulatory capacity, like a muscle.

However, although several theoretical explanations might account for the unexpected findings, the positive correlations between creative process engagement (CPE) and creativity, and between ego depletion and CPE, alongside extensive literature highlighting CPE's positive effects on creativity and ego depletion's detrimental impact on self-regulation and performance, suggest that this pattern is most likely a statistical artefact. To address this, alternative models were examined in both Study 1 and Study 2, excluding CPE and ego depletion to reduce estimation bias and clarify the underlying mechanisms. These follow-up analyses provided a clearer picture of the proposed mediation pathways and reinforced the theoretical plausibility of the self-regulatory framework guiding this research.

7.2. Theoretical Implications

Introducing self-regulation theory to leadership and creativity research underscores the utility of this perspective for understanding leader-follower dynamics. Yet, despite its capacity to illuminate

employee behaviour (Johnson et al., 2006), particularly behaviours influenced by motivational, behavioural, and emotional regulations (Baumeister & Vohs, 2007; Muraven & Baumeister, 2000; Muraven, 2008; Muraven et al., 2008; Muraven, Tice, & Baumeister, 1998), researchers within leadership and creativity literature have largely ignored self-regulation theory as a critical mechanism driving employee behaviour. This research is the first to identify how leadership styles influence employee creativity, utilising a unified theoretical framework that integrates motivational, behavioural, and emotional regulation processes. Autonomous self-regulation and self-control, both forms of self-regulation theory, have implications for essential workplace outcomes such as creativity. Therefore, investigating how leadership behaviours shape these processes—and, consequently, influence employee creativity—offers valuable opportunities for advancing the theoretical understanding of this literature. By leveraging self-regulation theory, researchers can gain deeper insights into how and why leaders affect employee creativity.

First, this research found that servant leaders induce volitional behaviour through autonomous self-regulation and creative process engagement in employees, which enhances employee creativity, as demonstrated by the diary study and also the cross-sectional study, once CPE is removed from the model This finding is aligned with prior studies that have used other motivational mechanisms such as intrinsic motivation, self-regulatory promotional focus, and psychological empowerment (as conceptualised within self-determination theory; Gagné & Deci, 2005), to explain the positive impact of leadership styles in general (e.g. Gong et al., 2009; Henker, et al., 2014; Mittal & Dhar, 2015; Shin & Zhou, 2003; Tu & Lu, 2012; Zhang & Bartol, 2010) and servant leadership in particular (e.g. Neubert, et al., 2008; Yang et al., 2019;) on employee creativity. However, current research mechanism explicitly provides a process-oriented lens for understanding how autonomous self-regulation may facilitate the recovery or maintenance of regulatory resources (Muraven, 2008; Muraven et al., 2008), thereby sustaining creativity under demanding conditions. This theoretical extension contributes to the literature by positioning autonomous self-regulation not merely as a motivational state but as a regulatory function to facilitates the recovery of self-regulatory resources that enables employees to remain creative despite potential resource depletion. Building on this literature, the present study introduces a framework that synthesises motivational, emotional, and behavioural regulation processes, thereby revealing a novel pathway through which servant leadership stimulates creativity. Moreover, recent reviews and meta-analyses (e.g., Hughes et al., 2018; Lee et al., 2019) have long underscored the value of motivational processes as mediators between leadership styles and creativity. Extending these findings, the present study isolates an unexplored motivational mechanism—autonomous self-regulation—as a key driver of servant leadership's effectiveness. In doing so, it offers new empirical evidence that broadens our understanding of how servant leadership can elevate employee creativity.

Furthermore, this research found that abusive leaders induce controlled behaviour through self-control demands, which impairs employee creativity, as demonstrated by the cross-sectional study, once ego depletion and CPE are removed from the model. Although excluding ego depletion from this analysis could be considered a limitation, this simplification is theoretically valid. The strength model conceptualises depletion as a consequence of self-control exertion, rendering SCDs a proximal and sufficient indicator of resource strain (Muraven & Baumeister, 2000). Supporting this theoretical stance, prior studies have identified self-control demands (SCDs) as a direct mechanism contributing to adverse well-being outcomes, such as emotional exhaustion and anxiety (Diestel & Schmidt, 2009). They explain that coping with heightened self-control demands engages self-control strength, which subsequently exhausts. Thus, focusing exclusively on SCDs captures both the intensification of regulatory effort and the corresponding depletion of finite self-control resources.

While prior studies have explored the impact of abusive leadership on creativity through mediators such as emotional exhaustion, psychological safety, organisational identification, and sleep deprivation (e.g., Han et al., 2015; Liu et al., 2016; Zhang et al., 2012), the role of self-control demands as a distinct regulatory burden remains underexplored. By isolating SCDs, the current research contributes a novel theoretical insight, demonstrating how controlled regulation, triggered by abusive supervision, undermines creativity through its resource-depleting demands. This mechanism extends existing leadership–creativity research by emphasising the effortful nature of controlled self-regulation as a pathway through which adverse leadership impairs creative performance.

Regarding the moderated mediation analysis involving trait self-control, it provided further nuanced insights. Trait self-control moderated the initial stage of the abusive supervision–SCDs link, buffering the adverse effects of abusive supervision. Although the full moderated mediation pathway (through ego depletion and CPE) was initially unsupported due to model complexity and limited power, a simplified model (excluding ego depletion and CPE), as in Study 1, clearly established trait self-control as a critical buffer against the increased SCDs caused by abusive supervision. This finding aligns with the extant literature, which highlights the protective role of trait self-control in demanding contexts (De Clercq & Belausteguigoitia, 2021; Lian et al., 2014b; Yam et al., 2016).

Second, this research advances creativity literature by clarifying how autonomous self-regulation relates to creativity and extending our understanding of the critical role of recovery of regulatory resources (Muraven, 2008; Muraven et al., 2008) in engaging in creativity. Guided by the self-regulation theory (Muraven, 2008; Muraven et al., 2008; Muraven, Tice, & Baumeister, 1998), this research predicted a positive association between autonomous self-regulation and creativity at both the between-person and within-person levels, a prediction supported by both the cross-

sectional and diary data. Previous studies have regarded engaging in creativity as a sense of autonomy and positive emotions (e.g., Amabile et al., 2005; Isen et al., 1985 & 1987; Sheldon, 1995; Visser et al., 2013). Given these positive experiences, employees who exhibit increased autonomous self-regulation are more likely to promote greater creativity.

Third, this research advances creativity literature also by clarifying how self-control demands (SCDs) relates to creativity and extending our understanding of self-regulatory resources' critical role in engaging in creativity. Guided by the conventional strength model perspective (Muraven & Baumeister, 2000), this research predicted a negative association between SCDs and creativity at both the between-person and within-person levels, a prediction supported by the cross-sectional data. Previous studies have regarded the creative process as requiring strenuous work and a substantial investment of personal resources (Ivcevic & Nusbaum, 2017; Shalley et al., 2004). Given these resource-intensive requirements, employees experiencing elevated SCDs who exhaust the finite pool of self-regulatory resources are more likely to reduce their investment in creative activities.

Contrary to our initial hypotheses, neither study found evidence that proactive personality interacts with servant leadership to enhance autonomous self-regulation and, consequently, creativity. These findings may be attributed to the high correlation between proactive personality and autonomous self-regulation, as noted in each study, suggesting that proactive individuals have higher levels of autonomous self-regulation, regardless of the presence of a servant leader. This interpretation is supported by prior empirical research demonstrating positive links between proactive dispositions and autonomous regulation (Grant et al., 2011), and it is conceptually aligned with theoretical accounts proposing that proactive individuals are more likely to internalise goals and regulate their behaviour autonomously (Strauss & Parker, 2014).

Finally, in addition to the hypothesised model, exploratory analysis was conducted in Study 1 and Study 2, aimed at determining whether abusive supervision influences employee creativity through autonomous self-regulation and creative process engagement (CPE).

Although these pathways were not initially hypothesised, residual correlation matrices suggested a potential negative association between abusive supervision and autonomous self-regulation, prompting further investigation. Study 1’s cross-sectional framework showed abusive supervision negatively predicting autonomous self-regulation, yet paradoxically relating to higher creativity (due to the inverted relationship between creative process engagement and creativity). In contrast, Study 2’s diary approach revealed an adverse indirect effect, aligning with broader literature on the detrimental impact of abusive leadership (e.g., Han et al., 2015; Liu et al., 2016; Zhang et al., 2012).

7.3. Limitations and Directions for Future Research

While the adopted multi-method approach, featuring both cross-sectional and daily diary studies, provides valuable insights, several issues warrant attention. First, cross-sectional data offer only a static view of the phenomena, leaving the possibility of common-method variance open, particularly due to the lack of temporal separation between the measurement of predictor and outcome variables (Podsakoff et al., 2012). Although cross-sectional designs allow for broad overviews of relationships, the simultaneous collection of all data may increase the risk of response biases, such as recall bias, when participants report on past events. To address these concerns, I also incorporated a diary component, which captures behaviours closer to when they occur, introduces temporal separation between measurements, and thereby reduces reliance on memory while enhancing the ability to make causal inferences (Bolger et al., 2003).

Nevertheless, even daily diary studies—particularly interval-contingent reporting designs like this—may miss subtler within-person fluctuations over longer periods or infrequent yet influential events, as they rely on one report per day. However, this study adopted a daily diary rather than the weekly approach used in the recent abusive leadership study (Babu et al., 2023). This is because a diary study can capture behaviours closer to when they occur, introduce temporal separation between measurements, thereby reducing reliance on memory while enhancing the ability to make causal inferences (Bolger et al., 2003). It is also well suited to employee creativity, which fluctuates daily (Amabile et al., 2005). That said, abusive behaviours do not occur very frequently (Fischer et al., 2021), so even a daily approach may fail to capture every incident. To address this, future research could employ an event-contingent diary design, prompting participants to report leadership encounters (abusive or servant) immediately as they happen (Fisher & To, 2012). Such real-time reporting would further reduce recall bias and provide finer-grained evidence on my proposed temporal dynamics. However, event-contingent methods are more demanding for participants and remain susceptible to under-reporting when individuals forget or choose not to log every incident (Fisher & To, 2012).

Second, although the first study used supervisor ratings to assess employee creativity, other key constructs (e.g., leadership behaviours and self-regulatory processes) still relied heavily on self-reported measures, which may introduce same-source bias, such as response styles or social desirability (Podsakoff et al., 2003). In the diary study, employees provided self-ratings for all measures, including their creativity, which can further increase this bias. To address these concerns, future research could seek information from additional sources, such as peers, to reduce the overreliance on self-reports. Nevertheless, it is crucial to recognise that certain variables, particularly those reflecting internal states, are inherently more challenging to capture through external observations and may necessitate continued use of self-report methods. Another way to address

same-source bias is to employ longitudinal designs featuring repeated measurements (i.e., variables are measured more than once) over an extended timeframe. This approach can also offer a stronger indication of causality (Taris et al., 2021).

Third, this research suggests that even when employees are depleted and face high self-control demands, they may not be entirely drained of resources. Instead, a portion of those resources often remains, potentially enabling continued engagement in creative activities. However, a limitation of this research is the lack of direct measurement or tracking of these residual resources to determine how they might facilitate creativity despite overall depletion. Future research could, therefore, investigate whether these leftover resources fully or partially account for employees' ability to remain creative under taxing conditions.

Fourth, the present study's sample was drawn from the Kingdom of Saudi Arabia—a Middle Eastern context culturally distinct from both Eastern (e.g., East Asian) and Western contexts. This raises questions regarding the generalizability of our findings, especially the positive effect of abusive supervision on employee creativity, to other cultural environments. Although similar findings have been observed in some Eastern cultures, such as South Korea (e.g., Lee et al., 2013), further cross-cultural research, including comparisons with Western samples, is necessary to evaluate the broader applicability of our results comprehensively.

Fifth, our study did not explore whether servant leadership might improve or hinder employee creativity through self-control mechanisms (i.e., self-control demands and ego depletion measures). Although servant leadership is generally viewed positively, recent research has begun to highlight potential downsides, such as increased demands or emotional exhaustion, when followers constantly respond to servant behaviours (e.g., Lacroix et al., 2017; Peng et al., 2023). This omission is a limitation because investigating these unintended consequences could provide a more comprehensive understanding of servant leadership's overall impact on employee creativity. Therefore, future research might predict the negative effects of servant leadership via self-control mechanisms, enriching the current conversation on the "dark side" of servant leadership.

Sixth, the findings indicate that abusive supervision can, under certain conditions, encourage creativity and align with prior work demonstrating positive outcomes of seemingly negative leadership. While this research employed a robust approach, a daily diary method, additional experimental research is needed to strengthen causal inferences further. By systematically manipulating leadership behaviours in controlled settings, such research could also help identify contextual factors or individual differences that moderate this counterintuitive effect, shedding light on the conditions under which abusive supervision may foster or hinder creativity.

In addition to these limitations, a further methodological issue concerns the temporal ordering of measures in the diary study. Although Study 2 was designed to improve on the cross-sectional

design of Study 1 by capturing within-person fluctuations over 10 working days, all focal variables were assessed within the same daily window, with self-regulation measured at mid-workday and leadership behaviours, creative process engagement, and creativity assessed at the end of the workday. This timing is consistent with prior diary research (e.g., Amabile et al., 2005; Liao et al., 2020; Rushika De Bruin and Finkelstein, 2023; Wehrt et al., 2022), as it allows employees to report on self-regulatory states as they unfold during the day and to evaluate leaders' behaviours and their own creative performance after having experienced the whole workday. However, it also means that the study primarily captures day-level covariation among leadership, self-regulation, and creativity rather than strict causal sequencing. Consequently, while the findings provide dynamic evidence that these variables rise and fall together within persons across days, in a manner consistent with the proposed dual-pathway framework, they do not permit definitive conclusions about the exact temporal sequence (i.e., whether leadership changes precede shifts in self-regulation, which in turn precede creativity). Future research should therefore employ designs with more apparent temporal separation or lagged measurement (e.g., morning leadership, midday regulation, end-of-day creativity, or day-to-day lags) to more rigorously test the sequential unfolding of these self-regulatory processes.

Another potential avenue for future research involves examining boundary conditions related to trait abusive supervision, thereby clarifying the boundary conditions under which abusive supervisory behaviours may or may not impact employees' creativity. Our model emphasises the detrimental direct impact of abusive supervision from a self-control perspective (i.e., self-control demands). However, further studies might reveal that the increased self-control demands could be attenuated when employees do not interpret a leader's hostile behaviours as reflecting dispositional abusiveness, viewing them instead as isolated incidents of hostile behaviour. Indeed, attributing such hostility to momentary lapse because of temporary situational factors (Johnson et al., 2012) may reduce the self-control demands employees face in managing their reactions.

Similarly, personality traits such as openness to experience and promotion focus may moderate the impact of servant leadership on autonomous self-regulation. Individuals high in openness are typically more curious, imaginative, and receptive to new ideas, making them more likely to embrace the developmental support provided by servant leaders. Likewise, employees with a strong promotion focus—motivated by growth and advancement—may be especially responsive to the autonomy and encouragement fostered by servant leadership. This alignment between leadership style and individual disposition can enhance autonomous self-regulation, a key mediator in the proposed model, thereby strengthening the pathway to employee creativity.

Finally, future research should further unpack the specific processes underlying each link in our proposed mediational pathway between leadership behaviours and employee creativity.

Although I have introduced a sequential mediation model grounded in robust theoretical assumptions, the present study did not explicitly explore the detailed cognitive or emotional mechanisms operating within each particular link. For instance, future studies could examine whether reduced attentional control, heightened cognitive interference, or changes in goal-directed effort help explain precisely how ego depletion influences creative process engagement (CPE). Similarly, the link between autonomous self-regulation and CPE could be explored through cognitive processes, such as goal clarity, or emotional processes, like positive affect. Investigating these more granular mechanisms would enhance theoretical precision and deepen our understanding of how each relationship within the sequential mediation unfolds.

7.4. Practical Implications

Given that employee creativity is essential for organisational success, the fact that self-regulation processes play a key role in explaining how leadership styles—servant and abusive—link to creativity carries a number of critical implications for managerial development**.** First**,** managers can use this understanding to enhance servant leadership's effectiveness by encouraging employees' autonomous self-regulation, which plays a key role in fostering creativity. Second, managers can also use this understanding to reduce abusive supervision effectiveness by decreasing employees' self-control demands, which play a key role in impairing creativity.

To achieve this, HR departments should develop specialised training programs to allow managers to exhibit servant leadership behaviours in routine interactions with their employees (Chiniara & Bentein, 2016; Liden et al., 2014; Rivkin et al., 2014). In this way, leaders can promote autonomous self-regulation, enabling employees to feel energetic and autonomous (e.g., van Dierendonck, 2011; Rodríguez-Carvajal et al., 2018) and reduce self-control demands, allowing employees to feel less controlled and less depleted (e.g., Rivkin et al., 2015, 2016). This fulfilment ultimately leads to greater engagement in creative activities within the workplace.

While certain studies, including the diary study findings, imply that abusive supervision might drive creativity in specific contexts, this should not be interpreted as endorsing harmful leadership practices. Organisations must remain aware of the potential risks associated with such an approach, including heightened stress, fear, and turnover intentions. Nevertheless, rather than endorsing abusive practices, these findings highlight employees' capacity to persevere and originate even under negative treatment. This ability aligns with the strength model (Baumeister et al., 1998), which conceptualises self-control as a muscle that becomes stronger through consistent use and practice. Consequently, organisations can offer long-term training programs, in line with Muraven and Baumeister (2000), designed to strengthen employees' self-control resources over time.

This research also suggests that employees may retain some energy or resources even under demanding conditions (Muraven, Shmueli, and Burkley, 2006). Hence, interventions that

bolster self-regulatory capacity are vital. Organisations may consider promoting mindfulness workshops, time management training, and structured break policies. These interventions enable employees to manage and replenish their resources (e.g., Oettingen et al., 2015; Trougakos et al., 2008), ensuring they can continue to engage effectively in creative tasks. From an individual aspect, staff members may also boost their (remaining) resources, for example, by taking regular breaks (Trougakos et al., 2008), to maintain the energy needed to engage in the creativity process.

7.5. Conclusion

Across two studies, this research demonstrates that self-regulation, by shaping employees' emotions, self-control resources, and behaviours, is a crucial lens for understanding how leadership styles influence employee creativity. Building on this premise, the theoretical perspective introduced here, centred on self-regulatory processes, can stimulate academic attention to this foundational and essential yet overlooked mechanism linking leadership and creativity. Consequently, this novel mechanism provides new evidence reinforcing the benefits of servant leadership in promoting employee creativity. At the same time, it offers new insight into how abusive supervision discourages creativity. Taken together, these results substantially advance our understanding of leadership and creativity.

References

Ali, A., Wang, H., & Johnson, R. E. (2020). Empirical Analysis of Shared Leadership Promotion and Team Creativity: An Adaptive Leadership Perspective. Journal of Organizational Behavior. doi:10.1002/job.2437

Allan Lee, Alison Legood, David Hughes, Amy Wei Tian, Alexander Newman & Caroline Knight (2019): Leadership, creativity and innovation: a meta-analytic review, European Journal of Work and Organizational Psychology, DOI: 10.1080/1359432X.2019.1661837

Amabile, T. M. (1983). *The social psychology of creativity*. Springer.

Amabile, T. M. (1996). *Creativity in context.* Westview

Amabile, T. M. (1998). How to kill creativity. *Harvard Business Review, 76*(5), 76-87. http://t1.daumcdn.net/brunch/service/user/wLl/file/A3zWuNTnQgEGyAKwxug1YWUmj0.pdf

Amabile, T. M., & Khaire, M. (2008). Creativity and the role of the leader. *Harvard Business Review, 86*(10), 100-109. https://pubmed.ncbi.nlm.nih.gov/18822674/

Amabile, T. M., Barsade, S. G., Mueller, J. S., & Staw, B. M. (2005). Affect and creativity at work. *Administrative Science Quarterly, 50*(3), 367-403. https://doi.org/10.2189/asqu.2005. 50.3.367

Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal, 39*(5), 1154-1184. https://doi.org/10.5465/56995

Amabile, T. M., Hadley, C. N., & Kramer, S. J. (2002). Creativity under the gun. *Harvard Business Review, 80,* 52-61. http://www.pickardlaws.com/myleadership/myfiles/rtdocs/hbr/CreativityUnderGunHBR02.pdf

Amabile, T. M., Schatzel, E. A., Moneta, G. B., & Kramer, S. J. (2004). Leader behaviors and the work environment for creativity: perceived leader support. *Leadership Quality, 15*(1), 5-32. https://doi.org/ 10.1016/j.leaqua.2003.12.003

Amabile, T.M. (1988). A model of creativity and innovation in organisations. In B. M. Staw & R. Stutton (Eds.), *Research in Organizational Behaviour.* Elsevier Science.

an, A. W., Lee, A., & Hughes, D. J. (2021). Abusive supervision: A systematic review and fundamental rethink. The Leadership Quarterly, 32, 101540.

Anderson, J. C., & Gerbing, D. C. (1988). Structural equation modeling in practice: A review and recommended two-step approach. Psychological Bulletin, 103, 411-423.

Andrews, F. M., & Farris, G. F. (1972). Time pressure and performance of scientists and engineers: A five-year panel study. *Organizational Behavior and Human Performance, 8*(2)*,* 185-200. https://doi.org/10.1016/0030-5073(72)90045-1

Apfelbaum, E., & Sommers, S. (2009). Liberating effects of losing executive control. Psychological Science, 20, 139–143. http://dx.doi.org/10.1111/j.1467-9280.2009. 02266.x.

Aragon, C. R., Poon, S. S., Monroy-Hernández, A., & Aragon, D. (2009). A tale of two online communities. Proceedings of the seventh ACM conference on Creativity and cognition, 9-18. https://doi.org/10.1145/1640233.1640239

Aryee, S., Chen, Z. X., Sun, L. Y., & Debrah, Y. A. (2007). Antecedents and outcomes of abusive supervision: Test of a trickle-down model. *Journal of Applied Psychology, 92*(1), 191-201. https://doi.org/10.1037/0021-9010.92.1.191

Atwater, L. E., Ostroff, C., Yammarino, F. J., & Fleenor, J. W. (1998). Self-other agreement: Does it really matter? Personnel Psychology, 51, 577-598.

Baard, P. P., Deci, E. L., & Ryan, R. M. (2004). Intrinsic need satisfaction: A motivational basis of performance and well-being in two work settings. *Journal of Applied Social Psychology*, *34*(10), 2045-2068. https://doi.org/10.1111/j.1559-1816.2004.tb02690.x

Baas, M., De Dreu, C. K. W., & Nijstad, B. A. (2011). When prevention promotes creativity: The role of mood, regulatory focus, and regulatory closure. *Journal of Personality and Social Psychology, 100*(5), 794-809. https://doi.org/10.1037/a0022981

Babbie, E. (2016). The practice of social research (14th ed.). Cengage Learning.

Babu, N., De Roeck, K., Rivkin, W., & Bhattacharya, S. (2023). I can do good even when my supervisor is bad: Abusive supervision and employee socially responsible behaviour. *Journal of Occupational and Organizational Psychology*, *97*(2), 555-578. https://doi.org/ 10.1111/joop.12482

Bandalos, D. L. (2002). The effects of item parceling on goodness-of-fit and parameter estimate bias in structural equation modeling. Structural Equation Modeling, 9(1), 78–102. https://doi.org/10.1207/S15328007SEM0901_5

Banker, S., Ainsworth, S. E., Baumeister, R. F., Ariely, D., & Vohs, K. D. (2016). The sticky anchor hypothesis: Ego-depletion produces susceptibility to situational cues. Princeton, NJ: Princeton University. unpublished manuscript.

Bakker, A. B., & Xanthopoulou, D. (2009). The crossover of daily work engagement: Test of an actor-partner interdependence model. Journal of Applied Psychology, 94, 1562–1571.

Bakker, A. B., Tims, M., & Derks, D. (2012). Proactive personality and job performance: The role of job crafting and work engagement. *Human Relations, 65*(10), 1359-1378. https://doi.org/10.1177/0018726712453471

Barling, J., Slater, F., & Kelloway, E. K. (2000). Transformational leadership and emotional intelligence: An exploratory study. *Leadership and Organization Development Journal, 21*(3), 157-161. https://doi.org/10.1037/a0030426157-161.

Barnes, C., Lucianetti, L., Bhave, D., & Christian, M. (2015). You wouldn't like me when I'm sleepy: Leader sleep, daily abusive supervision, and work unit engagement. *Academy of Management Journal, 58*(5), 1419-1437. *https://doi*.org/10.5465/amj.2013.1063

Barron, F., and Harrington, D. M. 1981. Creativity, intelligence, and personality. Annual review of psychology, 32(1): 439-476.

Barsh J, Capozzi MM, Davidson J. 2008. Leadership and innovation. McKinsey Quarterly, Jan.

Batten, J. (1998). Servant leadership: A passion to serve. In S. L. C. (Ed.), Insights on leadership: Service, stewardship, spirit, and servant-leadership (pp. 38-53). New York: John Wiley & Sons, Inc.

Bauer, T. N., Perrot, S., Liden, R. C., & Erdogan, B. (2019). Understanding the consequences of newcomer proactive behaviors: The moderating contextual role of servant leadership. *Journal of Vocational Behavior*, *112*, 356-368. https://doi.org/10.1016/j.jvb.2019.05.001

Baumeister RF, Heatherton TF, Tice DM. 1994. Losing Control: How and Why People Fail at Self-Regulation. San Diego, CA: Academic

Baumeister, R. F. (2002). Ego Depletion and Self-Control Failure: An Energy Model of the Self's Executive Function. *Self and Identity, 1*(2), 129-136. https://doi.org/10.1080/15298860231731930 2

Baumeister, R. F., & Heatherton, T. F. (1996). Self-regulation failure: An overview. Psychological Inquiry, 7, 1-15.

Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998). Ego depletion: Is the active self a limited resource? *Journal of Personality and Social Psychology, 74*(5), 1252-1265. https://doi.org/10.1037/0022-3514.74.5.1252

Baumeister, R. F., Heatherton, T. F., & Tice, D. M. (1994). *Losing control: How and why people fail at self-regulation.* Academic Press.

Baumeister, R. F., Muraven, M., & Tice, D. M. (2000). Ego depletion: A resource model of volition, Self-regulation, and controlled processing. *Social Cognition, 18*(2), 130-150. https://doi.org/10.1521/soco.

Baumeister, R. F., Vohs, K. D., & Tice, D. M. (2007). The strength model of self-control. *Current Directions in Psychological Science, 16*(6), 351-355. https://doi.org/10.1111/j.1467-8721.2007.00534.x

Baumeister, R. F., & Heatherton, T. F. (1996). Self-regulation failure: An overview. *Psychological Inquiry*, *7*(1), 1-15. https://doi.org/10.1207/s15327965pli0701_1

Baumeister, R. F., & Vohs, K. D. (2007). Self-regulation, ego depletion, and motivation. Social and Personality Psychology Compass, 1(1), 115-128. https://doi.org/10.1111/j.1751-9004.2007.00001.x

Baumeister, R. F., & Vohs, K. D. (2016). Strength model of self-regulation as limited resource: Assessment, controversies, update. In J. M. Olson & M. P. Zanna (Eds.), *Advances in experimental social psychology* (pp. 67–127). Elsevier Academic Press. https://doi.org/10.1016/bs.aesp.2016.04.001

Bhandari, P. (2023, June 22). *Correlation Coefficient | Types, Formulas & Examples*. Scribbr. Retrieved January 23, 2024, from https://www.scribbr.com/statistics/correlation-coefficient/

Binnewies, C., & Wörnlein, S. C. (2011). What makes a creative day? A diary study on the interplay between affect, job stressors, and job control. Journal of Organizational Behavior, 32, 589–607. doi:10.1002/job

Blais, M. R., & Brie`re, N. M. (1992). On the mediational role of feelings of self determination in the workplace: further evidence and generalization. Manuscript, University of Quebec at Montreal.

Boksem, M. A., & Tops, M. (2008). Mental fatigue: Costs and benefits. *Brain Research Reviews, 59*(1), 125-139. *https://doi.org/10.1016/j.brainresrev.2008.07.001*

Bolger, N., & Laurenceau, J.-P. (2013). *Intensive longitudinal methods: An introduction to diary and experience samplingresearch.* Guilford Press.

Bolger, N., Davis, A., & Rafaeli, E. (2003). Diary methods: Capturing life as it is lived. Annual Review of Psychology, 54, 579–616.

Bono, J. E., & Judge, T. A. (2003). Self-concordance at work: understanding the motivational effects of transformational leaders. Academy of Management Journal, 46, 554–571.

Breevaart, K., Bakker, A. B. B., Demerouti, E., & Derks, D. (2016). Who takes the lead? A multi-source diary study on leadership, work engagement, and job performance. *Journal of Organizational Behavior, 37*(3), 309-325. https://doi.org/ 10.1002/job.2041

Brown, M. E., Trevino, L. K., & Harrison, D. A. (2005). Ethical leadership: A social learning perspective for construct development and testing. *Organisational Behavior and Human Decision Processes, 97*(2)*,* 117-134. https://doi.org/10.1016/jobhdp.2005.03.002

Bruce, J., & Chambers, W. A. (2002). Questionnaire surveys. *Anaesthesia, 57*(11), 1049-1051. https://doi.org/10.1046/j.1365-2044.2002.02961.x

Butler, S., Little, J., Walter, D., & Phillips, B. A. (2015). *Too tired to think outside the box? An analysis of ego depletion's effects on creativity.* https://scholarlycommons.obu.edu/scholars_day/11

Byrne, A., Dionisi, A. M., Barling, J., Akers, A., Robertson, J., Lys, R. & Dupré, K. (2014). The depleted leader: The influence of leaders' diminished psychological resources on leadership behaviors. *The Leadership Quarterly, 25*(2)*,* 344-357. http://dx.doi.org/10.1016/j.leaqua. 2013.09.003

Byrne, B. (2013) Structural equation modeling with AMOS.

Byrne, B. M. (2016). Structural equation modeling with AMOS: Basic concepts, applications, and programming (3rd ed.). Routledge.

Byron, K., & Khazanchi, S. (2012). Rewards and creative performance: a meta-analytic test of theoretically derived hypotheses. *Psychology Bulletin, 138*(4), 809-830. https://doi.org/10.1037/a0027652

Carmeli, A., Gelbard, R., & Reiter-Palmon, R. (2013). Leadership, creative problem solving capacity, and creative performance: The importance of knowledge sharing. Human Resource Management, 52(1), 95–121.

Carmeli, A., Reiter-Palmon, R., & Ziv, E. (2010). Inclusive leadership and employee involvement in creative tasks in the workplace: The mediating role of psychological safety. Creativity Research Journal, 22(3), 250–260.

Carmines EG, Zeller RA. *Reliability and validity assessment.* London: Sage Publications; 1979. p. 72. (Quantitative applications in the social sciences series no. 17)

Carver, C. S., & Scheier, M. F. (1990). Origins and functions of positive and negative affect: A control-process view. *Psychological Review, 97*(1), 19-35. https://doi.org/10.1037/0033-295X.97.1.19

Choi, J., & Fishbach, A. (2011). Choice is an end versus a means. Journal of Marketing Research, 48, 544–554. http://dx.doi.org/10.1509/jmkr.48.3.544.

Chi, N., Lin, C., Bruning, P. F., & Hung, Y. (2023). Forced to be a good citizen: Exploring the bright- and dark-side effects of daily compulsory citizenship behaviours on subsequent proactive helping and interpersonal deviance. *Journal of Occupational and Organizational Psychology*, *97*(2), 647-671. https://doi.org/10.1111/joop.12486

Chiniara, M., & Bentein, K. (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

Clercq DD, Bouckenooghe D, Raja U, et al. (2014) Servant leadership and work engagement: the contingency effects of leader-follower social capital. Human Resource Development Quarterly 25(2): 183–212.

Coelho, F. J., Evanschitzky, H., Sousa, C. M. P., Olya, H., & Taheri, B. (2021). Control mechanisms, management orientations, and the creativity of service employees: Symmetric and asymmetric modeling. Journal of Business Research, 132, 753–764. doi:10.1016/ j.jbusres.2020.10.055

Cohen, J., & Cohen, P. (1983). Applied multiple regression/Correlation analysis for the behavioral sciences (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.

Conchie, S. M. (2013). Transformational leadership, intrinsic motivation, and trust: A moderated-mediated model of workplace safety. Journal of Occupational Health Psychology, 18(2), 198–210

Conger, A. J. (1974). A revised definition for suppressor variables: A guide to their identification and interpretation. George, J. M., & Zhou, J. (2007). Dual tuning in a supportive context: Joint contributions of positive mood, negative mood, and supervisory behaviors to employee creativity. Academy of Management Journal, 50, 605–622. https://doi. org/10.5465/AMJ.2007.25525934

Courtright, S. H., Gardner, R. G., Smith, T. A., McCormick, B. W., & Colbert, A. E. (2016). My family made me do it: A cross-domain, self-regulatory perspective on antecedents to abusive supervision. Academy of Management Journal, 59, 1630–1652.

Crant, J. M. (2000). Proactive behavior in organisations. *Journal of Management, 26*(3), 435-462. https://doi.org/10.1177/014920630002600 30

Creswell, J. W. (2009). *Research design: qualitative, quantitative, and mixed methods approaches* (3rd ed.). Sage Publications, Inc.

Creswell, J. W. (2014). Research design: Qualitative, quantitative, and mixed methods approaches (4th ed.). Sage Publications.

Crotty, M. (1998). The foundations of social research: Meaning and perspective in the research process. Thousand Oaks, CA: Sage Publications.

Cuervo-Cazurra, A., Mudambi, R., Pedersen, T., & Piscitello, L. (2017). Research methodology in global strategy research. *Global Strategy Journal,* 7(3), 233-240. https://doi.org/10.1002/gsj.1164

Cummings, A., & Oldham, G. R. (1997). Enhancing creativity: Managing work context for the high potential employee. *California Management Review, 40*(1), 22-39.

Dalal, R. S., Bhave, D. P., & Fiset, J. (2014). Within-person variability in job performance: A theoretical review and research agenda. *Journal of Management, 40*(5)*,* 1396-1436. https://doi.org/10.1177/0149206314532691

Davidson, T., & De Stobbeleir, K. E. M. (2011). Shaping environments conducive to creativity: The role of feedback, autonomy and self-concordance*. Academy of Management Proceedings, 2011*(1), 1-6. https://doi.org/10.5465/ambpp.2011.65869660

De Clercq, D., & Belausteguigoitia, I. (2021). *Champions need an iron will: How employees use their dispositional self-control to overcome workplace incivility. Journal of Management & Organization, 1–17.* doi:10.1017/jmo.2020.48

De Ridder, D. T., Lensvelt-Mulders, G., Finkenauer, C., Stok, F. M., & Baumeister, R. F. (2012). Taking stock of self-control: A meta-analysis of how trait self-control relates to a wide range of behaviors. *Personality and Social Psychology Review, 16*(1)*,* 76-99. https://doi.org/10.1177/10888683148749

Deacon, T. W. (1997). What makes the human brain different? Annual Review of Anthropology, 26, 337–357

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior.* Plenum Press.

Deci, E. L., & Ryan, R. M. (1987). The support of autonomy and the control of behavior. *Journal of Personality and Social Psychology, 53*(6), 1024-1037. https://doi.org/10.1037/0022-3514.53.61024

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*(4), 227-268. https://doi.org/10.1207/S15327965PLI1104_01

Deci, E. L., Connell, J. P., & Ryan, R. M. (1989). Self-determination in a work organisation. *Journal of Applied Psychology, 74*(4), 580-590. https://doi.org/1037/021-9010.74.4.5.580

Deci, E. L., Olafsen, A. H., & Ryan, R. M. (2017). Self-determination theory in work organisations: The state of a science. *Annual Review of Organizational Psychology and Organizational Behavior, 4*(1), 19-43. https://doi.org/10.1146/nurev-orgpsych-03256-11308

Deng, H., Wu, C. H., Leung, K., & Guan, Y. (2016). Depletion from self-regulation: A resource-based account of the effect of value incongruence. Personnel Psycholog y, 69, 431–465.

Dewall, C. N., Baumeister, R. F., Mead, N. L., & Vohs, K. D. (2011). How leaders self-regulate their task performance: Evidence that power promotes diligence, depletion, and disdain. *Journal of Personality and Social Psychology, 100*(1), 47-65. https://research.tilburguniversity.edu/en/publications/how-leaders-self-regulate-their-task-performance-evidence-that-po

DeWall, C. N., Baumeister, R. F., Stillman, T. F., & Gailliot, M. T. (2007). Violence restrained: Effects of self-regulation and its depletion on aggression. *Journal of Experimental Social Psychology, 43*(1), 62-76. https://doi.org/10.1016/j.jesp.2005.12.005

Diehl, M., & Stroebe, W. (1991). Productivity loss in idea-generating groups: Tracking down the blocking effect. *Journal of Personality and Social Psychology, 61*(3), 392-403. https://doi.org/10.1037/0022-3514.61.3.392

Dietrich, A. (2003). *Functional neuroanatomy of altered states of consciousness: The transient hypofrontality hypothesis. Consciousness and Cognition, 12(2), 231–256.* doi:10.1016/s1053-8100(02)00046-6

Donia MB, Raja U, Panaccio A, et al. (2016) Servant leadership and employee outcomes: the moderating role of subordinates' motives. European Journal of Work and Organizational Psychology 25(5): 722–734.

Drazin, R., Glynn, M. A., & Karanjian, R. K. (1999). Multilevel theorising about creativity in organisations: A sensemaking perspective. Academy of Management Review, 24, 286 – 307.

Duffy, M. K., Ganster, D. C., & Pagon, M. (2002). Social undermining in the workplace. *Academy of Management Journal, 45*(2), 331-351. https://doi.org/10.2307/3069350

Dumas, T. L., & Perry-Smith, J. E. (2018). The paradox of family structure and plans after work: Why single childless employees may be the least absorbed at work. Academy of Management Journal, 61(4), 1231–1252. https://doi.org/10.5465/amj.2016.0086

Edmondson, A. C., & McManus, S. E. (2007). **Methodological fit in management field research**. *Academy of Management Review*, *32*(4), 1246–1264. https://doi.org/10.5465/amr.2007.26586086

Ehrhart, M. G. (2004). Leadership and procedural justice climate as antecedents of unit-level Organisational citizenship behavior. *Personnel Psychology, 57*(1), 61-94. https://doi.org/10.1111/j.1744-6570.2004.tb02484.x

Enders, C. K. (2010). Applied Missing Data Analysis. Guilford Press.

Epitropaki, O., Kark, R., Mainemelis, C., & Lord, R.G. (2017). Leadership and followership identity processes: A multilevel review. *The Leadership Quarterly, 28*(1), 104-129. *https://doi.org/10.1016/j.leaqua.2016.10.003*

Eva, N., Robin, M., Sendjaya, S., Van Dierendonck, D., & Liden, R. C. (2018). Servant Leadership: A systematic review and call for future research. *The Leadership Quarterly, 30*(1), 11-132. https://doi.org/10.1016/j.leaqua.2018.07.004

Externbrink, K., Diestel, S., & Krings, M. (2019). When do those high in trait self-control suffer from strain? *Journal of Personnel Psychology*, *18*(1), 23-33. https://doi.org/10. 1027/1866-5888/a000218

Fabes, R. A., Eisenberg, N., Jones, S., Smith, M., Guthrie, I., Poulin, R., & Friedman, J. (1999). Regulation, emotionality, and preschoolers' socially competent peer interactions. *Child Development, 70*(2), 432-442. https://www.jstor.org/stable/1132098

Faraz, N. A., Mughal, M. F., Ahmed, F., Raza, A., & Iqbal, M. K. (2019). The impact of servant leadership on employees' innovative work behaviour-mediating role of psychological

leadership empowerment. *International Journal of Management Science and Business Administration, 5*(3), 10-21. https://doi.org/10.18775/ijmsba.1849-5664-5419.2014.54.1002

Farmer, S. M., Tierney, P., & Kung-McIntyre, K. (2003). Employee creativity in Taiwan: An application of role identity theory. Academy of Management Journal, 46, 618–630

Feldman, N. S., & Ruble, D. N. 1981. Social comparison strategies: Dimensions offered and options taken. Personality and Social Psychology Bulletin, 7(1): 11–16.

Fennis, B. M., Janssen, L., & Vohs, K. D. (2009). Acts of benevolence: A limited-resource account of compliance with charitable requests. Journal of Consumer Research, 35, 906–924. http://dx.doi.org/10.1086/593291.

Ferris, G. R., Zinko, R., Brouer, R. L., Buckley, M. R., & Harvey, M. G. (2007). Strategic bullying as a supplementary, balanced perspective on destructive leadership. The Leadership Quarterly, 18(3), 195-206. https://doi.org/10.1016/j.leaqua.2007.03.004

Field, A.P. (2010), "Discovering Statistics Using SPSS: (and Sex, Drugs and Rock" n "Roll)",3rd ed., Sage, London

Finkelstein, S., & Hambrick, D. C. (1996). Strategic leadership: Top executives and their effects. *The Academy of Management Review, 22*(3), 802-805. https://www. jstor.org/stable/259414

Fischer, T., Tilmhoff, R., Schmidt, A. F., & Gerstenberg, F. (2014). Exploring the interplay of trait self–control and ego depletion: Empirical evidence for ironic effects. *European Journal of Personality*, *28*(5), 413-424. https://doi.org/10. 1002/per.1899

Fishbach, A., & Labroo, A. A. (2007). Be better or be merry: How mood affects self-control. *Journal of Personality and Social Psychology, 93*(2), 158-173. https://doi.org/ 10.1037/0022-3514.92.2.158

Fisher, C. D., & To, M. L. (2012). Using experience sampling methodology in organizational behavior. Journal of Organizational Behavior, 33, 865–877.

Fischer, T. & Sitkin, S. B. (2023). 'Leadership styles: a comprehensive assessment and way forward'. Academy of Management Annals, 17, 331–72.

Fredrickson, B.L. (1998). What good are positive emotions? *Review of General Psychology, 2*(3), 300-319. https://doi.org/10.1037/1089-2680.2.3.300

Frese, M., Teng, E., & Wijnen, C. J. D. (1999). Helping to improve suggestion systems. *Journal of Organizational Behavior, 20*, 1139-1155. https://doi.org/10.1002/(SICI)1099-1379(199912)20

Fuller, J. B., & Marler, L. E. (2009). Change-driven by nature: A meta-analytic review of the proactive personality literature. *Journal of Vocational Behavior, 75*(3), 329-345. https://doi.org/10.1016/j.jvb.2009.05.008

Fuller, J. B., Marler, L. E., & Hester, K. (2012). Bridge building within the province of proactivity. *Journal of Organizational Behavior, 33*(8), 1053-1070. https://doi.org/10.1002/job.1780

Gabriel, A. S., Koopman, J., Rosen, C. C., & Johnson, R. E. (2018). Helping others or helping oneself? An episodic examination of the behavioral consequences of helping at work. Personnel Psycholog y, 71, 85–107.

Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. Journal of Organizational Behavior, 26, 331–362.

Gagné, M., Morin, A. J. S., Schabram, K., Wang, Z.N., Chemolli, E., & Briand, M. (2019, August 27). Uncovering relations between leadership perceptions and motivation under different organizational contexts: A multilevel cross-lagged analysis . Journal of Business and Psychology.

Gailliot, M. T. (2008). Unlocking the energy dynamics of executive functioning: Linking executive functioning to brain glycogen. *Perspectives on Psychological Science, 3*(4), 245-263. https://doi.org/10.1111/j.1745-6924.2008.00077.x

Gailliot, M. T., Schmeichel, B. J., & Baumeister, R. F. (2006). Self-regulatory processes defend against the threat of death: Effects of self-control depletion and trait self-control on thoughts and fears of dying. *Journal of Personality and Social Psychology, 91*(1), 49. *https://doi.org/10.1037/0022-3514.91.1.49*

Gangestad, S., & Snyder, M. (1985). "To carve nature at its joints": On the existence of discrete classes in personality. Psychological Review, 92(3), 317-349.

Gardner, W. L., Lowe, K. B., Moss, T. W., Mahoney, K. T., & Cogliser, C. C. (2010). Scholarly leadership of the study of leadership: A review of The Leadership Quarterly's second Decade, 2000-2009. *Leadership Quarterly, 21*(6), 922-958. https://doi.org/ 10.1016/j.leaqua.2010.10.003

George, J. M. (2007). Creativity in organisations. *Academy of Management Annals, 1*(1), 439-477. https://doi.org/10.1080/078559814

George, J. M., & Zhou, J. (2001). When openness to experience and conscientiousness are related to creative behavior: An interactional approach. Journal of Applied Psychology, 86, 513–524.

George, J. M., & Zhou, J. (2007). Dual tuning in a supportive context: Joint contributions of positive mood, negative mood, and supervisory behaviors to employee creativity. *Academy of Management Journal, 50*(3), 605-622. https://doi.org/10.5465/ amj.2007.25525934

Gerhart, B., & Fang, M. (2015). Pay, intrinsic motivation, extrinsic motivation, performance, and creativity in the workplace: revisiting long-held beliefs. *Annual Review of Organizational Psychology and Organizational Behavior, 2*(1), 489-521. *https://doi*.org/10.1146/annurev-orgpsych-032414-111418

Gerpott, F. H., Rivkin, W., & Unger, D. (2022). Stop and go, where is my flow? How and when daily aversive morning commutes are negatively related to employees' motivational states and behavior at work. *Journal of Applied Psychology*, *107*(2), 169-192. https://doi.org/10.1037/apl0000899

Gill, J., & Johnson, P. (2010). *Research methods for managers.* Sage Publications

Gillet, N., Fouquereau, E., Lafrenière, M.-A. K., & Huyghebaert, T. (2016). Examining the roles of work autonomous and controlled motivations on satisfaction and anxiety as a function of role ambiguity. Journal of Psychology, 150(5), 644–665.

Gombert, L., Rivkin, W., & Schmidt, K. H. (2020). Indirect effects of daily self-control demands on subjective vitality via ego depletion: How daily psychological detachment pays off. Applied Psycholog y, 69, 325–350.

Gong, Y., Cheung, S., Wang, M., & Huang, J. (2012). Unfolding the proactive process for creativity: Integration of the employee proactivity, information exchange, and psychological safety perspectives. *Journal of Management, 38*(5), 1611-1633. https://doi.org/10.1177/0149206310380250

Gong, Y., Huang, J.-C., & Farh, J.-L. (2009). Employee learning orientation, transformational leadership, and employee creativity: The mediating role of employee creative self-efficacy. *Academy of Management Journal, 52*(4), 765-778. *https://doi*.org/10.5465/AMJ.2009.43670890

Gong, Y., Kim, T.-Y., Lee, D.-R., & Zhu, J. (2013). *A multilevel model of team goal orientation.* Gonzaga University.

Gosling, S. D., Vazire, S., Srivastava, S., & John, O. P. (2004). Should we trust web-based studies? A comparative analysis of six preconceptions about internet questionnaires. *American Psychologist, 59*(2), 93-104. *https://doi*.org/10.1037/0003-066X.59.2.93

Graham, J. W. (1991). Servant-leadership in organisations: Inspirational and moral. *Leadership Quarterly, 2*(2), 105-119. *https://doi*.org/10.1016/1048-9843(91(90025-W

Grant, A. M., Nurmohamed, S., Ashford, S. J., & Dekas, K. (2011). The performance implications of ambivalent initiative: The interplay of autonomous and controlled motivations. *Organisational Behavior and Human Decision Processes, 116*(2), 241-251. *https://doi*.org/10.1016/j.obhdp.2011.03.004

Graham,J. D., Bray, S. R., &Ginis, K. A.(2014). “Pay the piper”: It helps initially, but moti vation takes a toll on self-control. Psychology of Sport and Exercise, 15,89–96. http://dx.doi.org/10.1016/j.psychsport.2013.09.007.

Graves, L. M., & Luciano, M. M. (2013). Self-determination at work: Understanding the role of Leader-member exchange. *Motivation and Emotion, 37*(3), 518-536. https://doi.org/10.1071103-012-9336-z

Grech, M. R., Neal, A., Yeo, G., Humphreys, M., & Smith, S. (2009). An examination of the relationship between workload and fatigue within and across consecutive days of work: Is the relationship static or dynamic? Journal of Occupational Health Psychology, 14, 231–242.

Greenbaum, R. L., Hill, A., Mawritz, M. B., & Quade, M. J. (2017). Employee achiavellianism to unethical behavior: The role of abusive supervision as a trait activator. *Journal of Management, 43*(2), 585-609. *https://doi*.org/10.1177/0149206314535434

Greenleaf, R. (2002). *Servant leadership*. Paulist Press.

Greenleaf, R. K. (1970). *The servant as a leader.* Greenleaf Center.

Greenleaf, R. K. (1977). *Servant leadership.* Paulist Press.Gross, J. J. (2001). Emotion regulation in adulthood: Timing is everything. *Current Directions in Psychological Science, 10*(6), 214 - 219. *https://doi.org/10.1111/1467-8721.00152*

Greenleaf, R. K., Spears, L. C., Covey, S. R., & Senge, P. M. (2002). Servant leadership: A journey into the nature of legitimate power and greatness. New: Paulist Press.

Grint, K. (2010). Leadership: A Very Short Introduction. Oxford University Press.

Grolnick, W. S., & Slowiaczek, M. L. (1994). Parent involvement in children's schooling: A multidimensional conceptualization and motivational model. Child Development, 64, 237–252.

Grolnick, W. S., Ryan, R. M., & Deci, E. L. (1991). The inner resources for school performance: Motivational mediators of children's perceptions of their parents. Journal of Educational Psychology, 83, 508 –517.

Guay, F. & Chanal, J. (2008). Meet the parents: Mothers and fathers' contextual and psychological resources associated to adolescents' perceptions of parental autonomy support. In H. W. Marsh, R. G. Craven, & D. M. McInerney (Eds.), Self-processes, learning, and enabling human potential: Dynamic new approaches. Vol. 3. Advances in self research (pp. 45–169). Charlotte, NC: Information Age Publishing.

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. Handbook of qualitative research, 2(163-194), 105.

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N.

Hackman, J. R. (2002). *Leading teams: Setting the stage for great performances.* Hair, J. F., Black, W. C., Babin, B. J., &Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Prentice Hall Financial Times.

Hagger, M. S., Wood, C., Stiff, C., & Chatzisarantis, N. L. (2010). Ego depletion and the strength model of self-control: A meta-analysis. *Psychological Bulletin*, *136*(4), 495-525. https://doi.org/10.1037/a0019486

Hakim, C. (2000). *Research design: Successful designs for social and economic research.* Routledge.

Han, G. H., Harms, P. D., & Bai, Y. (2015). Nightmare bosses: The impact of abusive supervision on employees' sleep, emotions, and creativity. *Journal of Business Ethics, 145(1),* 21-31. https://doi.org/10.1007/s10551-015-2859-y

Hansbrough, T. K., Lord, R. G., & Schyns, B. (2015). Reconsidering the accuracy of follower leadership ratings. *Leadership Quarterly, 26*(2), 220-237. https://doi.org/10.1016/j.leaqua.2014.11.006

Hardré, P. L., & Reeve, J. (2009). Training corporate managers to adopt a more autonomysupportive motivating style toward employees: An intervention study. International Journal of Training and Development, 13(3), 165–184.

He, W., Hao, P., Huang, X., Long, L.-R., Hiller, N., & Li, S.-L. (2019). Different roles of shared and vertical leadership in promoting team creativity: Cultivating and synthesizing team members' individual creativity. Personnel Psychology. doi:10.1111/peps.12321

Heck, R. H., & Thomas, S. (2020). *An introduction to multilevel modeling techniques*. Routledge. https://doi.org/10.4324/9780429060274

Henker, N., Sonnentag, S., & Unger, D. (2014). *Transformational Leadership and Employee Creativity: The Mediating Role of Promotion Focus and Creative Process Engagement. Journal of Business and Psychology, 30(2), 235–247.* doi:10.1007/s10869-014-9348-7

Hirst, G., Van Knippenberg, D., & Zhou, J. (2009). A cross-level perspective on employee creativity: Goal orientation, team learning behavior, and individual creativity. *Academy of Management Journal, 52*(2)*,* 280-293. *https://doi*.org/10.5465/amj.2009.37308035

Hirt, E. R., Clarkson, J. J., & Jia, L. (2016). *Self-regulation and ego control*. Academic Press.

Hoch, J. E., Bommer, W. H., Dulebohn, J. H. & Wu, D. (2018). 'Do ethical, authentic, and servant leadership explain variance above and beyond transformational leadership? A meta-analysis'. Journal of Management, 44, 501–29.

Hoe, S.L. (2008) Issues and procedures in adopting structural equation modeling technique. Journal of applied quantitative methods, 3 (1), 76-83.

Hoffman, E. L., & Lord, R. G. (2013). A taxonomy of event-level dimensions: Implications for understanding leadership processes, behavior, and performance. *The Leadership Quarterly, 24*(4)*,* 558-571. *https://doi*.org/10.1016/j.leaqua.2013.03.009

Hofmann, Wilhelm; Baumeister, Roy F.; Förster, Georg; Vohs, Kathleen D. (2012). Everyday temptations: An experience sampling study of desire, conflict, and self-control. *Journal of Personality and Social Psychology, 102*(6), 1318-1335. https://doi.org/10.1037/ a0026545

Hon, A. H. Y. (2012). Shaping environments conductive to creativity: The role of intrinsic motivation. Cornell Hospitality Quarterly, 53(1), 53–64.

Hoobler, J. M., & Brass, D. J. (2006). Abusive supervision and family undermining as displaced aggression. *Journal of Applied Psychology, 91*(5), 1125-1133. https://doi.org/ 10.1037/0021-9010.91.5.1125

Hooper, D., Coughlan, J. & Mullen, M. R. (2008) 'Structural equation modelling: Guidelines for determining model fit'. Electronic journal of business research methods, 6 (1), pp. 53-60.

Horkheimer, M., & Adorno, T. W. (2002). Dialectic of enlightenment. Stanford University Press.

Horsman, J. H. (2001). *Perspectives of servant-leadership and spirit in organisations* [Doctoral Disseration]. Regent University.

Howell, J. M., & Avolio, B. J. (1993). Transformational leadership, transactional leadership, locus of control, and support for innovation: Key predictors of consolidated-business-unit performance. *Journal of Applied Psychology, 78*(6), 891-902. *https://doi*.org/10.1037/0021-9010.78.6.891

Hox, J. and Bechger, T. M. (1998). An introduction to structural equation modeling. Family Science Review, Vol. 11, pp. 354-373.

Hu, L.-t., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Hu, Z., Li, J., & Kwan, H. K. (2022). The effects of negative mentoring experiences on mentor creativity: The roles of mentor ego depletion and traditionality. Human Resource Management, 61, 39–54.

Hur, W. M., & Shin, Y. (2023). Daily relationships between job insecurity and emotional labor amid COVID-19: Mediation of ego depletion and moderation of off-job control and work-related smartphone use. Journal of Occupational Health Psycholog y, 28, 82–102.

Inzlicht, M., Werner, K. M., Briskin, J. L., & Roberts, B. W. (2021). Integrating Models of Self-Regulation. Annual Review of Psychology, 72, 319–345. https://doi.org/10.1146/annurevpsych-061020-105721

Isen, A. M. (1999). On the relationship between affect and creative problem solving. In S. W. Russ (Ed.), *Affect, creative experience and psychological adjustment* (pp. 3-17). Brunner / Mazel.

Isen, A. M., Daubman, K. A., & Nowicki, G. P. (1987). Positive affect facilitates creative problem solving. Journal of Personality and Social Psychology, 52, 1122–1131.

Isen, A. M., Johnson, M. M. S., Mertz, E., & Robinson, G. R. (1985). The influence of positive affect on the unusualness of word associations. Journal of Personality and Social Psychology, 48, 1413–1426.

Ivcevic, Z., & Nusbaum, E. C. (2017). From having an idea to doing something with it: Self-regulation for creativity. *The Creative Self,* 343-365. https://doi.org/10.1016/b978-0-12-809790-8.00020-0

Jahanzeb, S., Fatima, T., Bouckenooghe, D., & Bashir, F.(2019). The knowledge hiding link: a moderated mediation model of how abusive supervision affects employee creativity. *European Journal of Work and Organizational Psychology, 28*(6), 810-819. https://doi.org/10.1080/1359432x.2019.1659245

Janssen, O. 2003. Innovative behavior and job involvement at the price of conflict and less satisfactory relations with co-workers. Journal of Occupational and Organizational Psychology, 76(3): 347–364.

Jaramillo, F., Mulki, J. P., & Solomon, P. (2006). The role of ethical climate on salesperson's role stress, job attitudes, turnover intention, and job performance. Journal of Personal Selling & Sales Management, 26(3), 271-282. doi:10.2753/PSS0885-3134260302

Jaussi, K. S., Randel, A. E., & Dionne, S. D. (2007). I am, I think I can, and I do: The role of personal identity, self efficacy, and cross-application of experiences in creativity at work. *Creativity Research Journal, 19*(2)*,* 247-258. https://doi.org/10.1080/0400410701397339

Jeong, E., Jang, S., Behnke, C., Anderson, J., & Day, J. (2019). A scale for restaurant customers' healthy menu choices: individual and environmental factors. International Journal of Contemporary Hospitality Management, 31(1), 217-246.

Johnson, R. E., Venus, M., Lanaj, K., Mao, C., & Chang, C. H. (2012). Leader identity as an antecedent of the frequency and consistency of transformational, consideration, and abusive leadership behaviors. *Journal of Applied Psychology, 97*(6)*,* 1262-1272. https://doi.org/10.1037/a0029043

Joo, B. K., & Lim, T. (2009). The effects of organizational learning culture, perceived job complexity, and proactive personality on organizational commitment and intrinsic motivation. Journal of Leadership and Organizational Studies, 16(1), 48–60.

Joosten A., Van Dijke M., Van Hiel A., De Cremer D. (2014). Being "in control" may make you lose control: The role of self-regulation in unethical leadership behavior. *Journal of Business Ethics, 121*(1), 1-14. https://doi.org/10.1007/s10551-013-1686-2

Kaplan, S., & Berman, M. G. (2010). Directed attention as a common resource for executive functioning and self-regulation. *Perspectives on Psychological Science, 5*(1), 43-57. *https://doi*.org/10.1177/1745691609356784

Karmel, T. S. & Jain, M. (1987). Comparison of purposive and random sampling schemes for estimating capital expenditure. *Journal of the American Statistical Association, 82*(397)*,* 52-57. https://doi.org/10.1080/01621459.1987.10478390

Kazén, M., Kuhl, J., & Leicht, E.-M. (2014). When the going gets tough…: Self-motivation is associated with invigoration and fun. *Psychological Research, 79*(6), 1064. https://mijn.bsl.nl/when-the-going-gets-tough-self-motivation-is-associated-with-inv/523280

Keashly, L., & Harvey, S. (2005). Emotional abuse in the workplace. In S. Fox & P. Spector (Eds.), *Counterproductive work behaviors* (pp. 201-236). American Psychological Association.

Kern, F. (2010). What chief executives really want. Bloomberg Businessweek, 5(18).

Kieras, J. E., Tobin, R. M., Graziano, W. G., & Rothbart, M. K. (2005). You can't always get what you want: Effortful control and children's response to undesired gifts. *Psychological Science, 16*(5), 391-396. https://doi.org/10.1111/j.0956-7976.2005.01546.x

Kiewitz, C., Restubog, S. L. D., Zagenczyk, T. J., Scott, K. D., Garcia, P. R. J. M., & Tang, R. L. (2012). Sins of the parents: Self-control as a buffer between supervisors' previous experience of family undermining and subordinates' perceptions of abusive supervision. *Leadership Quarterly, 23*(5), 869-882. https://doi.org/10.1016/j.leaqua.2012.05.00

Kim, T. Y., Hon, A. H. Y., & Crant, J. M. (2009). Proactive personality, employee creativity, and newcomer outcomes. Journal of Organizational Behavior, 30(1), 93–116.

Kline, R. B. (2023). Principles and practice of structural equation modeling (5th ed.). The Guilford Press.

Knee, C. R., Lonsbary, C., Canevello, A., & Patrick, H. (2006). Self-determination and conflict in romantic relationships. *Journal of Personality and Social Psychology, 89*(6), 997*.* https://doi.org/10.10370022-3514.89.6.997

Kock, N. (2015). How likely is Simpson's paradox in path models? *International Journal of e-Collaboration*, *11*(1), 1-7. https://doi.org/10.4018/ijec.2015010101

Koestner, R., & Losier, G. F. (1996). Distinguishing reactive versus reflective autonomy. *Journal of Personality, 64*(2), 465-494. https://doi.org/10.1111/j,1467-6494.1996.tb00518.x

Koestner, R., Ryan, R. M., Bernieri, F., & Holt, K. (1984). Setting limits on children's behavior: The differential effects of controlling versus informational styles on children's intrinsic the motivation and creativity. *Journal of Personality, 52*(3)*,* 233-248. *https://doi*.org/10.1111/j.1467-494.1984.tb00879.x

Komarraju, M., Karau, S. J., & Schmeck, R. R. (2009). Role of the Big Five personality traits in predicting college students' academic motivation and achievement. *Learning and Individual Differences, 19*(1)*,* 47-52. *https://doi*.org/10.1016/j.lindif.2008.07.001

Konze, A. K., Rivkin, W., & Schmidt, K. H. (2019). Can faith move mountains? How implicit theories about willpower moderate the adverse effect of daily emotional dissonance on ego-depletion

at work and its spillover to the home-domain. European Journal of Work and Organizational Psycholog y, 28, 137–149.

Krasikova, D. V., Green, S. G., & LeBreton, J. M. (2013). Destructive leadership: A theoretical review, integration, and future research agenda. *Journal of Management, 39*(5), 1308-1338. *https://doi*.org/10.1177/0149206312471388

Kuvaas, B., Buch, R., Gagné, M., Dysvik, A., & Forest, J. (2016). Do you get what you pay for? Sales incentives and implications for motivation and changes in turnover intention and work effort. Motivation and Emotion, 40(5), 667–680.

Lacroix, M., & Pircher Verdorfer, A. (2017). Can servant leaders fuel the leadership fire? The relationship between servant leadership and followers' leadership avoidance. *Administrative Sciences*, *7*(1), 6. https://doi.org/10.3390/admsci7010006

Lam, L. W., & Xu, A. J. (2019). Power imbalance and employee silence: The role of abusive leadership, power distance orientation, and perceived organisational politics. *Applied Psychology, 68*(3), 513-546. https://doi.org/10.1111/apps.1217

Lanaj, K., Gabriel, A. S., & Jennings, K. (2021). Leader role self-compassion: Daily fluctuations in leader identity and their impact on leader helping. Journal of Applied Psychology, 106(12), 1709-1724.

Langer, E., & Rodin, J. (1976). The effects of choice and enhanced personal responsibility for the Aged: A field experiment in an institutional setting. *Journal of Personality and Social Psychology, 34*(2), 191-198. https://doi.org/10.1037/0022-3514.34.2.191

Lawler E. E. (1971). *Pay and organizational effectiveness: A psychological view*. McGraw-Hill.

Lee, S., Yun, S., & Srivastava, A. (2013). Evidence for a curvilinear relationship between abusive supervision and creativity in South Korea. The Leadership Quarterly, 24(5), 724-731. https://doi.org/10.1016/j.leaqua.2013.07.002

Legault, L., & Inzlicht, M. (2013). Self-determination, self-regulation, and the brain: regulation failure. *Journal of Personality and Social Psychology, 105*(1), 123-

Lei, S., Peng, L., & Wang, S. (2023). Shedding light on the dark side of humor: The short-lived spillover effect of daily salesperson workplace humor usage on work–family conflict. *Applied Psychology*. https://doi.org/10.1111/apps.12516

Li, C and Hung, C. (2009) "The influence of transformational leadership on workplace relationships and job performance", Social Behaviour and Personality, vol. 37, no. 8, pp. 1129-1142.

Lian, H., Brown, D. J., Ferris, D. L., Liang, L. H., Keeping, L. M., & Morrison, R. (2014). Abusive supervision and retaliation: A self-control framework. *Academy of Management Journal. 57*(1), 116-139. https://doi.org/10.5465/amj.2011.0977

Lian, H., Ferris, D. L., Morrison, R., & Brown, D. J. (2014). Blame it on the supervisor or the subordinate? Reciprocal relations between abusive supervision and organisational supervision deviance. *Journal of Applied Psychology, 99*(4), 651-664. https://doi.org/ 10.1037/a0035498

Lian, H., Yam, K. C., Ferris, D. L., & Brown, D. (2017). Self-control at work. *Academy of Management Annals, 11*(2), 703-732. https://doi.org/10.5465/annals.2015.0126

Liao, C., Lee, H. W., Johnson, R. E., & Lin, S. (. (2020). Serving you depletes me? A leader-centric examination of servant leadership behaviors. *Journal of Management*, *47*(5), 1185-1218. https://doi.org/10.1177/0149206320906883

Liden, R. C., Panaccio, A., Meuser, J. D., Hu, J., & Wayne, S. J. (2014). Servant leadership: antecedents, processes, and outcomes. In D. V. Day (Ed.), The Oxford handbook of leadership and organizations. Oxford library of psychology (pp. 357–379). New York, NY, US: Oxford University Press.

Liden, R. C., Wayne, S. J., Zhao, H., & Henderson, D. (2008). Servant leadership: Development of a multidimensional measure and multilevel assessment. *The Leadership Quarterly, 19*(2), 161-177. https://doi.org/10.1016/j.leaqua.2008.01.006

Liden, R. C., Wayne, S. J., Liao, C., & Meuser, J. D. (2014). Servant leadership and serving culture: Influence on individual and unit performance. Academy of Management Journal, 57(5), 1434-1452. https://doi.org/10.5465/amj.2013.0034

Lin, B., Mainemelis, C., & Kark, R. (2016). Leaders' responses to creative deviance: Differential Effects on subsequent creative deviance and creative performance. *The Leadership Quarterly, 27*(4), 537-556. *https://doi*.org/10.1016/j.leaqua.2015.09.00

Lin, S. H. J., Ma, J., & Johnson, R. E. (2016). When ethical leader behavior breaks bad: How ethical leader behavior can turn abusive via ego depletion and moral licensing. Journal of Applied Psychology, 101, 815–830.

Ling, Q., Liu, F., & Wu, X. (2017). Servant versus authentic leadership: Assessing effectiveness in China's hospitality industry. *Cornell Hospitality Quarterly, 58*(1), 53–68. https://doi.org/10.1177/1938965516641515

Little, R. J. A., & Rubin, D. B. (2002). Statistical Analysis with Missing Data (2nd ed.). Wiley.

Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. Structural Equation Modeling, 9(2), 151–173. https://doi.org/10.1207/S15328007SEM0902_1

Liu, D., Liao, H., & Loi, R. (2012). The dark side of leadership: A three-level investigation of the Cascading effect of abusive supervision on employee creativity. *Academy of Management Journal, 55*(5), 1187-1212. https://doi.org/10.5465/amj.2010.0400

Liu, W., Zhang, P., Liao, J., Hao, P., & Mao, J. (2016). Abusive supervision and employee creativity: The mediating role of psychological safety and organizational identification. *Management Decision, 54*(1), 130-147. https:/doi.org/10.1108/MD-09-2013-0443

Liu, X., Liao, H., Derfler-Rozin, R., Zheng, X., Wee, E. X. M., & Qiu, F. (2020). In line and out of the box: How ethical leaders help offset the negative effect of morality on creativity. *Journal of Applied Psychology, 105*(12), 1447–1465. https://doi.org/10.1037/apl0000489

Liu, X.-Y., Kwan, H. K., & Zhang, X. (2020). Introverts maintain creativity: A resource depletion model of negative workplace gossip. *Asia Pacific Journal of Management, 37*(1), 325-344. https://doi.org/10.1007/ s10490-018-9595-7

Loewenstein, G. (1996). Out of control: Visceral influences on behavior. *Organisational Behavior And Human Decision Processes, 65(3), 272-292.* https://doi.org/10.1006/obhd.1996.0028

Lowe, E. A., & Taylor, W. G. K. 1986. Creativity in life sciences research. R&D Management, 16: 45– 61.

Ma, Y., Cheng, W., Ribbens, B. A., & Zhou, J. (2013). Linking ethical leadership to employee creativity: Knowledge sharing and self-efficacy as mediators. Social Behavior and Personality: An International Journal, 41, 1409–1419.

Ma, H., Karri, R., & Chittipeddi, K. (2004). The paradox of managerial tyranny. Business Horizons, 47(4), 33-40. https://doi.org/10.1016/s0007-6813(04)00046-1

MacCallum, R. C. (1986). Specification searches in covariance structure modeling. Psychological Bulletin, 100(1), 107–120. https://doi.org/10.1037/0033-2909.100.1.107

MacCallum, R. C., Browne, M. W. & Sugawara, H. M. (1996) 'Power analysis and determination of sample size for covariance structure modeling'. Psychological methods, 1 (2), pp. 130.

Mackey, J. D., Huang, L., & He, W. (2018). You abuse and I criticize: An ego depletion and leader-member exchange examination of abusive supervision and destructive voice. *Journal of Business Ethics, 164*(3), 579-591. https://doi.org/10.1007/s10551-018-4024-x

Mackey, J. D., Huang, L., & He, W. (2020). You abuse and I criticize: An ego depletion and leader-member exchange examination of abusive supervision and destructive voice. *Journal of Business Ethics, 164*(3), 579-591. https://doi.org/10.1007/s10551-018-4024-x

Mackey, J. D., Parker Ellen, B., McAllister, C. P., & Alexander, K. C. (2021). The dark side of leadership: A systematic literature review and meta-analysis of destructive leadership research. Journal of Business Research, 132, 705–718. doi:10.1016/j.jbusres.2020.10.037

Madjar N, Shalley CE. 2008. Multiple tasks' and multiple goals' effect on creativity: forced incubation or just a distraction? J. Manag. 34:786–805

Madjar, N., Oldham, G. R., & Pratt, M. G. (2002). There's no place like home? The contributions of work and nonwork creativity support to employees' creative performance. *Academic Management Journal, 45*, 757-767. *https://doi*.org/10.2307/3069309

Madrid, H. P., Patterson, M. G., & Birdi, K. S. (2014). The role of weekly high activated positive mood, context, and personality in innovative work behavior: A multilevel and interactional model. *Journal of Organizational Behavior, 35*(2), 234-256. *https://doi*.org/10.1002/job

Mainemelis, C. (2010). Stealing fire: Creative deviance in the evolution of new ideas. *Academy of Management Review, 35*(4), 558-578. http://www.mainemelis.com/userfiles/articles/AMR2010_94848371.pdf

Mainemelis, C., Kark, R., & Epitropaki, O. (2015). Creative leadership: A multi-context *Management Annals, 11*(2), 703-732. *https://doi*.org/10.5465/annals.2015.0126

Maja Tadić Vujčić, Wido G. M. Oerlemans & Arnold B. Bakker (2017) How challenging was your work today? The role of autonomous work motivation, European Journal of Work and Organizational Psychology, 26:1, 81-93, DOI: 10.1080/1359432X.2016.1208653

Malingumu, W., Stouten, J., Euwema, M., & Babyegeya, E. (2016). Servant leadership, organisational citizenship behavior and creativity: The mediating role of team-member exchange. Psychologica Belgica, 56(4), 342.

Mao, Y., He, J., & Yang, D. (2020). *The dark sides of engaging in creative processes: Coworker envy, workplace ostracism, and incivility. Asia Pacific Journal of Management.* doi:10.1007/s10490-020-09707-z

Martinko, M. J., Harvey, P., Brees, J. R., & Mackey, J. (2013). A review of abusive supervision research. Journal of Organizational Behavior, 34, S120–S137

Mawritz, M. B., Greenbaum, R. L., Butts, M. M., & Graham, K. A. (2017). I Just Can't Control Myself: A Self-Regulation Perspective on the Abuse of Deviant Employees. Academy of Management Journal, 60(4), 1482–1503. doi:10.5465/amj.2014.0409

Mayer, D. M., Bardes, M., & Piccolo, R. F. (2008). Do servant-leaders help satisfy follower needs? An organisational justice perspective. European Journal of Work and Organizational Psychology, 17(2), 180-197. https://doi.org/10.1080/13594320701743558

McAllister, C. P., Mackey, J. D., & Perrewé, P. L. (2017). *The role of self-regulation in the relationship between abusive supervision and job tension. Journal of Organizational Behavior, 39(4), 416–428.* doi:10.1002/job.2240

Melwani S, Barsade SG. 2011. Held in contempt: the psychological, interpersonal, and performance conse quences of contempt in a work context. J. Pers. Soc. Psychol. 101:503–20

Menges, J. I., Tussing, D. V., Wihler, A., & Grant, A. M. (2017). When job performance is all relative: How family motivation energizes effort and compensates for intrinsic motivation. Academy of Management Journal, 60(2), 695–719. https://doi.org/10.5465/amj.2014.0898

Milica Miočević, Oscar Gonzalez, Matthew J. Valente & David P. MacKinnon (2018) A Tutorial in Bayesian Potential Outcomes Mediation Analysis, Structural Equation Modeling: A Multidisciplinary Journal, 25:1, 121-136, DOI: 10.1080/10705511.2017.1342541

Miller, G. (2012). The smartphone psychology manifesto. *Perspectives on Psychological Science, 7*(3)*,* 221-237. *https://doi*.org/10.1177/17456916124412

Mittal, S., & Dhar, R. L. (2015). Transformational leadership and employee creativity: Mediating role of creative self-efficacy and moderating role of knowledge sharing. Management Decision, 53, 894–910.

Moffitt TE, Arseneault L, Belsky D, Dickson N, Hancox RJ, et al. 2011. A gradient of childhood self-control predicts health, wealth, and public safety. PNAS 108(7):2693–98

Moller, A. C., Deci, E. L., & Ryan, R. M. (2006). Choice and ego depletion: The moderating role of autonomy. Personality and Social Psychology Bulletin, 32(8), 1024–1036.

Molyneaux, D. (2003). Blessed are the meek, for they shall inherit the earth —An aspiration applicable to business? *Journal of Business Ethics, 48*(4), 347-363. https://doi.org/10.1023/B:BUSI.0000005746.55906.9d

Moss, S. A., Dowling, N., & Callanan, J. (2009). Towards an integrated model of leadership and self regulation. *The Leadership Quarterly*, *20*(2), 162-176. https://doi.org/10.1016/j.leaqua.2009.01.005

Moukwa, M. 1995. A structure to foster creativity: An industrial experience. The Journal of Creative Behaviour, 29(1): 54-63.

Mumford, M. D., & Gustafson, S. (1988). Creativity syndrome: Integration, application, and innovation. *Psychological Bulletin, 103*, 27-43. https://psycnet.apa.org/buy/1988-10128-001

Mumford, M. D. (2011). *Handbook of organizational creativity*. Academic Press.

Muraven, M. (2007). Autonomous self-control is less depleting. *Journal of Research in Personality, 42*(3), 763-770. *https://doi.org/10.1016/j.jrp.2007.08.002*

Muraven, M. R., Baumeister, R. F., & Tice, D. M. (1999). Longitudinal improvement of self regulation through practice: Building selfcontrol strength through repeated exercise. Journal of Social Psychology, 139, 446457. doi:10.1080/00224549909598404

Muraven, M. R., Shmueli, D., & Burkley, E. (2006). Conserving selfcontrol strength. Journal of Personality and Social Psychology, 54, 687696. doi:10.1037/0022 3514.91.3.524

Muraven, M., & Baumeister, R. F. (2000). Self-regulation and depletion of limited resources: Does self-control resemble a muscle? *Psychological Bulletin, 126*(2), 247-259. *https://doi*.org/10.1037/0033-2909.126.2.247

Muraven, M., & Baumeister, R. F. (2000). Self-regulation and depletion of limited resources: Does self-control resemble a muscle? Psychological Bulletin, 126(2), 247–259. https://doi.org/10.1037/0033-2909.126.2.247

Muraven, M., Collins, R. L., & Neinhaus, K. (2002). Self-control and alcohol restraint: An initial application of the self-control strength model. *Psychology of Addictive Behaviors, 16*(2)*,* 113-120. *https://doi.org/10.1037/0893-164X.16.2.113*

Muraven, M., Gagné, M., & Rosman, H. (2008). Helpful self-control: Autonomy support, vitality, and depletion. *Journal of Experimental Social Psychology, 44*(3), 573-585. https://doi.org/10.1016/j.jesp.2007.10.008

Muraven, M., Rosman, H., & Gagné, M. (2007). Lack of autonomy and self-control: Performance contingent rewards lead to greater depletion*. Motivation and Emotion, 31*(4), 322-330*.* https://doi.org/10.1007/s11031-007-9073-x

Muraven, M., Shmueli, D., & Burkley, E. (2006). Conserving self-control strength. Journal of Personality and Social Psychology, 91, 524–537.

Muraven, M., Tice, D. M., & Baumeister, R. F. (1998). Self-control as a limited resource: Regulatory depletion patterns. *Journal of Personality and Social Psychology, 74*(3), 774-789. https://doi.org/10.1037/0022-3514.74.3.774

Neal, D. T., Wood, W., & Drolet, A. (2013). How do people adhere to goals when will power is low? The profits (and pitfalls) of strong habits. Journal of Personality and Social Psychology, 104, 959–975. http://dx.doi.org/10.1037/a0032626.

Nemeth, C. J. (1986). Differential contributions of majority and minority influence. Psychological Review, 93(1), 23–32.

Nemeth, C., & Wachtler, J. (1983). Creative problem solving as a result of majority vs. minority influence. European Journul of Social Psychology, 13, 45-55.

Nemeth, C. J., & Staw, B. M. (1989). The tradeoffs of social control and innovation in groups and organizations. *Advances in Experimental Social Psychology*, 175-210. https://doi.org/10.1016/s0065-2601(08)60308-1

Neubert, M. J., Kacmar, K. M., Carlson, D. S., Chonko, L. B., & Roberts, J. A. (2008). Regulatory focus as a mediator of the influence of initiating structure and servant leadership on employee behavior. *Journal of Applied Psychology, 93*(6), 1220-1233. http://dx.doi.org/10.1037/a0012695

Newman, A., Schwarz, G., Cooper, B., & Sendjaya, S. (2017). How servant leadership influences organisational citizenship behavior: The roles of LMX, empowerment, and proactive personality. *Journal of Business Ethics, 145*(1), 49-62. https://doi.org/10.1007/s10551-015-2827-6

Ng, T. W. H., & Feldman, D. C. (2013). Age and innovation-related behavior: The joint moderating effects of supervisor undermining and proactive personality. *Journal of Organizational Behavior, 34*(5), 583-606. https://doi.org/10.1002/job.1802

Ng, T. W., & Feldman, D. C. (2012). A comparison of self-ratings and non-self report measures of employee creativity. *Human Relations, 65*(8), 1021-1047. https://doi.org/10.1177/0018726712446015

Nijstad, B. A., Stroebe, W., & Lodewijkx, H. F. M. (2003). Production blocking and idea generation: Does blocking interfere with cognitive processes? *Journal of Experimental Social Psychology, 39*(6), 531-548. https://doi.org/10.1016/S0022-1031(03)00040-4

Nix, G., Ryan, R. M., Manly, J. B., & Deci, E. L. (1999). Revitalisation through self-regulation: The effects of autonomous and controlled motivation on happiness and vitality. *Journal of Experimental Social Psychology, 35*(3), 266-284. *https://doi*.org/10.1006/jesp.1999.1382

Northouse, P. G. (1998). Leadership: Theory and Practice (1st ed.). Sage Publications.

Nunnally JC, Bernstein IH. *Psychometric theory.* 3rd ed. New York, NY: McGraw-Hill; 1994. p. 736.

Oaten, M., & Cheng, K. (2006b). Longitudinal gains in self regulation from regular physical exercise. British Journal of Health Psychology, 11, 717–733. doi:10.1348/135910706X96481 Oaten, M., & Cheng, K. (2007

OCHSNER, K., & GROSS, J. (2005). *The cognitive control of emotion. Trends in Cognitive Sciences, 9(5), 242–249.* doi:10.1016/j.tics.2005.03.010

Oettingen, G., Kappes, H. B., Guttenberg, K. B., & Gollwitzer, P. M. (2015). Self-regulation of time management: Mental contrasting with implementation intentions. European Journal of Social Psychology, 45(2), 218-229. https://doi.org/10.1002/ejsp.2090

Ogilvie, d. & Simms, S. 2009, 'The Impact of Creativity Training on an Accounting Negotiation', Group Decision and Negotiation, vol. 18, no. 1, pp. 75-87.

Ohly S, Sonnentag S, Pluntke F. 2006. Routinization, work characteristics and their relationships with creative and proactive behaviors. J. Organ. Behav. 27:257–79

Ohly, S., Sonnentag, S., Niessen, C., & Zapf, D. (2010). Diary studies in organizational research. *Journal of Personnel Psychology, 9*(2), 79-93. *https://doi*.org/10.1027/1866-5888/a000009

Oldham, G. R., & Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of Management Journal, 39*(3), 607-634. *https://doi*.org/10.5465/256657

Panaccio, A., Henderson, D. J., Liden, R. C., Wayne, S. J., & Cao, X. (2015). Toward an understanding of when and why servant leadership accounts for employee extra-role behaviors. *Journal of Business and Psychology, 30*(4), 657-675. *https://doi*.org/10.1007/s10869-014-9388-z

Parker, S. K., Bindl, U. K., & Strauss, K. (2010). Making things happen: A model of proactive Motivation. *Journal of Management, 36*(4), 827856. https://doi.org/10.1177/ 0149206310363732

Paulhus, D. L., Robins, R. W., Trzesniewski, K. H., & Tracy, J. L. (2004). Two replicable suppressor situations in personality research. Multivariate Behavioral Research, 39, 303–328. http://dx.doi.org/10.1207/ s15327906mbr3902_7

Peng, A. C., Gao, R., & Wang, B. (2023). Linking servant leadership to follower emotional exhaustion through impression management. *Journal of Organizational Behavior*, *44*(4), 643-659. https://doi.org/10.1002/job.2682

Persson, J., Welsh, K. M., Jonides, J., & Reuter-Lorenz, P. A. (2007). Cognitive fatigue of executive processes: Interaction between interference resolution tasks. *Neuropsychologia*, *45*(7), 15711579. https://doi.org/10.1016/j.neuropsychologia.2006.12.007

Ployhart, R. E., & Vandenberg, R. J. (2012). Longitudinal research: The theory, design and analysis of change. *Journal of Management, 36*(1), 94-120. https://doi.org/10.1177/ 0149206309352110

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. Journal of Applied Psychology, 88, 879–903.

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. Annual Review of Psychology, 63(1), 539-569. https://doi.org/10.1146/annurev-psych-120710-100452

Preacher, K. J., Zyphur, M. J., & Zhang, Z. (2010). A general multilevel SEM framework for assessing multilevel mediation. Psychological Methods, 15, 209–233. doi:10.1037/a0020141

Preacher, K.J., Zhang, Z. and Zyphur, M.J. (2011) Alternative Methods for Assessing Mediation in Multilevel Data: The Advantages of Multilevel SEM. Structural Equation Modeling: A Multidisciplinary Journal, 18 (2), 161-182.

Price, D. A., & Yates, G. C. R. (2015). Impact of a brief ego depletion procedure on creative behaviour in the upper primary classroom. *Educational Psychology, 35*(3), 328-340. https://doi.org/10.1080/ 01443410.2013.860219

Probst, T. M. (2015). Organizational safety climate and supervisor safety enforcement: Multilevel explorations of the causes of accident underreporting. Journal of Applied Psychology, 100(6), 1899.

Quinlan, C. (2011). *Business Research Methods.* Cengage. www.cengage.co.uk/quinlan.

Radel, R., Davranche, K., Fournier, M., & Dietrich, A. (2015). *The role of (dis)inhibition in creativity: Decreased inhibition improves idea generation. Cognition, 134, 110–120.* doi:10.1016/ j.cognition.2014.09.001

Rafferty, A. E., & Restubog, S. L. D. (2011). The influence of abusive supervisors on followers' Organisational citizenship behaviors: The hidden costs of abusive supervision. *British Journal of Management, 22*(2)*,* 270- 285. https://doi.org/10.1111/j.1467-8511.2010.00732.x

Ratelle, C. F., Larose, S., Guay, F., & Senecal, C. (2005). Perceptions of parental involvement and support as predictors of college students' persistence in a science curriculum. Journal of Family Psychology, 19, 286 –293.

Rathi, N., & Lee, K. (2016). Emotional exhaustion and work attitudes: Moderating effect of personality among frontline hospitality employees. Journal of Human Resources in Hospitality & Tourism, 15(3), 231-251.

Reed, L. L. (2015). Servant leadership, followership, and organisational citizenship behaviors in 9-1-1 emergency communications centers: Implications of a national study. *Leadership Theory and Practice, 2*(1), 71-94. https://csuepress.columbusstate.edu/cgi/viewcontent.cgi

Reiter-Palmon, R., & Illies, J. J. (2004). *Leadership and creativity: Understanding leadership from a creative problem-solving perspective. The Leadership Quarterly, 15(1), 55–77.* doi:10.1016/j.leaqua.2003.12.005

Rivkin, W., Diestel, S., & Schmidt, K. H. (2014). The positive relationship between servant leadership and employees' psychological health: A multi-method approach. German Journal of Human Resource Management, 28(1-2), 52-72.

Rivkin, W., Diestel, S., & Schmidt, K. (2015). Affective commitment as a moderator of the adverse relationships between day-specific self-control demands and psychological well-being. *Journal of Vocational Behavior*, *88*, 185-194. https://doi.org/10.1016/j.jvb.2015.03.005

Rivkin, W., Diestel, S., & Schmidt, K.-H. (2016, April 21). Which Daily Experiences Can Foster Well-Being at Work? A Diary Study on the Interplay Between Flow Experiences, Affective Commitment, and Self-Control Demands. Journal of Occupational Health Psychology. Advance online publication. http://dx.doi.org/10.1037/ocp0000039

Rodríguez-Carvajal, R., Herrero, M., Van Dierendonck, D., De Rivas, S., & Moreno-Jiménez, B. (2018). Servant leadership and goal attainment through meaningful life and vitality: diary study. *Journal of Happiness Studies, 20*(2), 499-521. https://doi.org/10.1007/s10902-017-9954-y

Rosseel Y (2012). "lavaan: An R Package for Structural Equation Modeling." Journal of Statistical Software, 48(2), 1–36. doi:10.18637/jss.v048.i02.

Rothbard, N. P. (2001). Enriching or depleting? The dynamics of engagement in work and family roles. *Administrative Science Quarterly, 46*(4)*,* 655-684. *https://doi.org/10.2307/3094827*

Ruiz-Palomino, P., & Zoghbi-Manrique-de-Lara, P. (2020). How and when servant leaders fuel creativity: The role of servant attitude and intrinsic motivation. *International Journal of Hospitality Management, 89,* 102537. https://doi.org/10.1016/j.ijhm.2020.102537

Rushika De Bruin & Lisa M. Finkelstein (2023) Reactions from the Dark Side: How Does the Dark Tetrad Affect Responses to Daily Abusive Supervision Today and Tomorrow?, The Journal of Psychology, 157:3, 160-191, DOI: 10.1080/00223980.2023.2169229

Ryan, R. M., & Deci, E. L. (2008). From ego depletion to vitality: Theory and findings concerning the facilitation of energy available to the self. *Social and Personality Psychology Compass*, *2*(2), 702-717. https://doi.org/10.1111/j.1751-9004.2008.00098.x

Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and Wellness.* Guilford Press.

Sacramento CA, Fay D, West MA. 2013. Workplace duties or opportunities? Challenge stressors, regulatory focus, and creativity. Organ. Behav. Hum. Decis. Process. 121:141–57

Sagiv L, Arieli S, Goldenberg J, Goldschmidt A. 2010. Structure and freedom in creativity: the interplay between externally imposed structure and personal cognitive style. J. Organ. Behav. 31:1086–110

Salmon, S. J., Fennis, B. M., de Ridder, D. T. D., Adriaanse, M. A., & de Vet, E. (2014). Health on impulse: When low self-control promotes healthy food choices. Health Psychology, 33, 103–109. http://dx.doi.org/10.1037/a0031785.

Sandrin, Emilie, Alexandre J. S. Morin, Claude Fernet, Tiphaine Huyghebaert-Zouaghi, Morgane Suarez, Franck Duarte, and Nicolas Gillet. 2021. Nature, predictor, and outcomes of motivation trajectories during a professional training program. European Journal of Work and Organizational Psychology 31: 1–19. [CrossRef]

Saris, W. E., Satorra, A., & Van der Veld, W. M. (2009). Testing structural equation models or detection of misspecifications? Structural Equation Modeling: A Multidisciplinary Journal, 16(4), 561–582. https://doi.org/10.1080/10705510903203433

Saunders, M., Lewis, P. and Thornhill, A. (2012). *Research methods for business students* (6th ed.). Prentice Hall Financial Times.

Scherbaum, C. A., & Ferreter, J. M. (2009). Estimating Statistical Power and Required Sample Sizes for Organisational Research Using Multilevel Modeling. Organisational Research Methods, 12(2), 347–367. doi:10.1177/1094428107308906

Schilpzand, P., Houston, L., & Cho, J. (2018). Not too tired to be proactive: Daily empowering leadership spurs next-morning employee Proactivity as moderated by nightly sleep quality. *Academy of Management Journal*, *61*(6), 2367-2387. https://doi.org/10.5465/amj.2016.0936

Schilpzand, P., Houston, L., & Cho, J. (2018). Not too tired to be proactive: Daily empowering leadership spurs next-morning employee Proactivity as moderated by nightly sleep quality. *Academy of Management Journal*, *61*(6), 2367-2387. https://doi.org/10.5465/amj.2016.0936

Schmeichel, B. J., Vohs, K. D., & Baumeister, R. F. (2003). Ego depletion and intelligent performance: Role of the self in logical reasoning and other information processing. *Journal of Personality and Social Psychology, 85*, 33-46. *https://doi*.org/10.1026/1617-6391.8.4.169

Schmidt, K.-H., Hupke, M., & Diestel, S. (2012). *Does dispositional capacity for self-control attenuate the relation between self-control demands at work and indicators of job strain? Work & Stress, 26(1), 21–38.* https://doi:10.1080/02678373.2012.660367

Schütz, A. (1967). The phenomenology of the social world. Northwestern University Press.

Scoot, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior: A path model of Individual innovation in the workplace. *Academy of Management Journal, 37*(3), 580-607. *https://doi*.org/10.5465/256701

Sendjaya, S., & Pekerti, A. (2010). Servant leadership as antecedent of trust in organizations. *Leadership & Organization Development Journal*, *31*(7), 643-663. https://doi.org/10.1108/01437731011079673

Sendjaya, S., Eva, N., Butar Butar, I., Robin, M., & Castles, S. (2017). SLBS-6: Validation of a short form of the servant leadership behavior scale. *Journal of Business Ethics*, *156*(4), 941-956. https://doi.org/10.1007/s10551-017-3594-3

Shalley, C. E., & Gilson, L. L. (2004). What leaders need to know: A review of social and contextual factors that can foster or hinder creativity. *The Leadership Quarterly, 15*(1), 33-53. https://doi.org/10.1016/j.leaqua.2003.12.004

Shalley, C. E., Gilson, L. L., & Blum, T. C. (2000). Matching creativity requirements and the work environment: Effects of satisfaction and intentions to leave. *Academy of Management Journal, 43*(2), 215-223. https://doi.org/10.5465/1556378

Shalley, C. E., Zhou, J., & Oldham, G. R. (2004). The effects of personal and contextual characteristics on creativity: Where should we go from here? *Journal of Management, 30*(6), 933-958. https://doi.org/10.1016/j.jm.2004.06.007

Shalley, C. R., Gilson, L. L., & Blum, T. C. 2000. Matching creativity requirements and the work environment: Effects on satisfaction and intentions to leave. Academy of Management Journal, 43(2): 215-233.

Sheldon, K. M., (1995). Creativity and self-determination in personality. *Creative Research Journal, 8*(1), 25-36. https://doi.org/10.1207/s15326934crj0801_3

Sherf, E. N., Venkataramani, V., & Gajendran, R. S. (2019). Too busy to be fair? The effect of workload and rewards on managers' justice rule adherence. *Academy of Management Journal*, *62*(2), 469-502. https://doi.org/10.5465/amj.2016.1061

Shin, S. J. and J. Zhou (2003). 'Transformational leadership, conservation, and creativity: evidence from Korea', Academy of Management Journal, 46, pp. 703–714.

Sosik, J. J. (2001). Self-other agreement on charismatic leadership: Relationships with work attitudes and managerial performance. Group & Organization Management, 26(4), 484-511.

Sousa, M., & van Dierendonck, D. (2017). Servant leadership and the effect of the interaction between humility, action, and hierarchical power on follower engagement. *Journal of Business Ethics*, 141(1), 13–25.

Strauss, & Parker. (2014). Effective and Sustained Proactivity in the Workplace: A Self-Determination Theory Perspective. In *The Oxford Handbook of Work Engagement, Motivation, and Self-Determination Theory*. Oxford University Press.

Stefan Diestel & Klaus-Helmut Schmidt (2009): Mediator and moderator effects of demands on self-control in the relationship between work load and indicators of job strain, Work & Stress: An International Journal of Work, Health & Organisations, 23:1, 60-79

Spears, L. C. (1995). *Reflections on leadership: How Robert K. Greenleaf's theory of servant-leadership influenced today's top management thinkers*. John Wiley.Stein, M. I. (1967). Creativity and culture. In R. Mooney & T. Razik (Eds.), *Explorations in creativity* (pp. 109-119). Harper.

Sternberg, R. J., and Lubart, T. I. (1996). Investing in creativity. *American Psychology, 51*, 677-688. *https://doi*.org/10.1037//0003-066x.51.7.677

Stogdill, R. M. (1974). Handbook of Leadership: A Survey of Theory and Research. Free Press.

Stollberger, J., Heras, M. L., Rofcanin, Y., & Bosch, M. J. (2019). *Serving followers and family? A trickle-down model of how servant leadership shapes employee work performance. Journal of Vocational Behavior.* doi:10.1016/j.jvb.2019.02.003

Stone, D. N., Deci, E. L., & Ryan, R. M. (2009). Beyond talk: Creating autonomous motivation through self-determination theory. *Journal of General Management*, *34*(3), 75-91. https://doi.org/10.1177/030630700903400305

Sturm, B. (2009). Principles of servant-leadership in community health NursingManagement issues and behaviors discovered in ethnographic research. Home Health Care Management & Practice, 21, 82-89. doi:10.1177/1084822308318187

Sweller, J. (1988). Cognitive load during problem solving: Effects on learning. *Cognitive Science*, *12*(2), 257-285. https://doi.org/10.1207/s15516709cog1202_4

Tang G, Kwan HK, Zhang D, et al. (2015) Work–family effects of servant leadership: the roles of emotional exhaustion and personal learning. Journal of Business Ethics 137(2): 285–297.

Tangney, J., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, Less pathology, better grades, and interpersonal success. *Journal of Personality, 72*(2)*,* 271-324. https://doi.org/10.1111/j.0022-3506.2004.00263.x

Taris, T. W., Kessler, S. R., & Kelloway, E. K. (2021). Strategies addressing the limitations of cross-sectional designs in occupa tional health psychology: What they are good for (and what not). Work & Stress, 35, 1–5.

Tepper, B. J. (2000). Consequences of abusive supervision. *Academy of Management Journal, 43,*(2), 178-190. https://doi.org/10.5465/1556375

Tepper, B. J. (2007). Abusive supervision in work organisations: Review, synthesis, and research agenda*. Journal of Management, 33*(3), 261-289. https://doi.org/10.1177/0149206307300812

Tepper, B. J., Duffy, M. K., Hoobler, J. M., & Ensley, M. D. (2004). Moderators of the relationship's coworkers' organisational citizenship behavior and fellow employees' attitudes. *Journal of Applied Psychology, 89*(3), 455-465. https://doi.org/10.1037/0021-9010.89.3.

Tepper, B. J., Simon, L., & Park, H. M. (2017). Abusive Supervision. Annual Review of Organizational Psychology and Organizational Behavior, 4(1), 123–152. https://doi.org/ 10.1146/annurev-orgpsych-041015-062539

Tesluk, P. E., Farr, J. L., and Klein, S. R. 1997. Influences of organizational culture and climate on individual creativity. The Journal of Creative Behaviour, 31(1): 27-41.

Thau, S., & Mitchell, M. S. (2010). Self-gain or self-regulation impairment? Tests of competing Explanations of the supervisor abuse and employee deviance relationship through Perceptions of distributive justice. *Journal of Applied Psychology, 95*(6)*,* 1009-1031. *https://doi*.org/10.1037/a0020540

Thompson, J. A. (2005). Proactive personality and job performance: A social capital perspective. Journal of Applied Psychology, 90(5), 1011–1017.

Tice, D. M., & Bratslavsky, E. 2000. Giving in to feel good: The place of emotion regulation in the context of general self-control. Psychological Inquiry, 11: 149–159

Tice, D. M., Baumeister, R. F., Shmueli, D., & Muraven, M. (2007). Restoring the self: Positive affect helps improve self-regulation following ego depletion. *Journal of Experimental Social Psychology, 43*(3)*,* 379-384. *https://doi*.org/10.1016/j.jesp.2006.05.007

Tierney, P., & Farmer, S. M. (2002). Creative self-efficacy: Potential antecedents and relationship to creative performance. Academy of Management Journal, 45, 1137–1148.

Tierney, P., & Farmer, S. M. (2011). Creative self-efficacy development and creative performance over time. *Journal of Applied Psychology, 96*(2), 277-293. *https://doi*.org/10.1037/a0020952

To, M. L., Fisher, C. D., Ashkanasy, N. M., & Rowe, P. A. (2012). Within-person relationships between mood and creativity. *Journal of Applied Psychology, 97*(3), 599-612*. https://doi*.org/10.1037/a0026097

Tongco, M. D. C. (2007). Purposive sampling as a tool for informant selection. *Ethnobotany Research and Applications, 5,* 147-158*. https://doi*.org/10.17348/era.5.0.147-158

Topp, L., Barker, B., & Degenhardt, L. (2004). The external validity of results derived from ecstasy users recruited using purposive sampling strategies. *Drug and Alcohol Dependence 73*(1)*,* 33-40. *https://doi*.org/10.1016/j.drugalcdep.2003.09.001

Trougakos, J. P., Beal, D. J., Green, S. G., & Weiss, H. M. (2008). Making the break count: An episodic examination of recovery activities, emo tional experiences, and positive affective displays. Academy of Manage ment Journal, 51, 131–146. http://dx.doi.org/10.5465/ AMJ.2008 .30764063

Tu, Y., & Lu, X. (2012). How ethical leadership influence employees' innovative work behavior: A perspective of intrinsic motivation. Journal of Business Ethics, September, 1-15. http://doi.org/ nbr

Ullman, J. B. (2001). Structural equation modeling. In B. G. Tabachnick & L. S. Fidell (Eds.), Using multivariate statistics (4th ed.). Needham Heights, MA: Allyn & Bacon.

Van den Broeck, A., Ferris, D. L., Chang, C.-H., & Rosen, C.C. (2016). A review of selfdetermination theory's basic psychological needs at work. Journal of Management Accounting Research, 42(5), 1195–1229.

van Dierendonck, D., Nuijten, I. The Servant Leadership Survey: Development and Validation of a Multidimensional Measure. *J Bus Psychol* **26**, 249–267 (2011). https://doi.org/10.1007/s10869-010-9194-1

Van Dierendonck, D., Nuijten, I., & Heeren, I. (2009). Servant-leadership, key to follower well-being. *Power and Interdependence in Organizations*, 319-337. https://doi.org/10.1017/cbo9780511626562.020

Vansteenkiste, M., Simons, J., Lens, W., Sheldon, K. M., & Deci, E. L. (2004). Motivating learning, performance, and persistence: The synergistic role of intrinsic goals and autonomy-support. Journal of Personality and Social Psychology, 87, 246 –260.

Visser, V. A., Van Knippenberg, D., van Kleef, G. A., & Wisse, B. (2013). How leader displays of happiness and sadness influence follower performance: Emotional contagion and creative versus analytical performance. *The Leadership Quarterly, 24*(1), 172-188. *https://doi*.org/10.1016/j.leaqua.2012.09.003

Vohs, K. D., Baumeister, R. F., Schmeichel, B. J., Twenge, J. M., Nelson, N. M., & Tice, D. M. (2008). Making choices impairs subsequent self-control: A limited resource account of decision making, self-regulation, and active initiative. Journal of Personality and Social Psychology, 94, 883–898. http://dx.doi.org/10.1037/0022-3514.94.5.883.

Vohs, K. D., & Heatherton, T. F. (2000). Self-regulatory failure: A resource-depletion approach. *Psychological Science, 11*(3), 249-254. *https://doi*.org/10.1111/1467-9280.00250

Vohs, K. D., & Baumeister, R. F. (2011). *Handbook of self-regulation: Research, theory, and applications* (2nd ed.). Guilford Press.

Walsh, G., Dahling, J. J., Schaarschmidt, M., & Brach, S. (2016). Surface-acting outcomes among service employees with two jobs: Investigating moderation and mediation effects. Journal of Service Management, 27(4), 534-562.

Walter, F., & Bruch, H. (2007). Investigating the emotional basis of charismatic leadership: The role of leaders' positive mood and emotional intelligence. In C. E. J. Härtel, N. M. Ashkanasy, A., & W. J. Zerbe (Eds.), *Research on emotion in organisations,* (pp. 55-85). Emerald Insight.

Wang, M., Liao, H., Zhan, Y., & Shi, J. (2011). Daily customer mistreatment and employee sabotage against customers: Examining emotion and resource perspectives. *Academy of Management Journal, 54*(2), 312-334. http://dx.doi.org/10.5465/AMJ.2011.60263093

Wang, M., Sinclair, R., & Deese, M. N. (2010). Understanding the causes of destructive Leadership behavior — A dual-process model. In B. Schyns, & T. Hansbrough (Eds.), *When Leadership goes wrong: Destructive leadership, mistakes and ethical failures* (pp. 73–97). Information Age Publishing.

Wang, M., Sinclair, R., & Deese, M. N. (2010). *Understanding the causes of destructive* West Publishing.

Wehrt, W., Casper, A., & Sonnentag, S. (2020). Beyond depletion: Daily self-control motivation as an explanation of self-control failure at work. *Journal of Organizational Behavior*, *41*(9), 931-947. https://doi.org/10.1002/job.2484

Wehrt, W., Casper, A., & Sonnentag, S. (2022). More than a muscle: How self-control motivation, depletion, and self-regulation strategies impact task performance. *Journal of Organizational Behavior*, *43*(8), 1358-1376. https://doi.org/10.1002/job.2644

Wenxing Liu Pengcheng Zhang Jianqiao Liao Po Hao Jianghua Mao , (2016),"Abusive supervision and employee creativity: the mediating role of psychological safety and organizational identification", Management Decision, Vol. 54 Iss 1 pp. Permanent link to this document: http://dx.doi.org/10.1108/MD-09-2013-0443

West, S. G., Finch, I F., and Curran, P. 1 (1995). Structural equation models with nonnormal variables: Problems and remedies. In R. Hoyle (Ed.), Structural equation modeling. - Concepts, issues, and applications. Thousand Oaks, CA: Sage, pp. 56-75.

Weston, R., & Gore, P. A. (2006). A brief guide to structural equation modeling. *The Counseling Psychologist*, *34*(5), 719-751. https://doi.org/10.1177/0011000006286345

Wickens, C. D. (1984). Processing resources in attention. In R. Parasuraman (Ed.), *Varieties of attention.* Academic Press.

Williams, G. C., Deci, E. L., & Ryan, R. M. (1998). Building health-care partnerships by supporting autonomy: promoting maintained behavior change and positive health outcomes. In A. L. Suchman, P. Hinton-Walker, & R. Botelho (Eds.), Partnerships in healthcare: Transforming relational process (pp. 67–87). Rochester, NY: University of Rochester Press

Williams, G. C., Halvari, H., Niemiec, C. P., Sørebø, Ø., Olafsen, A. H., & Westbye, C. (2014). Managerial support for basic psychological needs, somatic symptom burden and work-related correlates: A self-determination theory perspective. Work and Stress, 28(4), 404–419.

Williams, W. A., Jr., Brandon, R.-S., Hayek, M., Haden, S. P., & Atinc, G. (2017). Servant leadership and followership creativity: The influence of workplace spirituality and political skill. *Leadership and Organization Development Journal, 38*(2), 178-193. https://doi.org/10. 1108//LODJ-02-2015-0019

Xia, Y., Schyns, B., & Zhang, L. (2020). Why and when job stressors impact voice behaviour: An ego depletion perspective. Journal of Business Research, 109, 200–209.

Yam, K. C., Chen, X. P., & Reynolds, S. J. (2014). Ego depletion and its paradoxical effects on Ethical decision making. *Organisational Behavior and Human Decision Processes, 124*(2)*,* 204-214. https://doi.org/10.1016/j.obhdp.2014.03.008

Yam, K. C., Fehr, R., Keng-Highberger, F. T., Klotz, A. C., & Reynolds, S. J. (2016). Out of control: A Self-control perspective on the link between surface acting and abusive supervision. *Journal of Applied Psychology, 101*(2), 292-301. https://psycnet.apa.org/buy/2015-33098-001

Yang, J., Liu, H., & Gu, J. (2017). A multilevel study of servant leadership on creativity. *Leadership & Organization Development Journal, 38*(5), 610-629. https://doi.org/10.1108/LODJ-10-2015-0229

Yang, J., Gu, J., & Liu, H. (2019). Servant leadership and employee creativity: The roles of psychological empowerment and work–family conflict. Current Psychology, 38(6), 1417-1427. https://doi.org/10.1007/s12144-019-0161-3

Yoshida, D. T., Sendjaya, S., Hirst, G., & Cooper, B. (2014). Does servant leadership foster creativity and innovation? A multilevel mediation study of identification and prototypicality. *Journal of Business Research, 67*(7), 1395-1404. https://doi.org/10.1016/j.jbusres.2013.08.013

Yuan, X., Xu, Y., & Li, Y. (2018). Resource depletion perspective on the link between abusive supervision and safety behaviors. *Journal of Business Ethics, 162*1), 213-228. https://doi.org/10.1007/s10551-018-3983-2

Yukl, G. (2000). *Leadership in organisations* (5th ed.). Prentice Hall.

Yukl, G. A. (2010). *Leadership in Organizations* (7th ed.). Pearson Education.Northouse, P. G. (2010). Leadership: Theory and Practice (5th ed.). Sage Publications.

Yukl, Gary, and Rubina Mahsud (2010) "Why Flexible and Adaptive Leadership is Essential." Consulting Psychology Journal: Practice and Research 62.2: 81.

Zellars, K. L., Tepper, B. J., & Duffy, M. K. (2002). Abusive supervision and subordinates' organisational citizenship behavior. *Journal of Applied Psychology, 87*(6), 1068-1076. https://doi.org/10.1007/s00426-014-0631-

Zhang Z, Wang M, Shi JQ. (2012). Leader-follower congruence in proactive personality and work outcomes: the mediating role of leader-member exchange. Acad. Manag. J. 55:111–30

Zhang, H., Kwan, H. K., Zhang, X., & Wu, L. Z. (2012). High core self-evaluators maintain creativity a motivational model of abusive Supervision. *Journal of Management,* 40(4), 1151-1173. https://doi.org/10.1177/0149206312460681.

Zhang, J., Gong, Z., Zhang, S., & Zhao, Y. (2017). Impact of the supervisor feedback environment on creative performance: A moderated mediation model. *Frontiers Psychology, 8*, 256. https://doi.org/10.3389/fpsyg.2017.00256

Zhang, N., Shi, Y., Ma, H., & Zhang, H. (2022). Is it up to you? The moderating role of beliefs about willpower in the relationship between availability norms and control over leisure

Zhang, X., & Zhou, J. (2014). Empowering leadership, uncertainty avoidance, trust, and employee creativity: Interaction effects and a mediating mechanism. Organizational Behavior and Human Decision Processes, 124, 150–164. https://doi.org/10.1016/j.obhdp.2014.02.002

Zhang, S., Ke, X., Frank Wang, X., & Liu, J. (2018). Empowering leadership and employee creativity: A dual-mechanism perspective. *Journal of Occupational and Organizational Psychology*, *91*(4), 896-917. https://doi.org/10.1111/joop.12219

Zhang, X., & Bartol, K. M. (2010). Linking empowering leadership and employee creativity: The influence of psychological empowerment, intrinsic motivation, and creative process engagement. Academy of Management Journal, 53(1), 107-128. https://doi.org/10.5465/amj.2010.48037118

Zhou, J. & Hoever, I.J. 2014, 'Research on workplace creativity: A review and redirection', Annu. Rev. Organ. Psychol. Organ. Behav., vol. 1, no. 1, pp. 333-59

Zhou, J., & George, J. M. (2001). When job dissatisfaction leads to creativity: Encouraging the expression of voice. *Academy of Management Journal, 44*(4), 682-696. https://doi.org/10.5465/3069410

Zhou, J., & Shalley, C. E. (2008). Expanding the scope and impact of organisational creativity research. *Handbook of Organizational Creativity, 28*(1), 125-147. https://www.econbiz.de/Record/expanding-the-scope-and-impact-of-organizational-creativity-research-shalley-christina/10003608732

Zhou, J., & Shalley, C. E. 2003. Research on employee creativity: A critical review and directions for future research. In J. Martocchio (Ed.), Research in personnel and human resource management: 165–217. Oxford, England: Elsevier.

Appendices

Appendix B: Employees' scales (Study 1)

Servant Leadership (Liden)

Short scale

Liden, R. C., Wayne, S. J., Meuser, J. D., Hu, J., Wu, J., & Liao, C. (2015). Servant Leadership: Validation of a Short Form of the SL-28. Leadership Quarterly, 26(2), 254–269. https://doi.org/10.1016/j.leaqua.2014.12.002

Scale

Name	R	Procedure: Compute mean
Servant Leadership	SL	Mean across all items

Instruction and Items

Please rate the following statements in regard to your direct supervisor. Consider the last three months.

1	My direct supervisor can tell if something work-related is going wrong.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
2	My direct supervisor makes my career development a priority.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
3	I will seek help from my direct supervisor if I have a personal problem.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
4	My direct supervisor emphasizes the importance of giving back to the community	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
5	My direct supervisor has put my best interests ahead of his/her own.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
6	My direct supervisor gives me the freedom to handle difficult situations in the way that I felt is best.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always

7	My direct supervisor will NOT compromise ethical principles in order to achieve success.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always

Proactive Personality

Source

Bateman TS, Crant JM. (1993). The proactive component of organizational behavior. Journal of Organizational Behavior; 14,103-118.

Scale

Name	R	Procedure: Compute mean
Proactive Personality	PP	Mean across all items

Think of yourself in general, to what extent do you agree with the following statements.

1	I am constantly on the lookout for new ways to improve my life.	strongly disagree	□ □ □ □ □	strongly agree
2	Wherever I have been, I have been a powerful force for constructive change.	strongly disagree	□ □ □ □ □	strongly agree
3	Nothing is more exciting than seeing my ideas turn into reality.	strongly disagree	□ □ □ □ □	strongly agree
4	If I see something I don’t like, I fix it.	strongly disagree	□ □ □ □ □	strongly agree
5	No matter what the odds, if I believe in something I will make it	strongly disagree	□ □ □ □ □	strongly agree
6	I love being a champion for my ideas, even against others’ opposition.	strongly disagree	□ □ □ □ □	strongly agree
7	I excel at identifying opportunities.	strongly disagree	□ □ □ □ □	strongly agree
8	I am always looking for better ways to do things.	strongly disagree	□ □ □ □ □	strongly agree
9	If I believe in an idea, no obstacle will prevent me from making it happen.	strongly disagree	□ □ □ □ □	strongly agree

10	I can spot a good opportunity long before others can.	strongly disagree	□ □ □ □ □	strongly agree

► Autonomous Motivation

Source

Guay, F., Vallerand, R. J., & Blanchard, C. (2000). On the assessment of situational intrinsic and extrinsic motivation: The situational motivation scale (SIMS). Motivation and Emotion, 24(3), 175-213.

Scale

Name	R	Procedure: Compute mean
Intrinsic motivation	AM_im	AM01 – AM04
Identified regulation	AM_ir	AM05 –AM08

Instruction and Items

The following statement describe the reason why you were engaged in your work. Consider the last three months. I was engaged in my work….

AM01	Because I think that my work is interesting	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AM02	Because I think that my work is pleasant	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AM03	Because my work is fun	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AM04	Because I feel good when doing my work	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AM05	Because I am doing it for my own good	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AM06	Because I think that my work is good for me	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AM07	By personal decision	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AM08	Because I believe that my work is important for me	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree

► **Autonomous Regulation**

Source

Weinstein, N., Przybylski, A. K., & Ryan, R. M. (2012). The index of autonomous functioning: Development of a scale of human autonomy. Journal of Research in Personality, 46, 397-413. doi: 10.1016/j.jrp.2012.03.007

Scale:

Name	Social Science Survey	Procedure
Autonomous functioning Subscales: Authorship/self-congruence (AU) Susceptibility to control (SC) Interest-taking (IT)	AR Athorship/self-congruence AR01 – AR05 Susceptibility to control AR06 – AR10 Interest-taking AR11 – AR15	AR02, AR03, AR08, AR09, AR10, AR16, AR19 recode Mean across all items

Instructions and Items

At work, over the last three months, to what extent do you agree you felt as described in the following statements?

Item-Nr:	Item text	Scale-minimum	Scale	Scale-maximum
AR01	My decisions represent my most important values and feelings	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AR02	I strongly identify with the things I do.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AR03	My actions are congruent with who I really am.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AR04	My whole self stands behind the important decisions I make	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AR05	My decisions are steadily informed by things I want or care about	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AR06	I do things in order to avoid feeling badly about myself	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AR07	I do a lot of things to avoid feeling ashamed	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AR08	I try to manipulate myself into doing certain things.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree

AR09	I believe certain things so that others will like me	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AR10	I often pressure myself.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AR11	I often reflect on why I react the way I do.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AR12	I am deeply curious when I react with fear or anxiety to events in my life	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AR13	I am interested in understanding the reasons for my actions.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AR14	I am interested in why I act the way I do.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AR15	I like to investigate my feelings.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree

► Abusive Supervision

Source

Tepper, B. J. (2000). Consequences of abusive supervision. Academy of Management Journal, 43, 178–190. http://dx.doi.org/10.2307/1556375

Scale

Name	R	Procedure: Compute mean
Abusive Supervision	AS	Mean across all items

Instruction and Items

Please rate the following statements in regard to your direct supervisor. Consider the last three months.

1	My direct supervisor ridicules me.	I cannot remember him/her using this behavior with me at all	❶ ❷ ❸ ❹ ❺	He/she used this behavior very often with me
2	My direct supervisor gives me the silent treatment.	I cannot remember him/her using this behavior with me at all	❶ ❷ ❸ ❹ ❺	He/she used this behavior very often with me
3	My direct supervisor put me down in front of others.	I cannot remember him/her using this behavior with me at all	❶ ❷ ❸ ❹ ❺	He/she used this behavior very often with me
4	My direct supervisor reminds me of my past mistakes and failures.	I cannot remember him/her using this behavior with me at all	❶ ❷ ❸ ❹ ❺	He/she used this behavior very often with me

5	My direct supervisor expresses anger at me when he/she is mad for another reason.	I cannot remember him/her using this behavior with me at all	❶ ❷ ❸ ❹ ❺	He/she used this behavior very often with me
6	My direct supervisor makes negative comments about me to others.	I cannot remember him/her using this behavior with me at all	❶ ❷ ❸ ❹ ❺	He/she used this behavior very often with me
7	My direct supervisor is rude to me.	I cannot remember him/her using this behavior with me at all	❶ ❷ ❸ ❹ ❺	He/she used this behavior very often with me
8	My direct supervisor tells me that I am incompetent	I cannot remember him/her using this behavior with me at all	❶ ❷ ❸ ❹ ❺	He/she used this behavior very often with me
9	My direct supervisor tells me my thoughts or feelings are stupid	I cannot remember him/her using this behavior with me at all	❶ ❷ ❸ ❹ ❺	He/she used this behavior very often with me
10	My direct supervisor doesn't give me credit for jobs requiring a lot of effort	I cannot remember him/her using this behavior with me at all	❶ ❷ ❸ ❹ ❺	He/she used this behavior very often with me
11	My direct supervisor blames me to save himself/herself embarrassment	I cannot remember him/her using this behavior with me at all	❶ ❷ ❸ ❹ ❺	He/she used this behavior very often with me
12	My direct supervisor breaks promises he/she makes	I cannot remember him/her using this behavior with me at all	❶ ❷ ❸ ❹ ❺	He/she used this behavior very often with me
13	My direct supervisor invades my privacy	I cannot remember him/her using this behavior with me at all	❶ ❷ ❸ ❹ ❺	He/she used this behavior very often with me
14	My direct supervisor does not allow me to interact with my co-workers	I cannot remember him/her using this behavior with me at all	❶ ❷ ❸ ❹ ❺	He/she used this behavior very often with me
15	My direct supervisor lies to me	I cannot remember him/her using this behavior with me at all	❶ ❷ ❸ ❹ ❺	He/she used this behavior very often with me

Trait Self-Control

Source

Lindner, C., Nagy, G., & Retelsdorf, J. (2015). The dimensionality of the Brief Self-Control Scale—An evaluation of unidimensional and multidimensional applications. Personality and Individual Differences, 86, 465–473. https://doi.org/10.1016/j.paid.2015.07.006

Scale

Name	R	Procedure: Compute mean
Trait self-control	TS	TS01 – TS13

Instruction and Items

Think of how you are in general. To what extent do the following statements describe you?

1	I am good at resisting temptation.	strongly disagree	□ □ □ □ □	strongly agree
2	I have a hard time breaking bad habits.	strongly disagree	□ □ □ □ □	strongly agree
3	I am lazy.	strongly disagree	□ □ □ □ □	strongly agree
4	I say inappropriate things.	strongly disagree	□ □ □ □ □	strongly agree
5	I do certain things that are bad for me if they are fun.	strongly disagree	□ □ □ □ □	strongly agree
6	I wish I had more self-discipline.	strongly disagree	□ □ □ □ □	strongly agree
7	Pleasure and fun sometimes keep me from getting work done.	strongly disagree	□ □ □ □ □	strongly agree
8	I have trouble concentrating.	strongly disagree	□ □ □ □ □	strongly agree
9	I am able to work effectively toward long-term goals.	strongly disagree	□ □ □ □ □	strongly agree
10	Sometimes I can't stop myself from doing something, even if I know it is wrong.	strongly disagree	□ □ □ □ □	strongly agree
11	I often act without thinking through all the alternatives.	strongly disagree	□ □ □ □ □	strongly agree
12	I refuse things that are bad for me.	strongly disagree	□ □ □ □ □	strongly agree
13	People would say that I have iron self-discipline.	strongly disagree	□ □ □ □ □	strongly agree

Ego Depletion

Source

Ciarocco, N., Twenge, J. M., Muraven, M., & Tice, D. M. (2010). The state self-control capacity scale: Reliability, validity, and correlations with physical and psychological stress.

Scale

Name	Social Science Survey	Procedure
Ego depletion	EG	Compute overall mean of all items.

Instruction and Items

Please rate the following statements regarding how you feel. Consider the last three months.

1 It would take a lot of effort for me to concentrate on something.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
2 I felt drained.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
3 I felt like my willpower is gone.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
4 It was very difficult for me to stay focused.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
5 I had no mental energy left.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree

Self-Control Demands

Source

Schmidt, K. -H., & Neubach, B. (2010). Selbstkontrollanforderungen bei der Arbeit. Diagnostica, 56(3), 133–143.

Scale:

Name	Social Science Survey	Procedure
Self-control	SF	Compute overall mean of all items.

Sub-Scale of Impulse Control Sub-Scale of overcoming inner resistances	SF(IC): 1, 2, 3, 4, 5, 6 SF(WI): 7, 8, 9, 10, 11 SF(ED): 12, 13, 14, 15	

Instruction and Items

Please rate the following statements regarding your work Consider the last three months.

1 My work required me not to lose my temper.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
2 Even if I was sometimes very irritated at work, I could not show my feelings.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
3 I was not allowed to become impatient.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
4 My work required me to weight every word I say.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
5 I was not allowed to let myself go.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
6 I was not allowed to give way to any spontaneous reactions.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
7 Dealing with unpleasant tasks often took a considerable amount of effort from me.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
8 For some of my tasks, I really had to force myself not to leave them unfinished and do more interesting activities.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
9 Beginning with certain tasks required a lot of effort from me.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
10 For some of my tasks, I really had to force myself to get them done.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
11 Some of my tasks required me to overcome inner resistance.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
12 In order to achieve my goals, I did not allow myself to get distracted.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always

13 My work required me to ignore distractions as much as possible.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
14 In order to get my work done, I forced myself not to waste my time with trivialities.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
15 If I wanted to finish my work tasks successfully, I was not allowed to give in to any distractions.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always

Creative Process Engagement

Source

Zhang, X., & Bartol, K. M. (2010). Linking Empowering Leadership and Employee Creativity: The Influence of Psychological Empowerment, Intrinsic Motivation, and Creative Process Engagement. Academy of Management Journal, 53(1), 107-128. Doi:10.5465/amj.2010.48037118

Scale

Name	R	Procedure: Compute mean
Creative Process Engagement	CP	CP01-CP11
Problem Identification	CP_pi	CP01-CP03
Information searching and encoding	CP_is	CP04-CP06
Idea Generation	CP_id	CP07-CP11

Instruction and Items

Please read the following statements and rate how often you have engaged in these behaviours or thoughts in the last three months. In the last three months,…

CP01	I spent considerable time trying to understand the nature of the problems.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
CP02	I thought about problems from multiple perspectives.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
CP03	I decomposed a difficult problem/assignment into parts to obtain a greater understanding.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
CP04	I consulted a wide variety of information.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
CP05	I searched for information from multiple sources (e.g., personal memories, others' experiences, documentation, the Internet, etc.).	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
CP06	I retained large amounts of detailed information in my area of expertise for future use.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
CP07	I considered diverse sources of information in generating new ideas.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
CP08	I looked for connections with solutions used in seemingly diverse areas.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
CP09	I generated a significant number of alternatives to the same problem before I choose the final solution.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
CP10	I tried to devise potential solutions that move away from established ways of doing things.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
CP11	I spent considerable time shifting through the information that helps to generate new ideas.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree

Appendix C: Supervisor scale (Study 1)

Creativity

Source

Tierney, P., Farmer, S. M., & Graen, G. B. (1999). An examination of leadership and employee creativity: The relevance of traits and relationships. Personnel psychology, 52(3), 591-620.

Ettlie JE, OKeefe RD. (1982). Innovative attitudes, values, and intentions in organizations. Journal of Management Studies, 19,163-182.

Scale

Name	R	Procedure: Compute mean
Creativity	CR	CR01-CR09

Instruction and Items

‘’ Please indicate how often the following statements characterize this employee.” Please indicate the extent to which you agree with each statement. Consider the last three months.

1 Demonstrated originality in his/her work.	Strongly disagree	❶ ❷ ❸ ❹ ❺ ❻	Strongly agree
2 Generated novel, but operable work-related ideas.	Strongly disagree	❶ ❷ ❸ ❹ ❺ ❻	Strongly agree
3 Tried out new ideas and approached to problems.	Strongly disagree	❶ ❷ ❸ ❹ ❺ ❻	Strongly agree
4 Took risks in terms of producing new ideas in doing job.	Strongly disagree	❶ ❷ ❸ ❹ ❺ ❻	Strongly agree
5 Found new uses for existing methods or equipments.	Strongly disagree	❶ ❷ ❸ ❹ ❺ ❻	Strongly agree

6 Solved problems that had caused other difficulty.	Strongly disagree	❶ ❷ ❸ ❹ ❺ ❻	Strongly agree
7 Identified opportunities for new products/processes.	Strongly disagree	❶ ❷ ❸ ❹ ❺ ❻	Strongly agree
8 Served as a good role model for creativity.	Strongly disagree	❶ ❷ ❸ ❹ ❺ ❻	Strongly agree
9 Generated ideas revolutionary to our field.	Strongly disagree	❶ ❷ ❸ ❹ ❺ ❻	Strongly agree

Appendix D: Employees' scales (Study 2)

General Survey

Proactive Personality

Source

Bateman TS, Crant JM. (1993). The proactive component of organizational behavior. Journal of Organizational Behavior; 14,103-118.

Scale

Name	R	Procedure: Compute mean
Proactive Personality	PP	Mean across all items

Think of yourself in general, to what extent do you agree with the following statements.

1	I am constantly on the lookout for new ways to improve my life.	strongly disagree	□ □ □ □ □	strongly agree
2	Wherever I have been, I have been a powerful force for constructive change.	strongly disagree	□ □ □ □ □	strongly agree
3	Nothing is more exciting than seeing my ideas turn into reality.	strongly disagree	□ □ □ □ □	strongly agree
4	If I see something I don’t like, I fix it.	strongly disagree	□ □ □ □ □	strongly agree
5	No matter what the odds, if I believe in something I will make it	strongly disagree	□ □ □ □ □	strongly agree
6	I love being a champion for my ideas, even against others’ opposition.	strongly disagree	□ □ □ □ □	strongly agree
7	I excel at identifying opportunities.	strongly disagree	□ □ □ □ □	strongly agree
8	I am always looking for better ways to do things.	strongly disagree	□ □ □ □ □	strongly agree

9	If I believe in an idea, no obstacle will prevent me from making it happen.	strongly disagree	□ □ □ □ □	strongly agree
10	I can spot a good opportunity long before others can.	strongly disagree	□ □ □ □ □	strongly agree

Trait Self-Control

Source

Lindner, C., Nagy, G., & Retelsdorf, J. (2015). The dimensionality of the Brief Self-Control Scale—An evaluation of unidimensional and multidimensional applications. Personality and Individual Differences, 86, 465–473. https://doi.org/10.1016/j.paid.2015.07.006

Scale

Name	R	Procedure: Compute mean
Trait self-control	TS	TS01 – TS13

Instruction and Items

Think of how you are in general. To what extent do the following statements describe you?

1	I am good at resisting temptation.	strongly disagree	□ □ □ □ □	strongly agree
2	I have a hard time breaking bad habits.	strongly disagree	□ □ □ □ □	strongly agree
3	I am lazy.	strongly disagree	□ □ □ □ □	strongly agree
4	I say inappropriate things.	strongly disagree	□ □ □ □ □	strongly agree
5	I do certain things that are bad for me if they are fun.	strongly disagree	□ □ □ □ □	strongly agree

6	I wish I had more self-discipline.	strongly disagree	□ □ □ □ □	strongly agree
7	Pleasure and fun sometimes keep me from getting work done.	strongly disagree	□ □ □ □ □	strongly agree
8	I have trouble concentrating.	strongly disagree	□ □ □ □ □	strongly agree
9	I am able to work effectively toward long-term goals.	strongly disagree	□ □ □ □ □	strongly agree
10	Sometimes I can't stop myself from doing something, even if I know it is wrong.	strongly disagree	□ □ □ □ □	strongly agree
11	I often act without thinking through all the alternatives.	strongly disagree	□ □ □ □ □	strongly agree
12	I refuse things that are bad for me.	strongly disagree	□ □ □ □ □	strongly agree
13	People would say that I have iron self-discipline.	strongly disagree	□ □ □ □ □	strongly agree

Middle of the Workday

Autonomous Motivation

Source

Guay, F., Vallerand, R. J., & Blanchard, C. (2000). On the assessment of situational intrinsic and extrinsic motivation: The situational motivation scale (SIMS). Motivation and Emotion, 24(3), 175-213.

Scale

Name	R	Procedure: Compute mean
Intrinsic motivation	AM_im	AM01 – AM04
Identified regulation	AM_ir	AM05 –AM08

Instruction and Items

The following statement describe the reason why you were engaged in your work today.

Today, I was engaged in my work….

AM01	Because I think that my work is interesting	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AM02	Because I think that my work is pleasant	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AM03	Because my work is fun	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AM04	Because I feel good when doing my work	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AM05	Because I am doing it for my own good	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AM06	Because I think that my work is good for me	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree

AM07	By personal decision	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
AM08	Because I believe that my work is important for me	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree

► Autonomous Regulation

Source

Weinstein, N., Przybylski, A. K., & Ryan, R. M. (2012). The index of autonomous functioning: Development of a scale of human autonomy. Journal of Research in Personality, 46, 397-413. doi: 10.1016/j.jrp.2012.03.007

Scale:

Name	Social Science Survey	Procedure
Autonomous functioning Subscales: Authorship/self-congruence (AU) Susceptibility to control (SC) Interest-taking (IT)	AR Athorship/self-congruence AR01 – AR05 Susceptibility to control AR06 – AR10 Interest-taking AR11 – AR15	AR02, AR03, AR08, AR09, AR10, AR16, AR19 recode Mean across all items

Instructions and Items

At work, over the day, to what extent do you agree you felt as described in the following statements?

Item-Nr:	Item text	Scale-minimum	Scale	Scale-maximum
1	My decisions represent my most important values and feelings	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
2	I strongly identify with the things I do.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree

3	My actions are congruent with who I really am.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
4	My whole self stands behind the important decisions I make	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
5	My decisions are steadily informed by things I want or care about	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
6	I do things in order to avoid feeling badly about myself	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
7	I do a lot of things to avoid feeling ashamed	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
8	I try to manipulate myself into doing certain things.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
9	I believe certain things so that others will like me	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
10	I often pressure myself.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
11	I often reflect on why I react the way I do.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
12	I am deeply curious when I react with fear or anxiety to events in my life	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
13	I am interested in understanding the reasons for my actions.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
14	I am interested in why I act the way I do.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
15	I like to investigate my feelings.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree

Ego Depletion

Source

Ciarocco, N., Twenge, J. M., Muraven, M., & Tice, D. M. (2010). The state self-control capacity scale: Reliability, validity, and correlations with physical and psychological stress.

Scale

Name	Social Science Survey	Procedure

Ego depletion	EG	Compute overall mean of all items.

Instruction and Items

Please rate the following statements in regard to how you feel right now. Right now, …

1 it would take a lot of effort for me concentrate on something.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
2 I feel drained.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
3 I feel like my willpower is gone.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
4 it is very difficult for me to stay focused.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
5 I have no mental energy left.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree

Self-Control Demands

Source

Schmidt, K. H., & Neubach, B. (2007). Self-control demands: A source of stress at work. International Journal of Stress Management, 14(4), 398–416. 1505

Scale:

Name	Social Science Survey	Procedure
Self-control Sub-Scale of Impulse Control	SF SF(IC): 1, 2, 3, 4, 5, 6	Compute overall mean of all items.

Instruction and Items

Please rate the following statements regarding your work today:

1 Today, my work required me not to lose my temper.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
2 Even if I was sometimes very irritated at work today, I could not show my feelings.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
3 Today, I was not allowed to become impatient.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
4 Today, my work required me to weigh every word I say.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
5 Today, I was not allowed to let myself go.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
6 Today, I was not allowed to give way to any spontaneous reactions.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always

End of the workday

Abusive Supervision

Source

Mitchell, M. S., & Ambrose, M. L. (2007). Abusive supervision and workplace deviance and the moderating effects of negative reciprocity beliefs. Journal of Applied Psychology, 92, 1159–1168. https://doi.org/ 10.1037/0021-9010.92.4.1159

Scale

Name	R	Procedure: Compute mean
Abusive Supervision	AS	Mean across all items

Instruction and Items

Please rate the following statements in regard to your direct supervisor during this day.

1	During this day, my direct supervisor ridiculed me.	I cannot remember him/her using this behavior with me at all	❶ ❷ ❸ ❹ ❺	He/she used this behavior very often with me
2	During this day, my direct supervisor put me down in front of others.	I cannot remember him/her using this behavior with me at all	❶ ❷ ❸ ❹ ❺	He/she used this behavior very often with me

3	During this day, my direct supervisor made negative comments about me to others.	I cannot remember him/her using this behavior with me at all	❶ ❷ ❸ ❹ ❺	He/she used this behavior very often with me
4	During this day, my direct supervisor told me that I am incompetent	I cannot remember him/her using this behavior with me at all	❶ ❷ ❸ ❹ ❺	He/she used this behavior very often with me
5	During this day, my direct supervisor told me my thoughts or feelings are stupid	I cannot remember him/her using this behavior with me at all	❶ ❷ ❸ ❹ ❺	He/she used this behavior very often with me

Servant Leadership (Liden)

Short scale

Liden, R. C., Wayne, S. J., Meuser, J. D., Hu, J., Wu, J., & Liao, C. (2015). Servant Leadership: Validation of a Short Form of the SL-28. Leadership Quarterly, 26(2), 254–269. https://doi.org/10.1016/j.leaqua.2014.12.002

Scale

Name	R	Procedure: Compute mean
Servant Leadership	SL	Mean across all items

Instruction and Items

Please rate the following statements in regard to your direct supervisor during this day.

1	During this day, my direct supervisor could tell if something work-related is going wrong.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
2	During this day, my direct supervisor made my career development a priority.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
3	During this day, I would seek help from my direct supervisor if I had a personal problem.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
4	During this day, my direct supervisor emphasized the importance of giving back to the community	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always

5	During this day, my direct supervisor has puts my best interests ahead of his/her own.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
6	During this day, my direct supervisor gave me the freedom to handle difficult situations in the way that I felt is best.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always
7	During this day, my direct supervisor would NOT compromise ethical principles in order to achieve success.	Rarely or never	❶ ❷ ❸ ❹ ❺	Very frequently, if not always

Creative Process Engagement

Source

To, M. L., Fisher, C. D., Ashkanasy, N. M., & Rowe, P. A. (2012). Within-person relationships between mood and creativity. Journal of Applied Psychology, 97(3), 599-612. https://doi.org/10.1037/a0026097

Scale

Name	R	Procedure: Compute mean
Creative Process Engagement	CP	CP01-CP06
Problem Identification	CP_pi	CP01-CP02
Information searching and encoding	CP_is	CP03-CP04
Idea Generation	CP_id	CP05-CP06

Instruction and Items

Please read the following statements and rate how often you have engaged in these behaviours or thoughts this day.

CP01	I spent considerable time trying to understand the nature of the problems.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
CP02	I thought about problems from multiple perspectives.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
CP03	I consulted a wide variety of information.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
CP04	I searched for information from multiple sources (e.g., personal memories, others' experiences, documentation, the Internet, etc.).	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree

CP5	I tried to devise potential solutions that move away from established ways of doing things.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree
CP6	I spent considerable time shifting through the information that helps to generate new ideas.	Strongly disagree	❶ ❷ ❸ ❹ ❺	Strongly agree

Creativity

Source

Tierney, P., Farmer, S. M., & Graen, G. B. (1999). An examination of leadership and employee creativity: The relevance of traits and relationships. Personnel psychology, 52(3), 591-620.

Scale

Name	R	Procedure: Compute mean
Creativity	CR	CR01-CR03

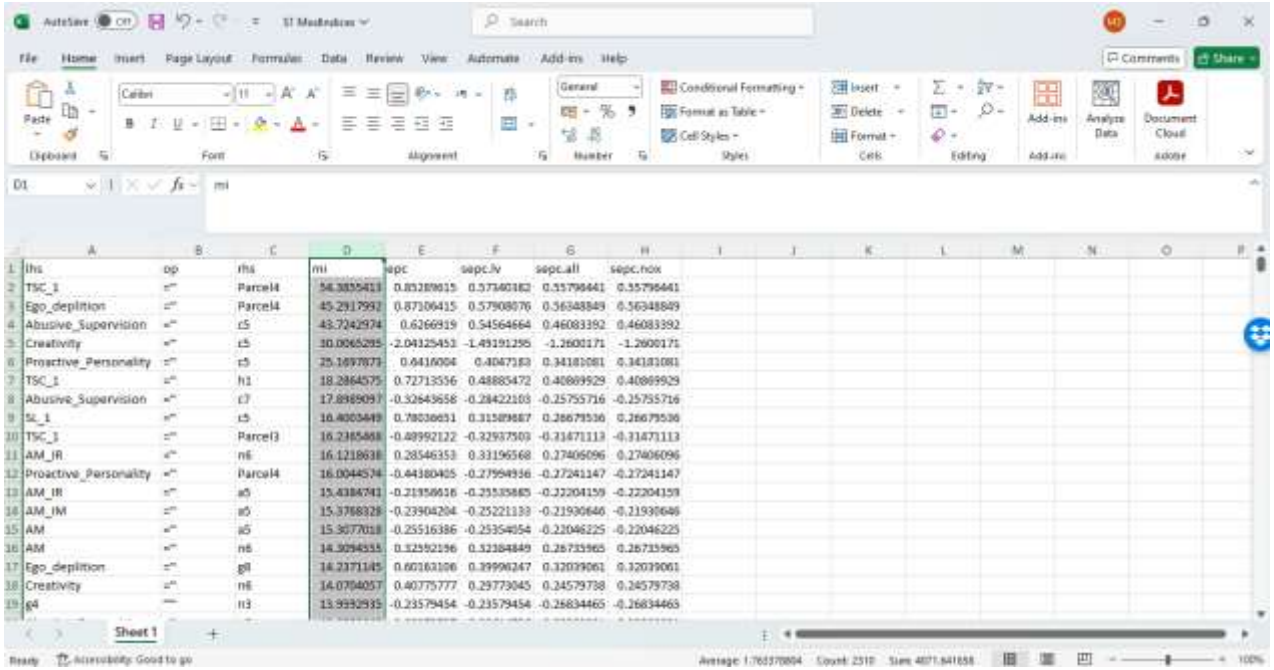
Instruction and Items

The following statements address the way you have behaved at work when working on tasks or solving problems. Please indicate the extent to which you agree with each statement with respect to the end of this day.

During this day,…

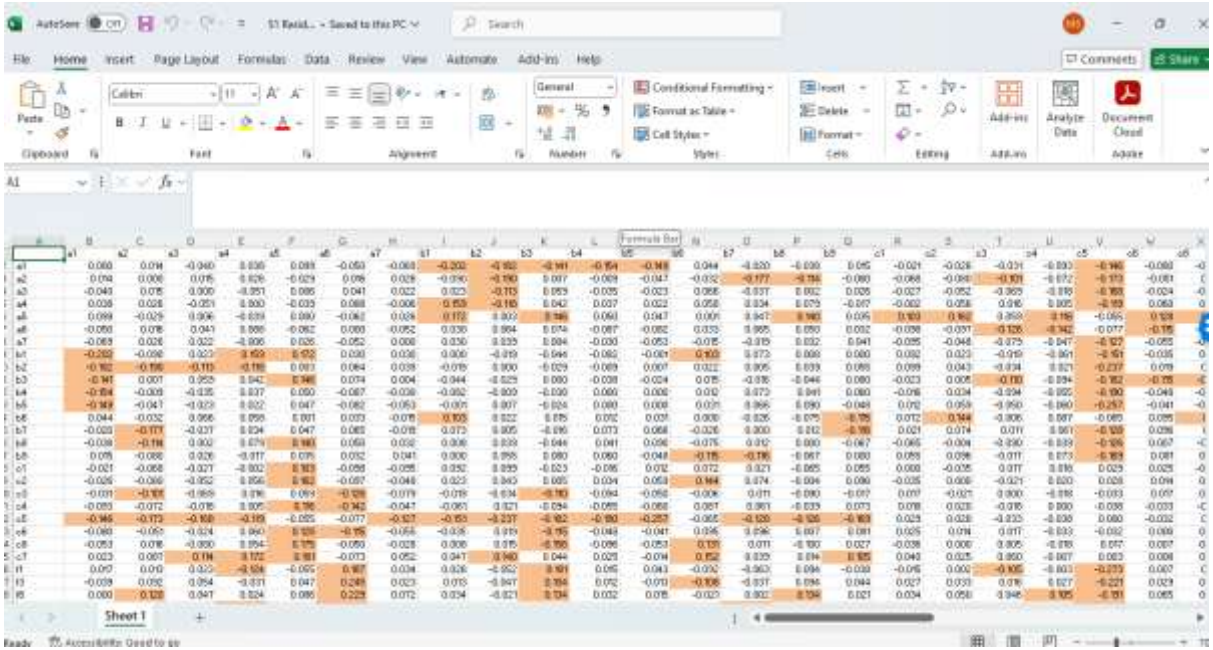
1 I demonstrated originality in my work.	Strongly disagree	❶ ❷ ❸ ❹ ❺ ❻	Strongly agree
2 I generated novel but operable work-related ideas.	Strongly disagree	❶ ❷ ❸ ❹ ❺ ❻	Strongly agree
3 I tried out new ideas and approaches to problems.	Strongly disagree	❶ ❷ ❸ ❹ ❺ ❻	Strongly agree

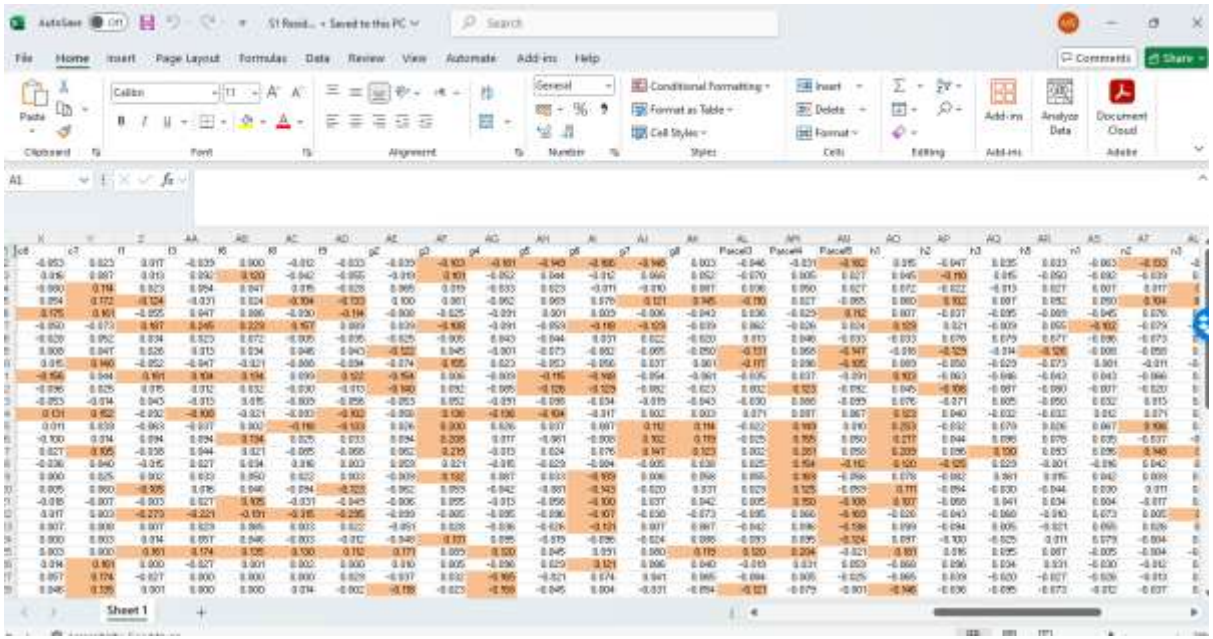
Appendix E: Modification Incidences (Study 1)

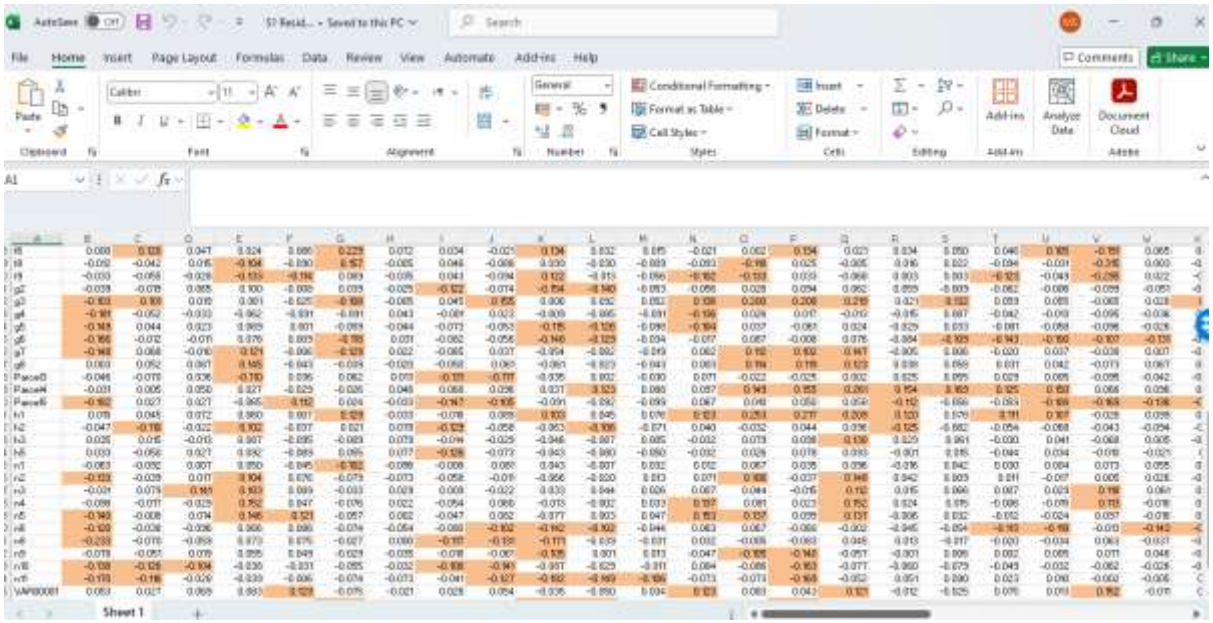


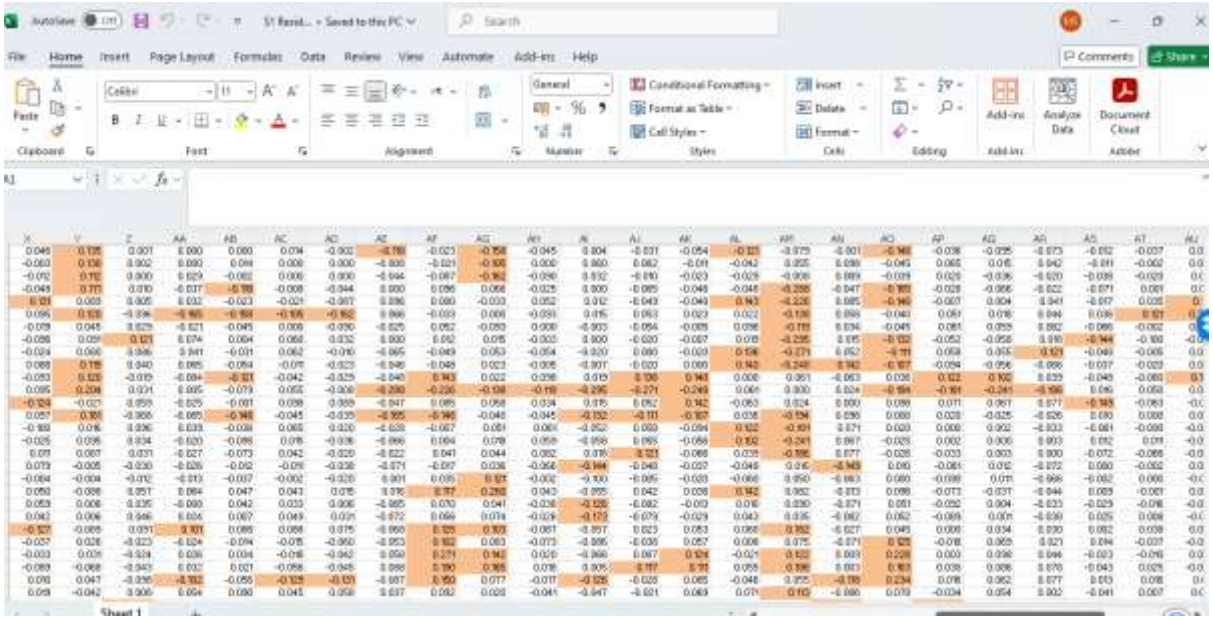
	lhs	op	rhs	mi	epc	sepc.lv	sepc.all	sepc.nox
2	TSC_1	=~	Parcel4	56.3855413	0.85289615	0.57340182	0.55796441	0.55796441
3	Ego_depletion	=~	Parcel4	45.2917992	0.87106415	0.57908076	0.56348849	0.56348849
4	Abusive_Supervision	=~	c5	43.7242974	0.6266919	0.54564664	0.46083392	0.46083392
5	Creativity	=~	c5	30.0065295	-2.04125453	-1.49191295	-1.2600171	-1.2600171
6	Proactive_Personality	=~	c5	25.1697873	0.6416004	0.4047183	0.34181081	0.34181081
7	TSC_1	=~	h1	18.2864575	0.72713556	0.48885472	0.40869929	0.40869929
8	Abusive_Supervision	=~	c7	17.8989097	-0.32643658	-0.28422103	-0.25755716	-0.25755716
9	SL_1	=~	c5	16.4003449	0.78036651	0.31589687	0.28679536	0.28679536
10	TSC_1	=~	Parcel3	16.2385468	-0.48992122	-0.32937503	-0.31471113	-0.31471113
11	AM_IR	=~	n6	16.1218638	0.28546353	0.33196568	0.27406096	0.27406096
12	Proactive_Personality	=~	Parcel4	16.0044574	-0.44380405	-0.27994936	-0.27241147	-0.27241147
13	AM_IR	=~	a5	15.4384741	-0.21956616	-0.25535885	-0.22204159	-0.22204159
14	AM_IM	=~	a5	15.3768328	-0.23904204	-0.25221133	-0.21930646	-0.21930646
15	AM	=~	a5	15.3677018	-0.25516386	-0.25354054	-0.22046225	-0.22046225
16	AM	=~	n6	14.3094555	0.32592196	0.32184849	0.28735965	0.28735965
17	Ego_depletion	=~	g8	14.2371145	0.60163106	0.39996247	0.32039061	0.32039061
18	Creativity	=~	n6	14.0704057	0.40775777	0.29779045	0.24579738	0.24579738
19	g4	~~	n3	13.9932935	-0.23579454	-0.23579454	-0.26834465	-0.26834465

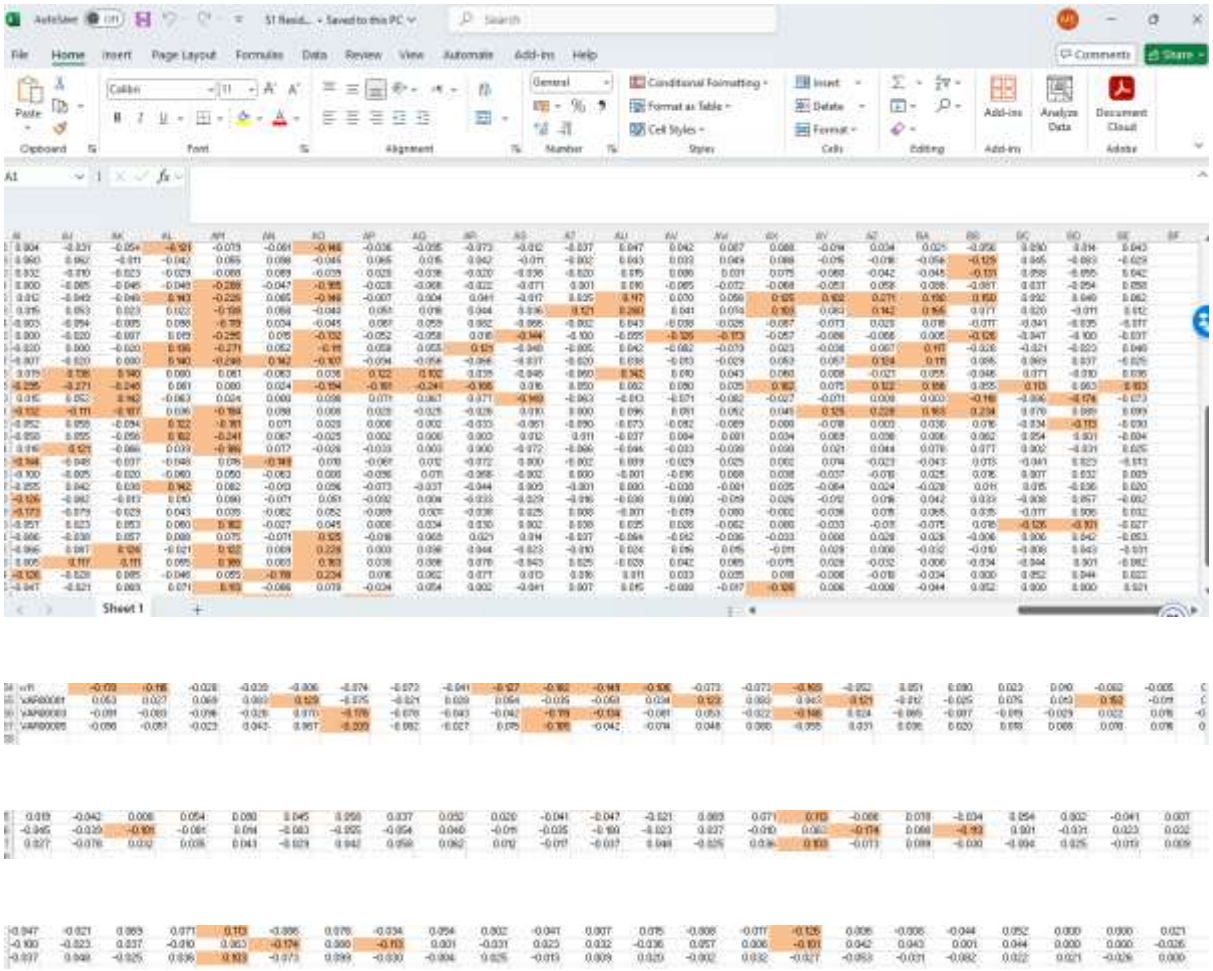
Appendix F: Residual Correlation Matrices (Study 1)



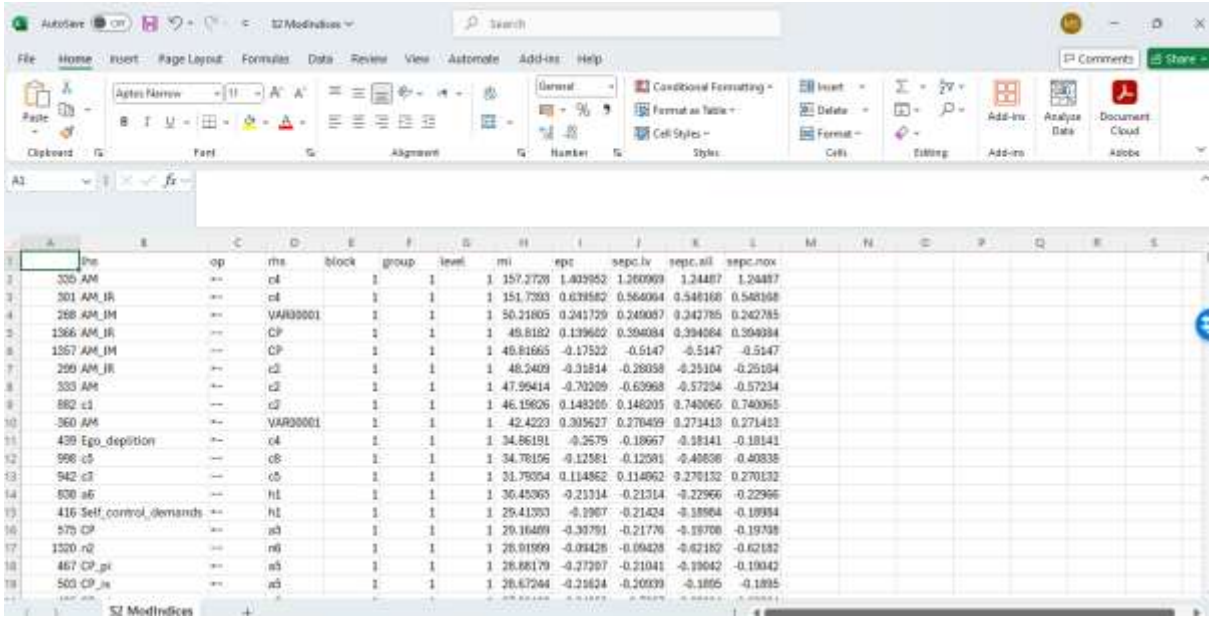








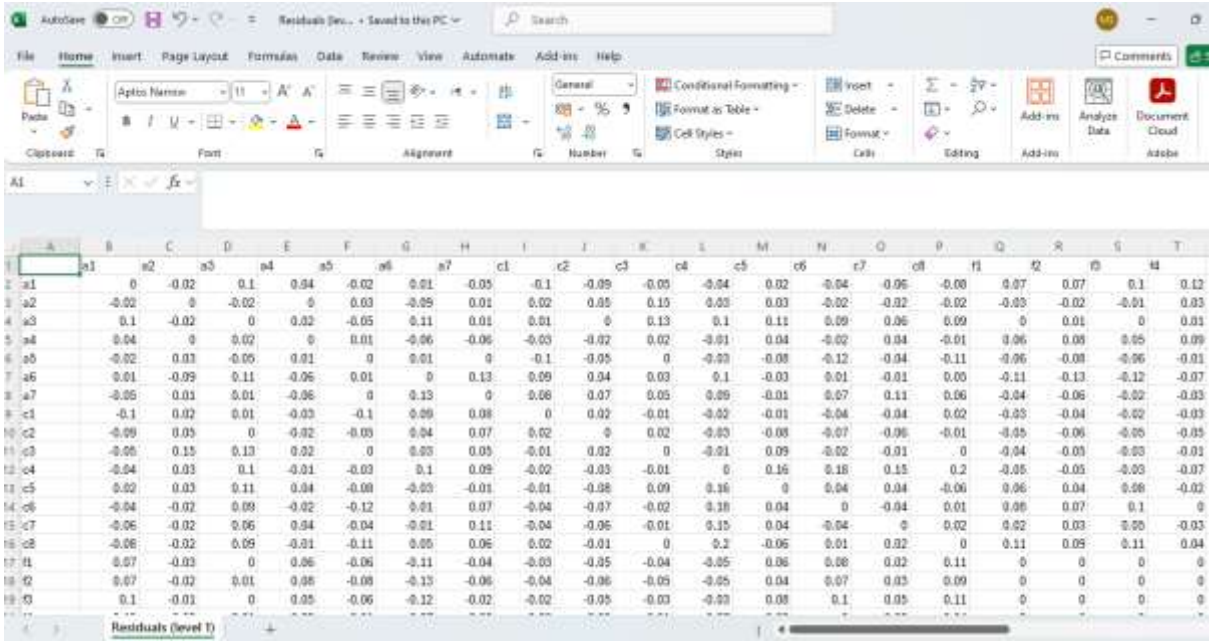
Appendix G: Modification Incidences (Study 2)



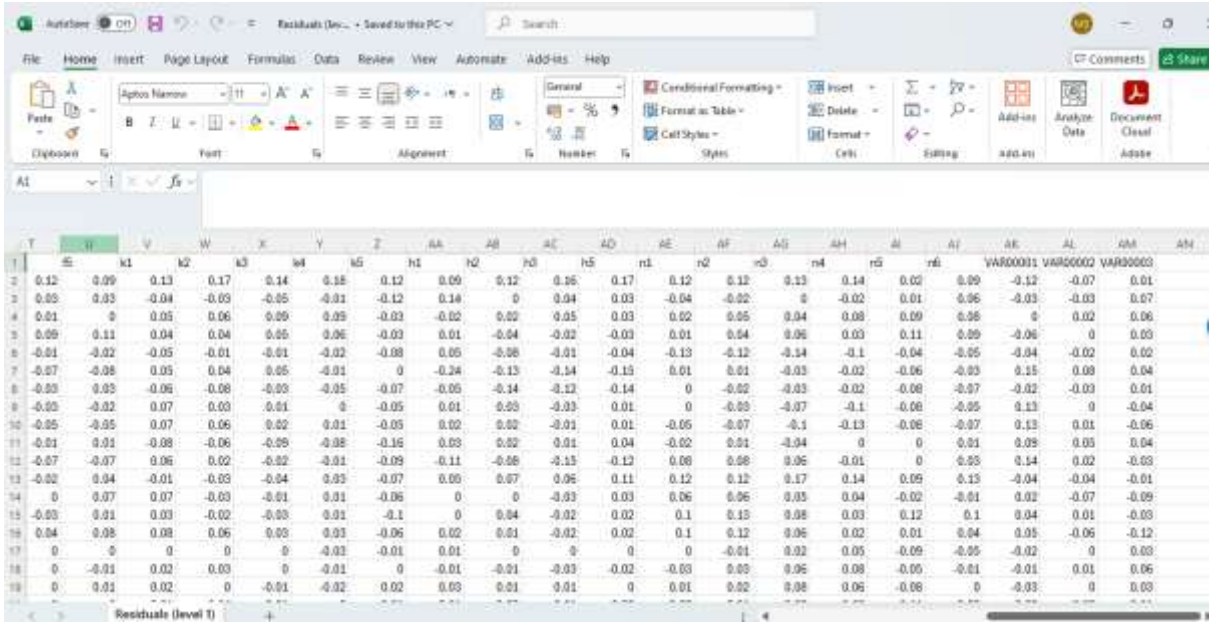
	lhs	op	rhs	block	group	level	mi	epc	sepc.lv	sepc.all	sepc.nox
2	335 AM	=~	c4		1	1	157.2728	1.403952	1.260969	1.24487	1.24487
3	301 AM_IR	=~	c4		1	1	151.7293	0.639582	0.564064	0.548168	0.548168
4	268 AM_IM	=~	VAR00001		1	1	50.21805	0.241729	0.249087	0.242785	0.242785
5	1366 AM_IR	~~	CP		1	1	49.8182	0.139602	0.394084	0.394084	0.394084
6	1367 AM_IM	~~	CP		1	1	49.81665	-0.17522	-0.5147	-0.5147	-0.5147
7	299 AM_IR	=~	c2		1	1	48.2409	-0.31814	-0.28058	-0.25104	-0.25104
8	333 AM	=~	c2		1	1	47.99414	-0.70209	-0.63968	-0.57234	-0.57234
9	882 c1	~~	c2		1	1	46.15826	0.148206	0.148205	0.740065	0.740065
10	360 AM	=~	VAR00001		1	1	42.4223	0.305627	0.276499	0.271413	0.271413
11	439 Ego_depletion	=~	c4		1	1	34.86191	-0.2679	-0.18667	-0.18141	-0.18141
12	998 c5	~~	c8		1	1	34.78156	-0.12581	-0.12581	-0.40838	-0.40838
13	942 c3	~~	c5		1	1	31.79354	0.114862	0.114862	0.270132	0.270132
14	808 a6	~~	h1		1	1	30.45365	-0.21314	-0.21314	-0.22966	-0.22966
15	416 Self_control_demands	=~	h1		1	1	29.41353	-0.1967	-0.21424	-0.18984	-0.18984
16	575 CP	=~	a3		1	1	29.16489	-0.30791	-0.21776	-0.19708	-0.19708
17	1320 n2	~~	n6		1	1	28.91999	-0.09428	-0.09428	-0.62182	-0.62182
18	467 CP_pi	=~	a3		1	1	28.88179	-0.27207	-0.21041	-0.19042	-0.19042
19	503 CP_is	=~	a3		1	1	28.67244	-0.21624	-0.20939	-0.1895	-0.1895

Appendix H: Residual Correlation Matrices (Study 2)

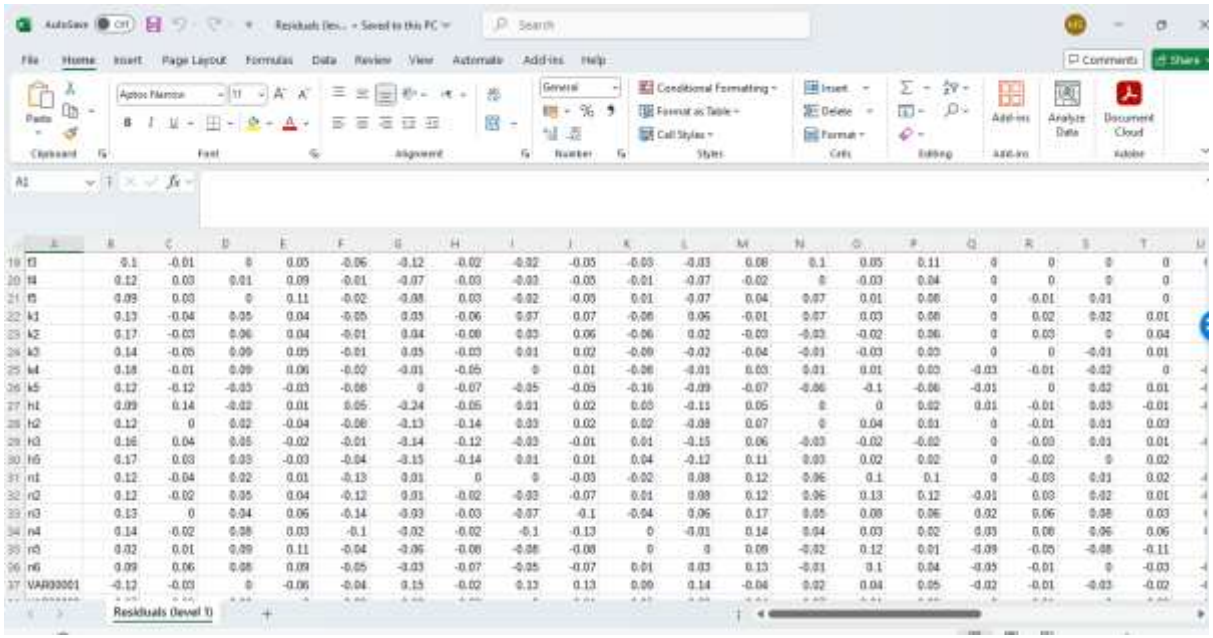
LEVEL 1

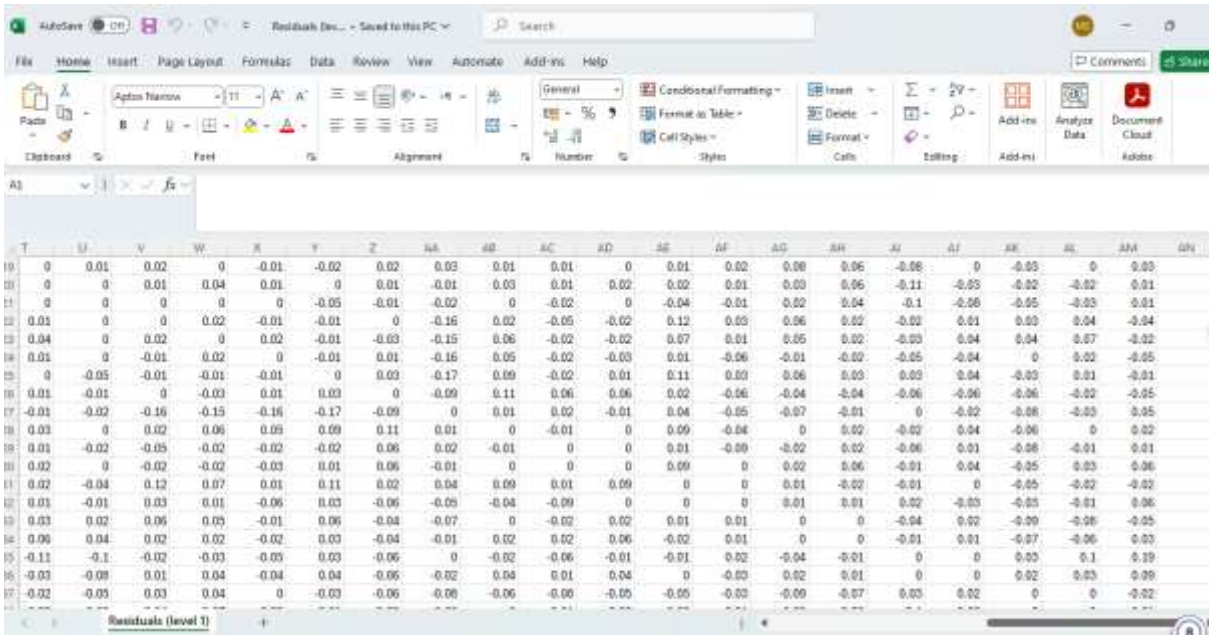


	a1	a2	a3	a4	a5	a6	a7	c1	c2	c3	c4	c5	c6	c7	c8	f1	f2	f3	f4
a1	0	-0.02	0.1	0.04	-0.02	0.01	-0.05	-0.1	-0.09	-0.05	-0.04	0.02	-0.04	-0.06	-0.08	0.07	0.07	0.1	0.12
a2	-0.02	0	-0.02	0	0.03	-0.09	0.01	0.02	0.05	0.15	0.03	0.03	-0.02	-0.02	-0.02	-0.03	-0.02	-0.01	0.03
a3	0.1	-0.02	0	0.02	-0.05	0.11	0.01	0.01	0	0.13	0.1	0.11	0.09	0.06	0.09	0	0.01	0	0.01
a4	0.04	0	0.02	0	0.01	-0.06	-0.06	-0.03	-0.02	0.02	-0.01	0.04	-0.02	0.04	-0.01	0.06	0.08	0.05	0.09
a5	-0.02	0.03	-0.05	0.01	0	0.01	0	-0.1	-0.05	0	-0.03	-0.08	-0.12	-0.04	-0.11	-0.06	-0.08	-0.06	-0.01
a6	0.01	-0.09	0.11	-0.06	0.01	0	0.13	0.09	0.04	0.03	0.1	-0.03	0.01	-0.01	0.00	-0.11	-0.13	-0.12	-0.07
a7	-0.05	0.01	0.01	-0.06	0	0.13	0	0.08	0.07	0.05	0.09	-0.01	0.07	0.11	0.06	-0.04	-0.06	-0.02	-0.03
c1	-0.1	0.02	0.01	-0.03	-0.1	0.09	0.08	0	0.02	-0.01	-0.02	-0.01	-0.04	-0.04	0.02	-0.03	-0.04	-0.02	-0.03
c2	-0.09	0.05	0	-0.02	-0.05	0.04	0.07	0.02	0	0.02	-0.03	-0.08	-0.07	-0.06	-0.01	-0.05	-0.06	-0.05	-0.05
c3	-0.05	0.15	0.13	0.02	0	0.03	0.05	-0.01	0.02	0	-0.01	0.09	-0.02	-0.01	0	-0.04	-0.05	-0.03	-0.01
c4	-0.04	0.03	0.1	-0.01	-0.03	0.1	0.09	-0.02	-0.03	-0.01	0	0.16	0.18	0.15	0.2	-0.05	-0.05	-0.03	-0.07
c5	0.02	0.03	0.11	0.04	-0.08	-0.03	-0.01	-0.01	-0.08	0.09	0.16	0	0.04	0.04	-0.06	0.06	0.04	0.08	-0.02
c6	-0.04	-0.02	0.09	-0.02	-0.12	0.01	0.07	-0.04	-0.07	-0.02	0.18	0.04	0	-0.04	0.01	0.06	0.07	0.1	0
c7	-0.06	-0.02	0.06	0.04	-0.04	-0.01	0.11	-0.04	-0.06	-0.01	0.15	0.04	-0.04	0	0.02	0.02	0.03	0.05	-0.03
c8	-0.08	-0.02	0.09	-0.01	-0.11	0.05	0.06	0.02	-0.01	0	0.2	-0.06	0.01	0.02	0	0.11	0.09	0.11	0.04
f1	0.07	-0.03	0	0.06	-0.06	-0.11	-0.04	-0.03	-0.05	-0.04	-0.05	0.06	0.08	0.02	0.11	0	0	0	0
f2	0.07	-0.02	0.01	0.08	-0.08	-0.13	-0.06	-0.04	-0.06	-0.05	-0.05	0.04	0.07	0.03	0.09	0	0	0	0
f3	0.1	-0.01	0	0.05	-0.06	-0.12	-0.02	-0.02	-0.05	-0.03	-0.03	0.08	0.1	0.05	0.11	0	0	0	0



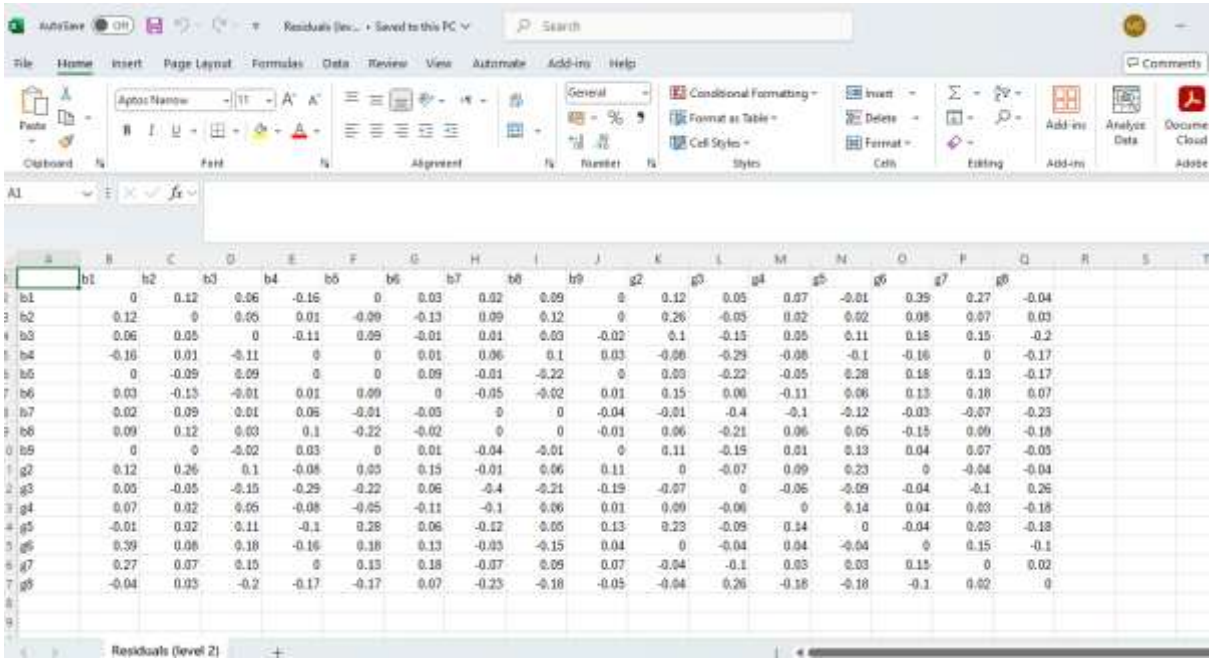
	k	k1	k2	k3	k4	k5	h1	h2	h3	h5	n1	n2	n3	n4	n5	n6	VAR00001	VAR00002	VAR00003
1	0.12	0.09	0.13	0.17	0.14	0.16	0.12	0.09	0.12	0.16	0.17	0.12	0.12	0.13	0.14	0.02	0.09	-0.12	-0.07	0.01
2	0.03	0.03	-0.04	-0.03	-0.05	-0.01	-0.12	0.14	0	0.04	0.03	-0.04	-0.02	0	-0.02	0.01	0.06	-0.03	-0.03	0.07
3	0.01	0	0.05	0.06	0.09	0.09	-0.03	-0.02	0.02	0.05	0.03	0.02	0.05	0.04	0.08	0.09	0.06	0	0.02	0.06
4	0.09	0.11	0.04	0.04	0.05	0.06	-0.03	0.01	-0.04	-0.02	-0.03	0.01	0.04	0.06	0.03	0.11	0.09	-0.06	0	0.03
5	-0.01	-0.02	-0.05	-0.01	-0.01	-0.02	-0.08	0.05	-0.06	-0.01	-0.04	-0.13	-0.12	-0.14	-0.1	-0.04	-0.05	-0.04	-0.02	0.02
6	-0.07	-0.08	0.05	0.04	0.05	-0.01	0	-0.24	-0.13	-0.14	-0.15	0.01	0.01	-0.03	-0.02	-0.06	-0.03	0.15	0.08	0.04
7	-0.03	0.03	-0.06	-0.08	-0.03	-0.05	-0.07	-0.05	-0.14	-0.12	-0.14	0	-0.02	-0.03	-0.02	-0.08	-0.07	-0.02	-0.03	0.01
8	-0.03	-0.02	0.07	0.03	0.01	0	-0.05	0.01	0.03	-0.03	0.01	0	-0.03	-0.07	-0.1	-0.06	-0.05	0.13	0	-0.04
9	-0.05	-0.05	0.07	0.06	0.02	0.01	-0.05	0.02	0.02	-0.01	0.01	-0.05	-0.07	-0.1	-0.13	-0.06	-0.07	0.13	0.01	-0.06
10	-0.01	0.01	-0.08	-0.06	-0.09	-0.08	-0.16	0.03	0.02	0.01	0.04	-0.02	0.01	-0.04	0	0	0.01	0.09	0.05	0.04
11	-0.07	-0.07	0.06	0.02	-0.02	-0.01	-0.09	-0.11	-0.08	-0.15	-0.12	0.08	0.08	0.06	-0.01	0	0.03	0.14	0.02	-0.03
12	-0.02	0.04	-0.01	-0.03	-0.04	0.03	-0.07	0.09	0.07	0.06	0.11	0.12	0.12	0.17	0.14	0.09	0.13	-0.04	-0.04	-0.01
13	0	0.07	0.07	-0.03	-0.01	0.01	-0.06	0	0	-0.03	0.03	0.06	0.06	0.05	0.04	-0.02	-0.01	0.02	-0.07	-0.09
14	-0.03	0.01	0.03	-0.02	-0.03	0.01	-0.1	0	0.04	-0.02	0.02	0.1	0.13	0.08	0.03	0.12	0.1	0.04	0.01	-0.03
15	0.04	0.08	0.08	0.06	0.03	0.03	-0.06	0.02	0.01	-0.02	0.02	0.1	0.12	0.06	0.02	0.01	0.04	0.05	-0.06	-0.12
16	0	0	0	0	0	-0.03	-0.01	0.01	0	0	0	0	-0.01	0.02	0.05	-0.09	-0.05	-0.02	0	0.03
17	0	-0.01	0.02	0.03	0	-0.01	0	-0.01	-0.01	-0.03	-0.02	-0.03	0.03	0.06	0.08	-0.05	-0.01	-0.01	0.01	0.06
18	0	0.01	0.02	0	-0.01	-0.02	0.02	0.03	0.01	0.01	0	0.01	0.02	0.08	0.06	-0.08	0	-0.03	0	0.03





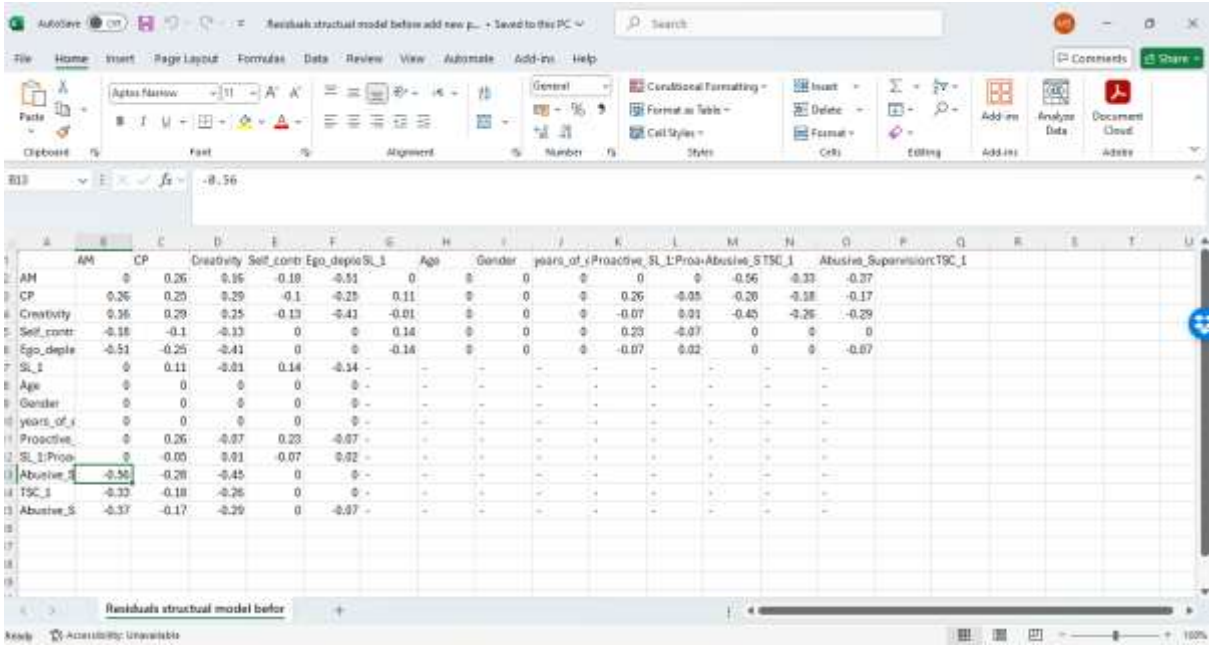
n6	0.09	0.06	0.08	0.09	-0.05	-0.03	-0.07	-0.05	-0.07	0.01	0.03	0.13	-0.01	0.1	0.04	-0.05	-0.01	0	-0.03
VAR00001	-0.12	-0.03	0	-0.06	-0.04	0.15	-0.02	0.13	0.13	0.09	0.14	-0.04	0.02	0.04	0.05	-0.02	-0.01	-0.03	-0.02
VAR00002	-0.07	-0.03	0.02	0	-0.02	0.08	-0.03	0	0.01	0.05	0.02	-0.04	-0.07	0.01	-0.06	0	0.01	0	-0.02
VAR00003	0.01	0.07	0.06	0.03	0.02	0.04	0.01	-0.04	-0.06	0.04	-0.03	-0.01	-0.09	-0.03	-0.12	0.03	0.06	0.03	0.01

LEVEL 2



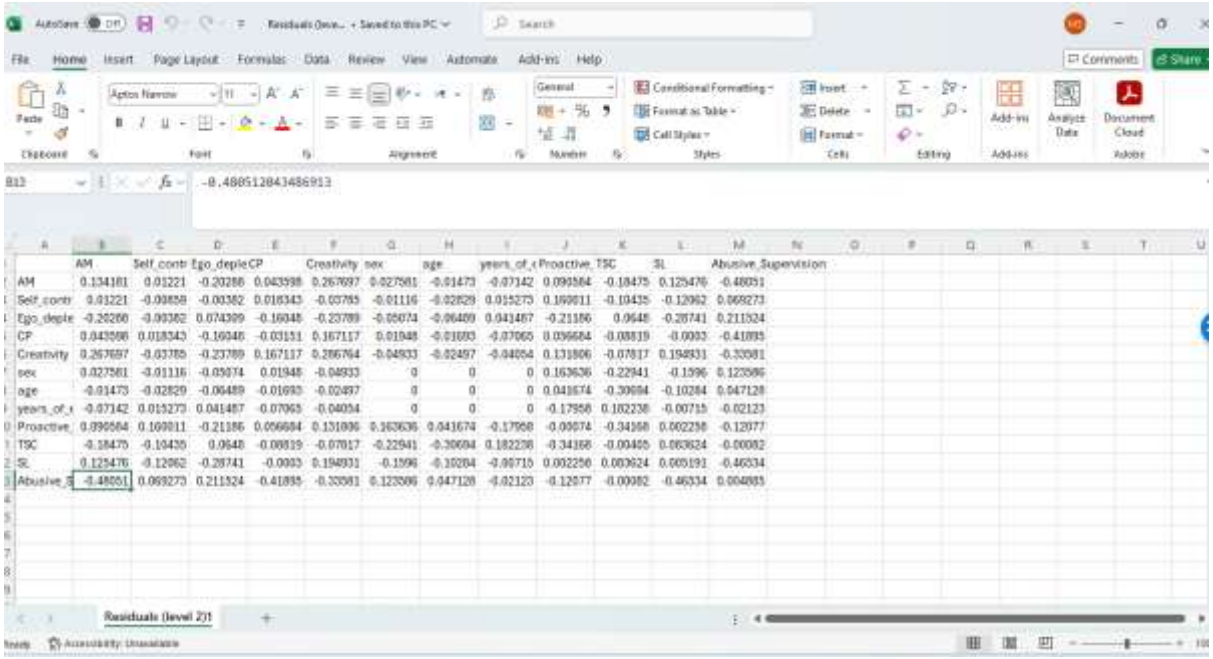
	b1	b2	b3	b4	b5	b6	b7	b8	b9	g2	g3	g4	g5	g6	g7	g8
b1	0	0.12	0.06	-0.16	0	0.03	0.02	0.09	0	0.12	0.05	0.07	-0.01	0.39	0.27	-0.04
b2	0.12	0	0.05	0.01	-0.09	-0.13	0.09	0.12	0	0.26	-0.05	0.02	0.02	0.08	0.07	0.03
b3	0.06	0.05	0	-0.11	0.09	-0.01	0.01	0.03	-0.02	0.1	-0.15	0.05	0.11	0.18	0.15	-0.2
b4	-0.16	0.01	-0.11	0	0	0.01	0.06	0.1	0.03	-0.08	-0.29	-0.08	-0.1	-0.16	0	-0.17
b5	0	-0.09	0.09	0	0	0.09	-0.01	-0.22	0	0.03	-0.22	-0.05	0.28	0.18	0.13	-0.17
b6	0.03	-0.13	-0.01	0.01	0.09	0	-0.05	-0.02	0.01	0.15	0.06	-0.11	0.06	0.13	0.18	0.07
b7	0.02	0.09	0.01	0.06	-0.01	-0.05	0	0	-0.04	-0.01	-0.4	-0.1	-0.12	-0.03	-0.07	-0.23
b8	0.09	0.12	0.03	0.1	-0.22	-0.02	0	0	-0.01	0.06	-0.21	0.06	0.05	-0.15	0.09	-0.18
b9	0	0	-0.02	0.03	0	0.01	-0.04	-0.01	0	0.11	-0.15	0.01	0.13	0.04	0.07	-0.05
g2	0.12	0.26	0.1	-0.08	0.03	0.15	-0.01	0.06	0.11	0	-0.07	0.09	0.23	0	-0.04	-0.04
g3	0.05	-0.05	-0.15	-0.29	-0.22	0.06	-0.4	-0.21	-0.19	-0.07	0	-0.06	-0.09	-0.04	-0.1	0.26
g4	0.07	0.02	0.05	-0.08	-0.05	-0.11	-0.1	0.06	0.01	0.09	-0.06	0	0.14	0.04	0.03	-0.18
g5	-0.01	0.02	0.11	-0.1	0.28	0.06	-0.12	0.05	0.13	0.23	-0.09	0.14	0	-0.04	0.03	-0.18
g6	0.39	0.08	0.18	-0.16	0.18	0.13	-0.03	-0.15	0.04	0	-0.04	0.04	-0.04	0	0.15	-0.1
g7	0.27	0.07	0.15	0	0.13	0.18	-0.07	0.09	0.07	-0.04	-0.1	0.03	0.03	0.15	0	0.02
g8	-0.04	0.03	-0.2	-0.17	-0.17	0.07	-0.23	-0.18	-0.05	-0.04	0.26	-0.18	-0.18	-0.1	0.02	0

Appendix I: Residual Correlation Matrices (Additional Analysis Study 1)



	AM	CP	Creativity	Self_contr	Ego_deple	SL_1	Age	Gender	years_of_s	Proactive_	SL_1:Proa	Abusive_S	TSC_1	Abusive_Supervision	TSC_1
AM	0	0.26	0.16	-0.18	-0.51	0	0	0	0	0	0	-0.56	-0.33	-0.37	
CP	0.26	0.25	0.29	-0.1	-0.25	0.11	0	0	0	0.26	-0.05	-0.28	-0.18	-0.17	
Creativity	0.16	0.29	0.25	-0.13	-0.41	-0.01	0	0	0	-0.07	0.01	-0.45	-0.26	-0.29	
Self_contr	-0.18	-0.1	-0.13	0	0	0.14	0	0	0	0.23	-0.07	0	0	0	
Ego_deple	-0.51	-0.25	-0.41	0	0	-0.14	0	0	0	-0.07	0.02	0	0	-0.07	
SL_1	0	0.11	-0.01	0.14	-0.14	-	-	-	-	-	-	-	-	-	
Age	0	0	0	0	0	-	-	-	-	-	-	-	-	-	
Gender	0	0	0	0	0	-	-	-	-	-	-	-	-	-	
years_of_s	0	0	0	0	0	-	-	-	-	-	-	-	-	-	
Proactive_	0	0.26	-0.07	0.23	-0.07	-	-	-	-	-	-	-	-	-	
SL_1:Proa	0	-0.05	0.01	-0.07	0.02	-	-	-	-	-	-	-	-	-	
Abusive_S	-0.56	-0.28	-0.45	0	0	-	-	-	-	-	-	-	-	-	
TSC_1	-0.33	-0.18	-0.26	0	0	-	-	-	-	-	-	-	-	-	
Abusive_S	-0.37	-0.17	-0.29	0	-0.07	-	-	-	-	-	-	-	-	-	

Appendix J: Residual Correlation Matrices (Additional Analysis Study 2)



	AM	Self_contr	Ego_deple	CP	Creativity	sex	age	years_of_s	Proactive_	TSC	SL	Abusive_Supervision
AM	0.134181	0.01221	-0.20286	0.043598	0.267697	0.027581	-0.01473	-0.07142	0.090584	-0.18475	0.125476	-0.48051
Self_contr	0.01221	-0.03858	-0.00382	0.018343	-0.03785	-0.01116	-0.02829	0.015273	0.169011	-0.10435	-0.12062	0.069273
Ego_deple	-0.20286	-0.00382	0.074309	-0.16048	-0.23789	-0.05074	-0.06489	0.041487	-0.21186	0.0648	-0.28741	0.211524
CP	0.043598	0.018343	-0.16048	-0.03151	0.167117	0.01948	-0.01693	-0.07065	0.056684	-0.08819	-0.0003	-0.41895
Creativity	0.267697	-0.03785	-0.23789	0.167117	0.286764	-0.04933	-0.02497	-0.04054	0.131806	-0.07817	0.194931	-0.33581
sex	0.027581	-0.01116	-0.05074	0.01948	-0.04933	0	0	0	0.163636	-0.22941	-0.1396	0.122686
age	-0.01473	-0.02829	-0.06489	-0.01693	-0.02497	0	0	0	0.041674	-0.30694	-0.10284	0.047128
years_of_s	-0.07142	0.015273	0.041487	-0.07065	-0.04054	0	0	0	-0.17958	0.182236	-0.00715	-0.02123
Proactive_	0.090584	0.169011	-0.21186	0.056684	0.131806	0.163636	0.041674	-0.17958	-0.00074	-0.34168	0.002256	-0.12077
TSC	-0.18475	-0.10435	0.0648	-0.08819	-0.07817	-0.22941	-0.30694	0.182236	-0.34168	-0.00405	0.003624	-0.00082
SL	0.125476	-0.12062	-0.28741	-0.0003	0.194931	-0.1396	-0.10284	-0.00715	0.002256	0.003624	0.005191	-0.46334
Abusive_S	-0.48051	0.069273	0.211524	-0.41895	-0.33581	0.122686	0.047128	-0.02123	-0.12077	-0.00082	-0.46334	0.004885

Appendix J: Second Additional Analysis Results (Study 1)

Direct Paths Results of Hypothesis Testing (Study 1)

	Autonomous self-regulation (ASR)			Self-control demands (SCDs)			Ego depletion (ED)			Creative process engagement (CPE)			Creativity (CR)		
Variables	Est	SE	P	Est	SE	P	Est	SE	P	Est	SE	P	Est	SE	P
Age	-0.005	0.004	0.221	-0.004	0.005	0.392	0.002	0.002	0.362	-0.000	0.003	0.882	-0.001	0.001	0.177
Gender	-0.054	0.068	0.427	0.071	0.068	0.299	0.039	0.042	0.363	-0.021	0.048	0.666	0.014	0.011	0.187
Years of education	0.021	0.024	0.383	-0.006	0.021	0.786	-0.005	0.012	0.702	-0.015	0.018	0.400	0.002	0.003	0.488
Servant leadership (SL)	0.618*	0.109	0.000							-0.038	0.084	0.651	0.156*	0.020	0.000
Proactive personality (PP)	0.914*	0.074	0.000	0.290*	0.067	0.000				0.367*	0.060	0.000	-0.158*	0.014	0.000
Autonomous self-regulation (ASR)							-0.232*	0.025	0.000	0.198*	0.054	0.000	0.696*	0.013	0.000
Abusive supervision (AS)	-0.839*	0.036	0.000	0.313*	0.057	0.000	-0.134*	0.027	0.000	-0.608*	0.048	0.000	-0.154*	0.015	0.000
Trait self-control (TSC)				0.395*	0.065	0.000	0.550*	0.043	0.000						
Self-control demands (SCDs)							0.378*	0.041	0.000	0.649*	0.062	0.000	-0.034*	0.013	0.008
Ego depletion (ED)										-0.234*	0.064	0.000	-0.021	0.012	0.067
Creative process engagement (CPE)													-0.051*	0.018	0.004
Servant leadership × Proactive personality	-0.239	0.183	0.192												
Abusive supervision × Trait self-control				-0.142*	0.057	0.013									

Note. Est. = estimate; SE = standard error; P = two-tailed p value. N = 251. *p < .05.

Second Additional Test of Indirect Effect (Excluding Only CPE) (No Moderation) (Study 1)

	Est.	SE	P
SL → ASR → CR	0.424	0.075	0.000
AS → SCDs →ED → CR	-0.001	0.001	0.369

Note. Est. = estimate; SE = standard error; P = two-tailed p value; SL = Servant leadership; ASR = Autonomous self-regulation; CR = Creativity; AS = Abusive supervision; SCDs = Self-control demands; ED = Ego depletion. N = 251. *p < .05. Bootstrap iteration = 10,000.

Second Additional Test of Indirect Effect (Excluding Only CPE) (Moderated Mediation) (Study 1)

	Indirect Effects (Low; -1 SD Moderator)			Indirect Effects (High; +1 SD Moderator)			Indirect Effects Difference (High minus Low)		
	Est.	SE	P	Est.	SE	P	Est.	SE	P
Moderator: Proactive personality (PP) SL → ASR → CR	0.522	0.117	0.000	0.325	0.070	0.000	-0.197	0.123	0.110
Moderator: Trait self-control (TSC) AS → SCDs → ED → CR	-0.001	0.002	0.374	-0.001	0.001	0.369	0.001	0.001	0.409

Note. Est. = estimate; SE = standard error; P = two-tailed p value; SL = Servant leadership; ASR = Autonomous self-regulation; CR = Creativity; AS = Abusive supervision; SCDs = Self-control demands; ED = Ego depletion; PP = Proactive personality; TSC = Trait self-control. N = 251. *p < .05. Bootstrap iteration = 10,000.

Second Additional Test of Indirect Effect (Excluding Ego Depletion and CPE) (No Moderation) (Study 1)

	Est.	SE	P
SL → ASR → CR	0.426	0.076	0.000
AS → SCDs →CR	-0.023	0.004	0.000

Note. Est. = estimate; SE = standard error; P = two-tailed p value; SL = Servant leadership; ASR = Autonomous self-regulation; CR = Creativity; AS = Abusive supervision; SCDs = Self-control demands. N = 251. *p < .05. Bootstrap iteration = 10,000.

Second Additional Test of Indirect Effect (Excluding Ego Depletion and CPE) (Moderated Mediation) (Study 1)

	Indirect Effects (Low; -1 SD Moderator)			Indirect Effects (High; +1 SD Moderator)			Indirect Effects Difference (High minus Low)		
	Est.	SE	P	Est.	SE	P	Est.	SE	P
Moderator: Proactive personality (PP) SL → ASR → CR	0.525	0.119	0.061	0.327	0.070	0.083	-0.198	0.124	0.110
Moderator: Trait self-control (TSC) AS → SCDs → CR	-0.029	0.006	0.000	-0.016	0.004	0.000	0.013	0.006	0.032

Note. Est. = estimate; SE = standard error; P = two-tailed p value; SL = Servant leadership; ASR = Autonomous self-regulation; CR = Creativity; AS = Abusive supervision; SCDs = Self-control demands; PP = Proactive personality; TSC = Trait self-control. N = 251. *p < .05. Bootstrap iteration = 10,000.

Appendix K: Second Additional Analysis Results (Study 2)

Direct Path Results of hypothesis testing (Study 2)

	Autonomous self-regulation (ASR)			Self-control demands (SCDs)			Ego depletion (ED)			Creative process engagement (CPE)			Creativity (CR)		
Between-person direct effects	Est.	SE	P	Est.	SE	P	Est.	SE	P	Est.	SE	P	Est.	SE	p
Intercept	0.248	1.148	0.829	-0.063	1.864	0.973	0.580	1.269	0.648	1.469	0.956	0.124	-0.131	0.899	0.885
Gender	0.079	0.166	0.634	0.505	0.214	0.018	-0.015	0.144	0.916	0.033	0.111	0.764	0.224*	0.111	0.043
Age	0.008	0.007	0.243	0.013	0.012	0.293	-0.011	0.007	0.113	-0.010	0.005	0.065	0.000	0.005	0.985
Years of education	-0.041	0.067	0.543	-0.050	0.107	0.641	-0.010	0.072	0.895	-0.072	0.056	0.197	-0.004	0.052	0.943
Proactive personality (PP)	0.987*	0.181	0.000	0.536	0.376	0.155				0.704*	0.166	0.000	0.501*	0.152	0.001
Trait self-control (TSC)				0.178	0.274	0.516	0.355*	0.141	0.012	0.027	0.111	0.806	-0.095	0.114	0.406
Within-person direct effects															
Servant leadership (SL)	0.189*	0.061	0.002							0.201*	0.075	0.007	0.382*	0.085	0.000
Abusive supervision (AS)	-0.332*	0.074	0.000	0.466*	0.183	0.011	-0.000	0.082	0.998	-0.020	0.076	0.791	-0.296*	0.087	0.001
Servant leadership × Proactive personality	0.070	0.163	0.666												
Abusive supervision × Trait self-control				0.284	0.515	0.581									
Autonomous self-regulation (ASR)							-0.525*	0.065	0.000	0.435*	0.072	0.000	0.235*	0.045	0.000
Self-control demands (SCDs)							0.105*	0.028	0.000	0.046	0.027	0.092	0.040	0.025	0.105
Ego depletion (ED)										0.182*	0.054	0.001	-0.050	0.057	0.378
Creative process engagement (CPE)													0.462*	0.067	0.000

Note. Est. = unstandardized estimate; SE = standard error; P = two-tailed p-value. N between = 69. N within = 607.*p < .05

Second Additional Test of Direct Effect (Excluding Only CPE) (Study 2)

	Autonomous self-regulation (ASR)			Self-control demands (SCDs)			Ego depletion (ED)			Creativity (CR)		
Between-person direct effects	Est.	SE	P	Est.	SE	P	Est.	SE	P	Est.	SE	p
Intercept	0.248	1.148	0.829	-0.063	1.864	0.973	0.580	1.269	0.648	-0.175	0.891	0.844
Gender	0.079	0.166	0.634	0.505	0.214	0.018	-0.015	0.144	0.916	0.224*	0.111	0.043
Age	0.008	0.007	0.243	0.013	0.012	0.293	-0.011	0.007	0.113	0.000	0.005	0.985
Years of education	-0.041	0.067	0.543	-0.050	0.107	0.641	-0.010	0.072	0.895	-0.004	0.052	0.943
Proactive personality (PP)	0.987*	0.181	0.000	0.536	0.376	0.155				0.542*	0.160	0.001
Trait self-control (TSC)				0.178	0.274	0.516	0.355*	0.141	0.012	-0.089	0.116	0.441
Within-person direct effects												
Servant leadership (SL)	0.189*	0.061	0.002							0.475*	0.095	0.000
Abusive supervision (AS)	-0.332*	0.074	0.000	0.466*	0.183	0.011	-0.000	0.082	0.998	-0.306*	0.074	0.000
Servant leadership × Proactive personality	0.070	0.163	0.666									
Abusive supervision × Trait self-control				0.284	0.515	0.581						
Autonomous self-regulation (ASR)							-0.525*	0.065	0.000	0.437*	0.062	0.000
Self-control demands (SCDs)							0.105*	0.028	0.000	0.062*	0.029	0.034
Ego depletion (ED)										0.034	0.053	0.599

Note. Est. = unstandardized estimate; SE = standard error; P = two-tailed p-value. N between = 69. N within = 607.*p < .05

Second Additional Test of Direct Effect (Excluding Ego Depletion and CPE) (Study 2)

	Autonomous self-regulation (ASR)				Self-control demands (SCDs)				Creativity (CR)			
Between-person direct effects	Est.	Post.SD	pi.lower	pi.upper	Est.	Post.SD	pi.lower	pi.upper	Est.	Post.SD	pi.lower	pi.upper
Intercept	0.055	1.477	-2.799	3.047	-0.131	2.115	-4.373	3.860	-0.209	1.081	-2.342	1.903
Gender	0.095	0.188	- 0.260	0.462	0.467	0.264	-0.057	0.991	0.225	0.139	-0.044	0.496
Age	0.009	0.008	-0.007	0.026	0.011	0.012	-0.013	0.036	0.000	0.006	-0.012	0.013
Years of education	-0.031	0.085	-0.204	0.134	-0.039	-0.122	--0.268	0.206	0.000	0.062	-0.121	0.124
Proactive personality (PP)	1.133	0.229	0.686	1.570					0.569	0.187	0.197	0.569
Trait self-control (TSC)									-0.090	0.137	--0.369	0.178
Within-person direct effects												
Servant leadership (SL)	0.186	0.060	0.067	0.301					0.475	0.068	0.341	0.611
Abusive supervision (AS)	-0.320	0.066	-0.450	-0.189	0.473	0.140	0.200	0.745	-0.306	0.082	-0.467	-0.142
Servant leadership × Proactive personality	0.066	0.159	-0.250	0.379								
Abusive supervision × Trait self-control					0.301	0.385	-0.448	1.050				
Autonomous self-regulation (ASR)									0.418	0.053	0.316	0.522
Self-control demands (SCDs)									0.065	0.026	0.014	0.117

Note. Est. = unstandardized estimate; SE = standard error; P = two-tailed p-value. N between = 69. N within = 607.*p < .05

Second Additional Test of Indirect Effect (Excluding Only CPE) (No Moderation) (Study 2)

	Est.	Post.SD	pi.lower	pi.upper
SL → ASR → CR	0.082	0.027	0.029	0.135
AS → SCDs → ED → CR	0.002	0.003	-0.004	0.007

Note. Est. = unstandardized estimate; Post.SD = posterior standard deviation; pi.lower = lower bound of a credible interval (95%); pi.upper = upper bound of a credible interval (95%). N between = 69. N within = 607. Confidence intervals that do not contain zero are highlighted in bold.; SL= Servant leadership; ASR = Autonomous self-regulation; CR= Creativity; AS= Abusive supervision; SCDs = Self-control demands; ED = Ego depeltion.

Second Additional Test of Indirect Effect (Excluding Only CPE) (Moderated Mediation) (Study 2)

	Indirect Effects (Low; -1 SD Moderator)				Indirect Effects (High; +1 SD Moderator)				Indirect Effects Difference (High minus Low)			
	Est.	Post.SD	pi.lower	pi.upper	Est.	Post.SD	pi.lower	pi.upper	Est.	Post.SD	pi.lower	pi.upper
Moderator: Proactive personality (PP) SL → ASR → CR	0.071	0.041	-0.011	0.152	0.093	0.034	0.027	0.159	0.022	0.053	-0.081	0.126
Moderator: Trait self-control (TSC) AS → SCDs → ED →CR	0.001	0.002	-0.003	0.006	0.002	0.004	-0.005	0.010	0.001	0.003	-0.004	0.006

Note. Est. = unstandardized estimate; Post.SD = posterior standard deviation; pi. lower = lower bound of a credible interval (95%); pi. upper = upper bound of a credible interval (95%). N between = 69. N within = 607. Confidence intervals that do not contain zero are highlighted in bold.; SL= Servant leadership; ASR = Autonomous self-regulation; CR= Creativity; AS= Abusive supervision; SCDs = Self-control demands; ED = Ego depletion; PP= Proactive personality; TSC= Trait self-control.

Second Additional Test of Indirect Effect (Excluding Ego Depletion and CPE) (No Moderation) (Study 2)

	Est.	Post.SD	pi.lower	pi.upper
SL → ASR → CR	0.078	0.027	0.025	0.130
AS → SCDs → CR	0.031	0.016	0.000	0.061

Note. Est. = unstandardized estimate; Post.SD = posterior standard deviation; pi.lower = lower bound of a credible interval (95%); pi.upper = upper bound of a credible interval (95%). N between = 69. N within = 607. Confidence intervals that do not contain zero are highlighted in bold.; SL= Servant leadership; ASR = Autonomous self-regulation; CR= Creativity; AS= Abusive supervision; SCDs = Self-control demands.

Second Additional Test of Indirect Effect (Excluding Ego Depletion and CPE) (Moderated Mediation) (Study 2)

	Indirect Effects (Low; -1 SD Moderator)				Indirect Effects (High; +1 SD Moderator)				Indirect Effects Difference (High minus Low)			
	Est.	Post.SD	pi.lower	pi.upper	Est.	Post.SD	pi.lower	pi.upper	Est.	Post.SD	pi.lower	pi.upper
Moderator: Proactive personality (PP) SL → ASR → CR	0.067	0.041	-0.013	0.147	0.088	0.033	0.023	0.154	0.021	0.052	-0.081	0.124
Moderator: Trait self-control (TSC) AS → SCDs →CR	0.022	0.015	-0.007	0.051	0.040	0.024	-0.008	0.088	0.018	0.026	-0.032	0.068

Note. Est. = unstandardized estimate; Post.SD = posterior standard deviation; pi. lower = lower bound of a credible interval (95%); pi. upper = upper bound of a credible interval (95%). N between = 69. N within = 607. Confidence intervals that do not contain zero are highlighted in bold.; SL= Servant leadership; ASR = Autonomous self-regulation; CR= Creativity; AS= Abusive supervision; SCDs = Self-control demands; PP= Proactive personality; TSC= Trait self-control.