

Exploratory Study of Polyvagal Theory and Underlying Stress and Trauma That Influence Major Leadership Approaches

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Leadership approaches have evolved to incorporate rational and non-rational processes. Traditional leadership research focused on internal and external organizational influences, but this paper underscores the need for adopting modern-day approaches for investigating leadership outcomes. Neuroscience can illuminate different cognitive effects that influence leadership. The research paper highlights the importance of attitudes towards leadership due to the complexity of modern organizational influences. The main forces highlighted are polyvagal theory, underlying stress, and trauma. A literature review provides a description of the fundamental neural and cognitive drivers of leadership. The paper also explains the findings of research studies demonstrating the correlation between neurocognitive processes and three leadership approaches: transactional, transformational and servant leadership. The discussion section elaborates these findings to determine whether insights can be applied in typical organizational settings. Lastly, the conclusion section summarizes the main deductions and explains limitations and recommendations for future exploratory investigations on rational and non-rational leadership choices. Overall, the paper attempts to justify why non-rational drivers carry equal weight as the rational influences.

Keywords: polyvagal theory, synaptic nervous response, transformational leadership, transactional leadership, servant leadership

INTRODUCTION

In recent years, numerous scholars have conducted in-depth investigations into the fundamentals of leadership theory. However, while traditional research focused on describing different leadership models, modern studies emphasize the root causes of promising leadership approaches. In this case, the focus is placed on the major neural and cognitive influences of leadership theory. By understanding how neurocognitive concepts such as the polyvagal effect, underlying stress, and trauma affect leadership, organizational leaders can ascertain which approach is aligned with the professional or emotional wellbeing of the workforce. As a result, it will be possible to implement leadership approaches that positively improve the organizational environment. This exploratory paper seeks to elucidate the correlations between the polyvagal effect, stress, and trauma on specific leadership approaches, particularly transactional, transformational and servant leadership models. Although most leadership decisions are made using rational neurocognitive choices, non-rational responses are equally essential in driving leaders' choices.

Purpose of the Study

The primary purpose of this study is to elaborate how underlying brain responses affect leadership choices. Fundamentally, the modern organizational setting is inherently complicated due to a myriad of emotional and cognitive influences. For that reason, many organizations have recognized the need to identify the impacts of these influences on these decisions. Most leaders are exposed to the pressures of ensuring optimal productivity while simultaneously addressing the unmet needs of the employees. Leaders who can achieve both functions are likely to support positive organizational change, whereas those who fail may cause unpredictable adverse impacts to the corporations. This rationale explains why transformational leadership has increased in popularity due to its ability to increase the leaders' resilience towards detrimental organizational behaviors. Contrarily, the transactional leadership approach is the conventional strategy because it appeals to the leaders' and followers' self-interest. The servant leadership style achieves similar objectives as the transformational style by encouraging leaders to serve their followers and address their organizational needs. Overall, this exploratory paper will bridge the research gap regarding rational and non-rational leadership choices.

Problem Statement

Despite considerable research about the root-causes of good and bad leadership decisions, few investigations have sought to explain the rational and non-rational neurocognitive drivers. The rapid advancement of modern technology has created numerous opportunities for evaluating the neural and cognitive responses that drive organizational behavior. Particular insights can be acquired from the precise measurement of certain parts of the brain, which are activated when a leader is exposed to a specific environmental influence (Lucas & Caspers, 2014). As a result, the field of neuroscience has become a vital discipline for explaining the origins of specific organizational behaviors. Contrarily, the contextual approaches for elaborating the macro and micro-level influences are insufficient for shaping sustainable leadership outcomes (Tideman et al., 2013). Therefore, scholars need to shift leadership research from the business and organizational context, and move towards the understanding of human consciousness and its influence on leadership outcomes.

The Rationale for the Study

Regarding mindsets, future leaders need to understand the changing nature of leadership models. A comprehensive survey was conducted in 2009 on 194 CEOs and senior executives who participated in the UN Global Compact Conference of 2008 (Lucas & Caspers, 2014). The study revealed that 82% of the polled executives emphasized the need to understand the risks and opportunities of social, political, environmental, and cultural influences. However, the enormity of the external environment often impedes leaders from understanding complex factors lying in the external business environment. The same survey also showed that 90% of the leaders supported the need for open-minded decisions and learning from past mistakes (Lucas & Caspers, 2014). In summary, the study outlines that "conscious leaders are usually strong individuals who possess exceptional moral courage and can withstand constant scrutiny and criticism from those who view business in a more traditional and narrow manner" (Lucas & Caspers, 2014, p. 24). Thus, this exploratory paper takes a unique approach to explain different influences that can shape contemporary leadership strategies.

Overview of Decision-Making Mechanisms, Polyvagal Theory, Stress, and Trauma

A wealth of research has emerged that attempts to explain the theoretical and neurobiological mechanisms of human decisions. In most cases, human choices are made due to the combination of executive functioning and working memory in the prefrontal cortex (Starcke & brand, 2012). This section of the brain typically supports decisions that require a comparison between different contingencies and alternatives. However, many situations present a degree of uncertainty, thereby encouraging the mind to deviate from the first automatic response. In such cases, a deliberate adjustment occurs that shifts neural reactions based on rational-analytical and emotional-intuitive decisions (Starcke & brand, 2012). Decisions that are usually made under uncertain conditions drive the person to rely on feedback processing and reward

and punishment stratum. Although this explanation seems relatively complex, it can be elucidated by analyzing the brain's response in stressful situations. While healthy individuals can properly balance the emotional and calculative responses following the first automatic response, stress encourages the brain to deviate from the rational orientation and move towards non-rationality (Starcke & brand, 2012). Therefore, leaders should understand how different environmental situations cause shifts between rational and nonrational decisions.

The polyvagal theory demonstrates that the human nervous system plays a stronger role than merely driving rational decisions and physical responses. The polyvagal theory contends that the nervous system is an autonomic mechanism sensitive to afferent influences and characterized by adaptive responses to the neural circuits (Porges, 2009). Nonetheless, it is essential to recognize that the theory is reliant on a person's accumulated knowledge which tends to trigger shifts in emotion regulations, social interactions, and fear responses (Porges, 2009). The theory is multifaceted since it underscores the correlation between nervous system response and affective experience, vocal communication, social behavior, and facial expressions. These elements are integral dimensions of modern leadership approaches. In simple terms, the polyvagal theory can be used to explain leadership decisions that are based on 'fight' or 'flight' nervous response (Porges, 2009). Despite the lack of significant research findings linking polyvagal theory to leadership, this ideology expresses the influence of non-rational inputs on a leader's choices.

Another essential theme in non-rational leadership is stress. Stress and leadership are inextricably entwined to the extent that stress has become a common determinant of leadership outcomes (Harms et al., 2016). While some researchers argue that moments of stress serve as crucibles for nurturing good leadership skills, others posit that stress tends to reduce the leader's decision-making outcomes. As a result, many leaders have developed the assumption that good leadership is often manifested during periods of extreme stress (Harms et al., 2016). A majority of leaders experience more stress than their subordinates because they are often compelled to make decisions with limited information and achieve outstanding performance with inadequate resources (Bal et al., 2008). In this case, it is vital to mention that the servant leadership is associated with a reduction in stress levels because it supports emotional healing within the workforce (Baldomir & Hood, 2016). Therefore, it can be perceived that stress can serve as both an opportunity and barrier to positive organizational behavior.

This exploratory paper also illustrates the correlation between trauma and leadership outcomes. In most cases, leaders spearhead organizational actions and behaviors in alignment with trauma-informed models (Middleton et al., 2015). When implementing organizational change, leaders need to live the tenets of trauma-informed practices to encourage compliance with the model. Furthermore, transformational leadership is intrinsically tied to the trauma-informed models since it highlights the best evidence-based strategies that leaders should implement. This statement explains why "the transformational leadership style allows for the recognition of areas in which change is needed, and guides change by inspiring followers and creating a sense of commitment" (Middleton et al., 2015, p. 156). Similarly, emotional healing is an essential component of the servant leadership that plays a critical role in mitigating emotional and psychological trauma (Baldomir & Hood, 2019). In conclusion, trauma poses severe effects on leadership outcomes in the organizational setting, so leaders should understand how to implement trauma-informed strategies.

Research Objective and Questions

The findings of this study can be used to guide leaders on the rational and non-rational considerations of the organizational decision-making process. In this case, the non-rational brain is strongly influenced by underlying trauma and stress, thereby affecting the sympathetic nervous system. As a result, it is possible for trauma and stress to lead to destructive leadership outcomes by dismantling the key components of traditional leadership theory models. This viewpoint is not clearly explained in recent research studies. Correspondingly, this exploratory seeks to understand the factors that override rational and non-rational leadership outcomes through three research questions:

Research Question 1: *Does Polyvagal Theory and Sympathetic Nervous System response affect transactional, transformational and servant leadership models?*

Research Question 2: *What is the mediating role of stress, trauma, IQ, and EQ on leadership theory?*

Research Question 3: *Does rational and nonrational decision-making approach affect leadership outcomes?*

LITERATURE REVIEW

The Polyvagal Theory

The polyvagal theory explains the evolution of the human nervous system to support social behavior and communication. According to Porges (2009), the polyvagal theory “describes an autonomic nervous system that is influenced by the central nervous system, sensitive to afferent influences, characterized by an adaptive reactivity dependent on the phylogeny of the neural circuits.” In essence, the human social communication system is strongly dependent on the interactions between the myelinated vagus and the sympathetic nerves (Porges, 2009). This correlation tends to foster calm behavioral states in the human brain. When a person perceives the external environment as safe, two crucial features are manifested. Foremost, the body regulates itself in an efficient manner to promote normal growth and restoration, thereby inhibiting the fight or flight responses. Secondly, the brainstem becomes inherently integrated with the myelinated vagus, which causes spontaneous bidirectional interactions that support social engagement (Porges, 2009). Overall, the polyvagal theory demonstrates that the human nervous system evolved to allow human beings to respond appropriately to safe environments and life-threatening ones.

The polyvagal theory emphasizes the link between nervous system responses and rational decisions. The approach offers a plausible explanation for how leaders respond to events perceived as life-threatening or situations that cause shifts in the normal autonomic nervous responses. For instance, variables such as stress and trauma can disrupt normal homeostatic functions, thereby driving leaders to make poor decisions. These implications can be perceived by analyzing how individuals experience difficulties connecting with others and judging personal safety (Porges, 2018). To sum up, the polyvagal theory highlights how external variables can cause significant shifts in leaders’ rational neurobiological mechanisms.

Transactional Leadership Theory

Transactional leadership is distinguished by its reliance on exchange processes to elicit and sustain desired subordinate behaviors. According to Aga (2016), transactional leaders deploy managerial rather than visionary tactics to modulate employee behavior. Contrary to transformational leaders, transactional leaders do not necessarily require a grand vision to motivate performance. Instead, they utilize well-articulated roles, responsibilities, and task requirements to structure work processes and instill order in the workforce. Transactional leadership also features a contingent-based employee management system. Per Hixha (2019), transactional leaders consistently evaluate their subordinates’ work performance to identify deviations and inconsistencies. Employees who adhere to established guidelines and protocols are rewarded. Transactional leaders may deploy pecuniary and non-pecuniary reward systems to motivate desired behaviors (Xenikou, 2017). For instance, an employee who achieves prespecified performance targets can be rewarded with a higher compensation (pecuniary rewards) or managerial recognition and commendation (non-pecuniary rewards). These rewards motivate greater adherence to established protocols, enhancing organizational outcomes.

On the other hand, insubordinate and non-compliant employees are punished appropriately. According to Aga (2016), this objective can be accomplished via passive or active management by exception. Active management by exception demands vigilant performance monitoring to identify and sanction protocol deviations. In this case, the leader exercises considerable oversight and control over work processes and outcomes and requires strict compliance to established protocols from their employees. In contrast, transactional leaders who deploy passive management by exception to sanction deviant employees

exclusively take action when employee behaviors elicit adverse outcomes (Gemedá & Lee, 2020). In this case, leaders adopt a more laissez-faire approach to monitoring work processes and devote their attention to behaviors that elicit undesired consequences (Gemedá & Lee, 2020). Nonetheless, although transactional leaders may permit some degree of task autonomy in their workforce, a contingent-based management system is often an inextricable component of their leadership philosophy.

The Strengths and Weaknesses of Transactional Leadership Theory

Transactional leadership theory possesses some notable strengths. According to Xenikou (2017), transactional leadership can inspire work motivation and organizational commitment by reinforcing transformational leadership behaviors. Researchers have devoted considerable attention to the interactions between transformational leadership theory and organizational outcomes. This response may be attributed to the overwhelming favorable individual and organizational-level outcomes associated with transformational leadership and the negligible impacts of transactional leadership models on organizational results and individual-level behavior (Aga, 2016). Nonetheless, full-range leadership theory dictates that a transactional component is necessary to sustain transformational leadership styles. According to Aga (2016), appealing to followers' self-interests through contingent-based reward systems is often unavoidable in pursuit of the dramatic improvements in work performance and motivation attributed to transformational leadership. Further, transactional leaders are remarkably effective in managing work processes that require strict adherence to protocol. They are also imperative in work environments where deviations from established standards and protocols can elicit severe adverse outcomes (Hoxha, 2019). Therefore, although the universal application of transactional leadership models is impractical, it can be instrumental in some contexts.

Transactional leadership has received considerable criticism from scholars. Some authors have claimed that transactional leadership models disparage followers' higher-level needs, such as self-actualization and esteem, and are, thereby, vital predictors of job dissatisfaction and in organizational contexts (Specchia et al., 2021). Further, scholars have posited that transactional leadership relies extensively on a patronage system that over-emphasizes leaders' competence and diminishes employees' potential contributions to work process improvement (Odumeru & Ogbonna, 2013). Also, transactional leaders expect strict adherence to established protocols and guidelines, stifling employee creativity and innovation (Gemedá & Lee, 2020). Finally, transactional leadership theorists have failed to elucidate the exact nature of the correlation between material/psychological rewards and employee performance (Jensen et al., 2016). Transactional leadership literature does not explicitly delineate how contingent-based management systems elicit work motivation.

Transformational Leadership Theory

Considerable research has been devoted to transformational leadership theory. As a result, transformational leadership has become one of the most widely recognized components of full-range leadership theory. Transformational leadership theory describes leadership approaches that harness intrinsic motivation to direct subordinate behavior. According to Khan et al. (2020), transformational leadership features a strong visionary component. In other words, transformational leaders must rally their subordinates around a well-articulated vision. Additionally, transformational leaders devote considerable effort to sustaining subordinates' attention to organizational goals (Jensen & Bro, 2017). This objective is accomplished by communicating each subordinate's unique contribution to organizational outcomes and linking work processes to organizational goals (Jensen & Bro, 2017). Also, transformational leaders consistently model desired values, behaviors, and performance for their employees (Choi et al., 2016). These behaviors enhance employees' commitment to fulfilling organizational goals by cultivating trust and respect.

Transformational leadership is also characterized by increased recognition and consideration of subordinates' individual competencies, expertise, priorities, and weaknesses in leaders' decision-making processes. Per Choi et al. (2016), transformational leaders develop meaningful relationships with their subordinates through respectful communication, genuine admiration, and trust (Khalili, 2016). These

intimate interactions allow a deeper understanding of employees' goals, priorities, competencies, and weaknesses. This knowledge permits iterative feedback and improvement, enhancing subordinates' work performance and expertise. Furthermore, transformational leaders can utilize their intricate understanding of their subordinates' capabilities and limitations to assign responsibilities and tasks, ensuring that each employee is well-equipped to fulfill work-related obligations (Khalili, 2016). Further, transformational leaders value innovation and adaptive responses to environmental alterations. Therefore, they can motivate their employees to develop novel solutions to longstanding challenges and maintain optimal performance levels amidst uncertainty (Tepper et al., 2014). Transformational leadership behaviors ultimately encourage subordinates to relegate personal interests and prioritize organizational goals.

The Strengths and Weaknesses of Transformational Leadership Theory

Research has identified a few noteworthy strengths of transformational leadership theory. Researchers have linked transformational leadership to favorable organizational outcomes. According to Khan et al. (2020), transformational leaders can improve organizational performance. This outcome is related to transformational leaders' ability to foster innovation and creativity and inspire employee commitment to organizational priorities (Lai et al., 2020). Further, transformational leadership has been linked to improved workforce competence and resilience. Transformational leaders proactively monitor employee performance, create opportunities for skill improvement and knowledge acquisition, and cultivate knowledge-sharing intentions within the workforce (Dong et al., 2016). These behaviors progressively enhance workforce competence. Additionally, a study by Choi et al. (2016), found positive correlates between transformational leadership and job satisfaction among nursing staff. Transformational leaders can cultivate intrinsic work motivation by recognizing individual employees' unique contributions, capabilities, and weaknesses, enhancing job satisfaction (Jensen & Bro, 2017). These unique and beneficial contributions render transformational leadership behavior an inextricable component of effective leadership.

Despite its undeniable appeal, transformational leadership theory has been criticized on several fronts. First, this model emphasizes leaders' influence on individual subordinates and relegates group-level processes (Jensen et al., 2016). The transformational leaders' interactions with broader organizational functions, such as resource management and coordination of external stakeholders, are often overlooked by transformational leadership theorists. Further, transformational leadership theorists have failed to elucidate the exact nature of the association between transformational leadership and work-related outcomes (Jensen et al., 2016). Also, some authors have questioned the construct validity of the leadership behaviors that characterize transformational leadership. Per Banks et al. (2016), considerable overlap and ambiguity exists in operational terminology used to describe transformational leadership dimensions, casting doubts on the theory's construct validity. Moreover, according to Chen et al. (2018), transformational leadership theorists disparage the prevailing influence of contextual factors on leadership and employee behavior. Recent literature fails to acknowledge the drawbacks of the universal application of transformational leadership behaviors and the importance of considering situational variables.

Servant Leadership

Many organizations have embraced the servant leadership style because it focuses on the staff's welfare instead of the leader's glory or organizational benefits. According to Winston and Fields (2015), servant leaders prioritize the creation of a corporate environment that promotes the followers' professional growth and development. This process may occur through mentoring or training. Accordingly, the best approach for understanding the servant leadership style is to assume that the leader serves the followers and inspires them to deliver optimal productivity and performance. However, it is inaccurate to believe that servant leaders are subservient to their followers. On the contrary, these leaders use their power and position to induce follower autonomy (Winston & Fields, 2015). The servant leadership style is grounded on the assumption that employees have self-serving and opportunistic characteristics, so the leader uses trust and shared decisions to meet the staff's interests (Parris & Peachey, 2013). This leadership approach offers compelling rewards to organizations that prioritize the staff's welfare

The Strengths and Weakness of Servant Leadership

The servant leadership style has increased in popularity due to its tendency to prioritize the employees' welfare over the organizational benefits. According to Specchia et al. (2021), the servant leadership style supports professional development and stimulates productivity by combining multiple disciplinary competencies. For instance, servant leadership underscores teamwork, ethical behaviors, and shared decision-making in the organizational setting. These leaders use empathy, listening skills, and personal commitment to shape the moral characteristics of their followers and the surrounding community (Specchia et al., 2021). Furthermore, servant leadership encourages leaders to help subordinates to achieve their professional goals and overcome critical organizational challenges by prioritizing the needs of others. For that reason, the servant leadership style is suitable for performance planning and professional coaching since it sacrifices rewards and personal advancement for the staff's development. Therefore, the servant leadership style is essential for enhancing staff engagement.

The main weakness of the servant leadership approach lies in the lack of clarity about its operational applications. According to Winston and Fields (2015), there is little consensus about the definitions and mechanisms of servant leadership in real-life organizational contexts. Typical definitions focus on multiple facets: relational power, follower autonomy, emotional healing, altruistic calling, service orientation, persuasion, wisdom, love, humility, trust, credibility, morality, and spirituality (Winston & Fields, 2015). The vagueness of the main components of the servant leadership style weakens its definitions and operational applications in modern organizations. Furthermore, it is unclear whether the mentioned dimensions are equally important. Overall, the servant leadership style is a complex and challenging paradox in the organizational environment due to the uncertainty of its definitions, components, and key outcomes.

Comparison Between Transactional, Transformational, and Servant Leadership

The transactional and transformational leadership styles serve different purposes in the organizational setting. On one hand, organizations that need adaptive and flexible leaders often demand the transformational leadership style; on the other hand, organizations that require rigid and bureaucratic leaders usually prioritize the transactional leadership style (Juhro & Aulia, 2017). The key differences between transactional and transformational leadership are described in Table 1 below.

TABLE 1
COMPARISON BETWEEN TRANSACTIONAL AND TRANSFORMATIONAL LEADERSHIP

	Transactional Leadership Style	Transformational Leadership Style	Servant Leadership Style
Leadership approach	Leaders motivate followers by fulfilling their self-interest and personal desires.	Leaders motivate followers to prioritize the organization's interests over the staff's personal interests.	Leaders serve their followers by resolving their individual needs.
Followers' motivation	Followers attain organizational goals due to rewards and punishments.	Followers experience self-transformation by developing idealism and good organizational values	Followers are driven by their leader's vision of organizational growth
Leader's actions	The leaders' responsive actions tend to be stiff and bureaucratic.	The leader's responsive actions tend to be adaptive and practical because it relies on agility.	The leaders use positive reinforcement to improve the followers' productivity

Creativity and innovation	Does not emphasize creativity in the organizational setting.	Emphasizes creativity and innovation among both the leaders and followers.	Emphasizes creativity and innovation
Short and long-term focus	Concentrates on current organizational situations.	Focuses on the organization's long-term orientation.	Supports followers' autonomy and moral values
Organizational goals	Typically used by organizations that desire stability.	Often used by organizations that want to respond to turbulent situations.	Share power between the leader and the followers.
Neuroscience perspective	Employees gain satisfaction as long as the rewards satisfy their personal needs.	Employees understand the rationale behind organizational decisions as long as the transformation is sustainable.	Prioritizing the employees' mental and emotional needs rather than organizational benefits.

Juhro & Aulia, 2017; Sendjaya, 2015

The servant leadership style faces significant controversies in comparison to traditional leadership approaches. In conventional approaches, organizations consolidate power in the hand of senior corporate leaders and expect compliance in the lower ranks of the workforce (Winston & Fields, 2015). This approach is typically acknowledged as the most efficient leadership style because it creates clarity through a structured hierarchy for delegating tasks and responsibilities. This phenomenon is usually perceived in the transformational leadership and charismatic leadership styles. Other distinctions between servant and transformational leadership can be discerned by analyzing the leader's focus on employees, supervisors' support, procedural justice, and organizational citizenship behaviors (Winston & Fields, 2015). Regarding the transactional leadership style, this approach centers on the leaders' behaviors and their ability to distribute rewards and punishment to achieve performance goals. However, the servant leadership style uses social behaviors to encourage co-workers to perceive the leader favorably (Winston & Fields, 2015). Therefore, the servant leadership style creates a supportive environment where employees can determine their full potential and productivity.

Despite the differences between the three leadership styles, it is essential to acknowledge the similarities between servant leadership and transformational leadership. According to Andersen (2018), both approaches focus on the impact of the leaders' decisions on the followers and the shared relationship between the two parties. In the late 1900s, researchers used similar terms to refer to servant leadership and transformational leadership (Andersen, 2018). However, this approach was rejected by modern researchers due to the growing complexity of modern leadership constructs. For instance, some researchers argued that servant leadership is more suitable for political leaders, whereas the transformational leadership approach matches organizational leadership (Andersen, 2018). Hence, the real-life applications of servant leadership in organizations are relatively controversial.

Stress and Leadership Theory

Stress often emerges due to the mismatch between the organizational demands and the leader's ability. Khalid et al. (2012) define stress as "a feeling of personal dysfunction as a result of events happening in the organization and the psychological and physiological responses because of pressures in the work setting." Most studies on the correlation between leadership and stress have focused on three dimensions: individual staff differences, environmental considerations, and the interplay of these two dimensions. The researchers highlight the need to employ supportive leadership styles to reduce stress and optimize organizational performance (Khalid et al., 2012). The transformational and servant leadership styles are suitable examples of supportive leadership styles that are quite effective when dealing with stress. Overall, reliable studies show that stress is a common indicator of the leaders' and followers' wellbeing.

A significant amount of literature has been published about the root causes of stress in employees' interactions with the organizational environment. According to Yao et al. (2014), different leadership styles have varying degrees of influence on employee behavior. For example, the transformational leadership style often results in stronger relationships between leaders and subordinates than the transactional style. The authors conducted a study to determine why the transactional leadership style often creates more stress for leaders and subordinates than the transformational style (Yao et al., 2014). Resultantly, the researchers deduced that the transformational style creates a positive work environment because it prioritizes the employee's satisfaction, whereas the transactional style tends to lead to negative behaviors because it emphasizes rewards and punishments (Yao et al., 2014). When employees face different leadership strategies, their work behavior and stress levels vary correspondingly.

Other researchers have also attempted to investigate the origins of stress among leaders and their followers. Elci et al. (2012) argue that work attitudes such as participation in decision-making, commitment, job satisfaction, and turnover intention are the leading causes of stress in the organizational environment. However, the researchers focused on ethical leadership instead of the transformational or transactional leadership styles. In this context, ethical leadership focuses on the staff's interpersonal relationships and personal actions to promote positive organizational outcomes. Contrary to most leadership styles, ethical leaders emphasize transparency and open communication between leaders and followers (Elci et al., 2012). Accordingly, this leadership style is highlighted as the most optimal approach for alleviating stress and turnover intentions. Therefore, ethical leadership is suitable for addressing stress among leaders and followers.

In essence, various controversies have emerged about the differences in stress levels between leaders and non-leaders. As leaders ascend in the organizational hierarchy, their stress levels also increase dramatically. Sherman et al. (2012) argued that the traditional perspective is that corporate leaders face more intense stress because their job demands increase while their work hours and resources remain the same. As a result, leadership is often associated with stressful job roles. Nonetheless, these researchers focused on the neuroscience and physiological interactions of leadership decisions to show the uncertainty of obsolete arguments. According to their study, leaders face less stress than non-leaders because they develop appropriate psychological controls over stress and anxiety due to higher cortisol levels (Sherman et al., 2012). In summary, the high cortisol levels increase the leaders' resilience to stress and anxiety in the organizational setting.

Trauma and Leadership Theory

Reliable studies demonstrate that exposure to trauma carries both positive and negative implications on leadership models. Although few researchers have focused on the correlation between trauma and leadership development, Kramer and Allen (2018) analyzed the impact of trauma on transformational leadership. However, the authors' study was oriented toward military leaders. According to the authors, posttraumatic stress disorder (PTSD) is a common occurrence in the military environment that tends to affect leaders' emotional responses and leadership styles. PTSD often ensues when a person witnesses or experiences a life-threatening event, resulting in symptoms aligned with intrusive memories, avoidance of trauma-related stimuli, mood changes, variations in arousal, and other negative cognitive alterations (Kramer & Allen, 2018). Hence, it can be perceived that trauma can cause unpredictable effects on leadership behaviors.

Various studies clarify the positive effects of posttraumatic growth on leadership. In the military sector, trauma can encourage leaders to develop knowledge, skills, and attitudes that strengthen their resilience against harrowing events and experiences. Kramer and Allen (2018) highlight posttraumatic growth as "positive psychological change experienced as a result of the struggle with highly challenging life circumstances". The positive outcomes of posttraumatic growth emerge in five key dimensions: greater appreciation of life, warmer attitude towards intimate relationships with others, a stronger sense of personal strength, spiritual growth, and recognition of new possibilities for one's future (Kramer & Allen, 2018). Although trauma is usually considered detrimental to mental health, leaders who experience it often gain profound insights while struggling to overcome its implications. For example, many trauma survivors use

their experiences to support other survivors and similar events from recurring (Williams & Allen, 2015). Moreover, many leaders retain their effectiveness despite experiencing adverse traumatic experiences. Therefore, recent studies show that trauma offers several positive benefits to organizational leaders.

Concerning the negative implications, other studies emphasize that trauma is strongly correlated with adverse leadership outcomes. For instance, many leaders who experience trauma are often demoralized, while others lose their ability to lead (Kramer & Allen, 2018). Furthermore, it is common for leaders to conceal or ignore traumatic disorders, even when openness has the potential for reducing the negative outcomes. Therefore, PTSD is more prevalent in the general population than most leaders acknowledge. Other than demoralization, Kramer and Allen (2018) showed that the most common adverse effects of trauma are angry outbursts, slower thinking, and reduced transformational leadership performance. Nonetheless, it is essential to note that most research findings of trauma and leadership focus on health workers such as doctors and nurses. These professionals often face significant psychological strain due to the nature of their professional roles. Ahmed et al. (2020) state that nurses are at the forefront of public health issues, so they often face considerable psychological pressures that negatively affect their leadership approaches. Thus, more research needs to be conducted to understand the overall impacts of trauma on organizational leaders.

Relationship Between Cognitive Psychology and Decision-Making

From the scientific perspective, neuroscience can be used to explain the cognitive drivers of specific decisions. In this case, neuroscience is defined as the study of the various subsets of the nervous systems and their interactions in the human body (Juhro & Aulia, 2017). This information can improve the world's understanding of the brain's anatomical structure and thinking processes. Fundamentally, the most crucial neuroscience discovery for human decision-making is the brain is separated into two hemispheres. The left side supports literal and communication capabilities such as writing, speaking, and counting, whereas the right hemisphere is related spatial ability, creativity, language, nonverbal skills, and comprehension (Juhro & Aulia, 2017). Other neuroscience studies have been conducted as off-shoots of the 'split-brain theory'. Concerning rational decisions, this function is governed in the prefrontal cortex, whereas the emotional functions are dictated by the limbic system (Juhro & Aulia, 2017). These two functions are essential for explaining the cognitive drivers of rational and non-rational leadership influences.

Rational and Nonrational Decision-Making in Leadership

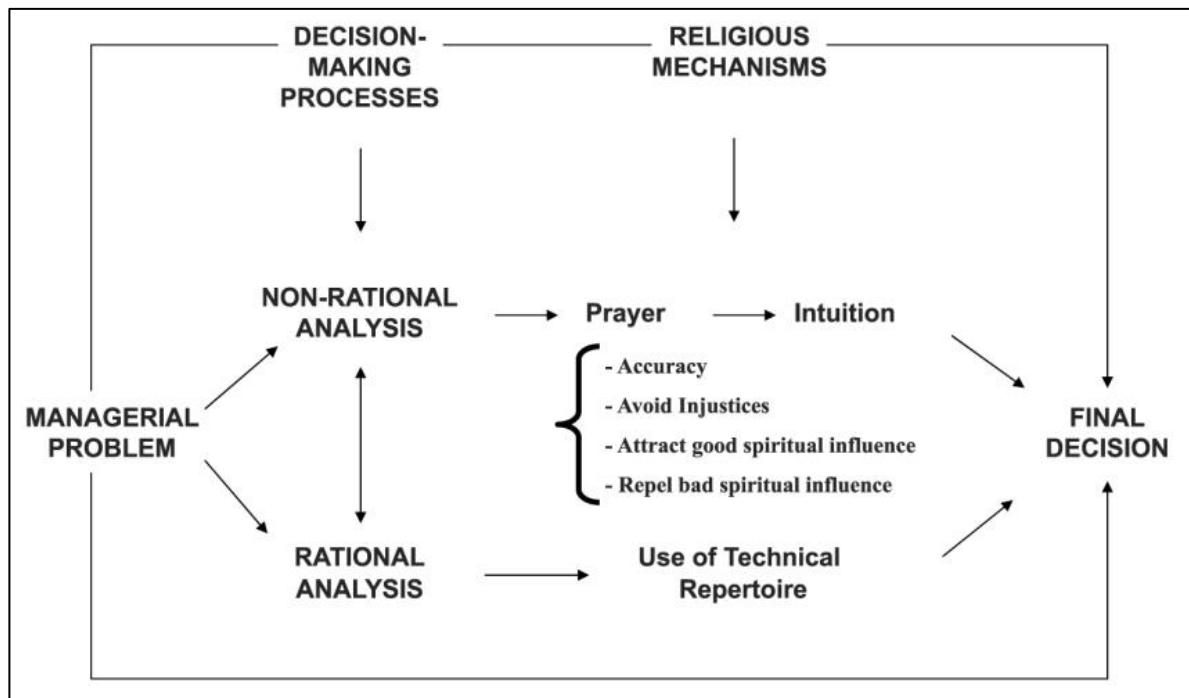
When comparing rationality and non-rationality, most leaders strive to develop rational decision-making models because it is often associated with positive organizational outcomes. Calabretta et al. (2017) define rationality as "an analytic, systematic, rule-based, and explicit mechanism for decision making." Correspondingly, leaders who prefer rationality often adhere to step-by-step decision-making strategies to achieve organizational goals. However, the main weaknesses of rational decision-making are its slow, time-consuming, and taxing characteristics (Calabretta et al., 2017). Therefore, this approach is usually inappropriate when leaders desire quick decisions with limited time. In contrast, the nonrational method is often associated with intuitive decision-making processes. In this case, it is essential to underscore that non-rationality is not the same as the lack of rationality (irrationality). Nonrationality reflects the subconscious decision-making mechanisms, whereas rationality describes conscious processes (Calabretta et al., 2017). The authors contend that leaders should develop rational and nonrational decision-making capabilities.

The fact that rationality and non-rationality are paradoxical concepts should encourage leaders to embrace the strengths and weaknesses of both approaches in the organizational environment. In the non-rational decision-making approach, leaders analyze a problem in the context of relevant cues and patterns, thereby allowing them to non-consciously activate the appropriate cognitive schemas (Calabretta et al., 2017). For example, nonrational ideologies such as intuition usually occur faster because they are accompanied by the feeling of certainty and the assumption that one's decisions are correct during a specific situation (Calabretta et al., 2017). However, many skeptics believe that rationality is not the best approach for understanding leadership decisions because it portrays leaders as robots who make cold and calculated

choices (Cabantous & Gond, 2011). In reality, most leadership choices are not based on rational considerations. Therefore, a clear divide separates logical and nonrational leadership approaches.

Another central theme in rational and nonrational decision-making is spirituality. Vasconcelos (2009) conducted an in-depth study to reveal the impact of spirituality and rationality on rational and nonrational managerial decisions. From the orthodox perspective, leaders should utilize rational and logical analytical thinking because it relies on mental processes underpinned by rules, weights, and values. For example, organizational rules provide high levels of quality and clarity because they are usually based on transparent measures (Vasconcelos, 2009). Contrarily, the heterodox view embraces intuition and spirituality. When outcomes cannot be evaluated rationally, leaders need to acknowledge the uncertainty of the organizational situation by adopting heterodox strategies. Although many researchers have criticized this argument, Vasconcelos (2009) emphasizes the need to merge rational and non-rational decision-making mechanisms to improve organizational outcomes. This dual approach is illustrated in Figure 1 below. Thus, the rational and nonrational approaches should be utilized depending on the circumstances of the corporate environment.

FIGURE 1
INTEGRATED APPROACH FOR RATIONAL AND NONRATIONAL DECISION-MAKING MECHANISMS (VASCONCELOS, 2009)



Despite the growing popularity of nonrational decision-making mechanisms, there is insufficient research about the role of spirituality and rationality in leadership theory. This problem can be attributed to three reasons. Foremost, Phipps (2012) highlights the lack of clarity about the consistency of nonrational decision-making on leadership. Additionally, scholars argue that spiritual leadership is more oriented towards the interpersonal aspects of leadership than the strategic outcomes of organizational decisions. Lastly, nonrational considerations such as spirituality may breach the employees' right to freely exercise the religion of their choice. Therefore, it is essential to conduct an exploratory study to analyze the correlation between rational and nonrational influences of leadership decisions. In this investigation, issues such as stress and trauma can cause significant shifts between rational and nonrational leadership choices.

Correlation Between Intelligence Quotient, Emotional Quotient, and Leadership

In ancient times, leaders were primarily selected based on their intelligence levels and professional capabilities. However, the advancement of modern society has encouraged leaders to place more emphasis on affective components such as emotions and interpersonal interactions. In this context, the main features of Intelligence Quotient (IQ) lie in enhancing skill acquisition, problem-solving capability, and communication competencies. These factors are the most critical determinants of good leaders (Antonakis et al., 2017). However, scholars argue that the effects of IQ on leadership are curvilinear. In other words, the researchers posit that too much intelligence can be detrimental to organizational performance. Leaders with too high intelligence are often limited because they often present complex solutions to simple problems, thereby worsening organizational outcomes. In other cases, the leaders' sophistication may undermine communication due to the leaders' need to be perceived as "cerebral" individuals (Antonakis et al., 2017). Therefore, emotional intelligence has emerged as a mediating component for IQ and good leadership behaviors.

Modern researchers have attempted to ascertain the best combination of leadership competencies. Although emotional quotient and intelligence quotient are aligned with different leadership capabilities, VanderPal (2014) demonstrates the main challenge of treating them as independent constructs. Instead of treating EQ and IQ as separate constructs, leaders should comprehend how merging EQ and IQ optimizes organizational outcomes. Although many researchers have stressed the need to replace emotional and intuitive thinking with rational and logical thinking, they have failed to justify why leaders should transform cognitive functions to resemble 'emotion-free microprocessors' (Hess & Bacigalupo, 2011). Thus, in the current business environment, leaders are nurturing skills that allow them to inspire their subordinates to improve organizational performance. Accordingly, the transformational leadership style has gained a lot of interest due to its strong correlation with emotional intelligence (Batool, 2013). Overall, studies show that knowledge about IQ and EQ has a high potential of strengthening existing leadership models.

RESEARCH METHODOLOGY

This study relies on the exploratory research method to determine the correlation between rational and non-rational cognitive mechanisms in leadership theory. The exploratory research method employs qualitative methods to investigate phenomena for which investigative findings do not exist (Neelankavil, 2015). Therefore, the main focus of exploratory research is to convert broad and broad problem statements into small subproblems that can be evaluated using formulated research hypothesis. The main advantages of exploratory research revolve around its flexibility and versatility. As a result, the exploratory research method is essential for developing appropriate hypotheses for complex research phenomena. In addition, this research method is less costly when compared to scientific investigations because the researcher can rely on secondary research sources to evaluate the research hypothesis (Neelankavil, 2015). Overall, the exploratory research method is suitable for analyzing the correlation between rational and nonrational leadership variables.

In this case, it is also essential to elucidate the data collection and analysis methods that will be utilized in this investigation. With regards to data collection, the study incorporates secondary research materials such as journal articles, books, and statistical publications. This criterion requires the researcher to accumulate recent research findings published within the last fifteen years. These sources will offer significant insights into the rational and nonrational cognitive mechanisms and the moderating role of stress, trauma, IQ, and EQ on transformational, transactional, and servant leadership styles. Concerning data analysis, this exploratory paper uses thematic analysis to categorize the main features of leadership outcomes based on eleven research variables. These themes are illustrated in Table 2 below. The researcher will use this table to ascertain whether a correlation exists between the selected themes and sub-themes.

FINDINGS

After the research sources were identified, the main findings were tabulated following specific themes: polyvagal theory, neural/cognitive mechanisms, rational and non-rational decision making, intelligence quotient (IQ), emotional quotient (EQ), stress, trauma, transformational leadership, and transactional leadership. The mentioned themes are aligned with the three research questions that dictate the objectives of this exploratory investigation.

TABLE 2
THEMATIC ANALYSIS OF RATIONAL AND NONRATIONAL LEADERSHIP DECISIONS

Authors	Article Title	Polyvagal Theory	Neural / Cognitive Mechanism	Rational Decision-Making	Non-rational Decision-Making	Intelligence Quotient (IQ)	Emotional Quotient (EQ)	Stress	Trauma	Transformational Leadership	Transactional Leadership	Servant Leadership
Calabretta et al. (2017)	The interplay between intuition and rationality in strategic decision making: A paradox perspective.			√	√	√	√					
Chen et al. (2018)	Is transformational leadership always good for employee task performance?		√	√			√	√		√	√	
Choi et al. (2016)	Transformational leadership, empowerment, and job satisfaction:			√				√	√	√	√	
Eberly et al. (2017)	Staying after the storm: How transformational leadership relates to follower turnover intentions in extreme contexts.							√	√	√	√	
Ertureten et al. (2013)	The relationship of downward mobbing with leadership style and organizational attitudes.						√	√	√	√	√	

Gemeda & Lee (2020)	Leadership styles, work engagement and outcomes among information and communications technology professionals:					√	√			√	√	
Harms & Crede (2010)	Emotional intelligence and transformational and transactional leadership: A meta-analysis.						√			√	√	
Harms et al. (2016)	Leadership and stress: A meta-analytic review.					√		√		√	√	
Hess (2011)	Enhancing decisions and decision-making processes through the application of emotional intelligence skills.						√				√	√
Juhro & Aulia (2017)	Transformational leadership through applied neuroscience:		√	√		√	√			√	√	
Khalid et al. (2012)	Role of supportive leadership as a moderator between job stress and job performance.						√	√		√	√	
Khan et al. (2020)	Impact of transformational leadership on work performance, burnout and social loafing		√					√		√	√	
Jensen & Bro (2017).	How transformational leadership supports intrinsic motivation and public service motivation:					√	√			√	√	
Kramer & Allen (2018)	Transformational Leadership Styles Pre- and Post-Trauma.		√					√	√	√	√	

Kumar (2014)	Establishing linkages between emotional intelligence and transformational leadership						√			√	√	
Lai et al. (2020)	Transformational leadership and job performance		√					√		√	√	
Middleton et al. (2015)	Transformational leadership and organizational change							√	√	√	√	
Porges (2009)	The polyvagal theory: new insights into adaptive reactions of the autonomic nervous system.	√	√			√	√					
Rehman & Waheed (2012)	Transformational leadership style as predictor of a decision-making styles: Moderating role of emotional intelligence.			√	√		√			√	√	
Rowold & Schlotz (2009)	Transformational and transactional leadership and followers' chronic stress.						√	√		√	√	
Sherman et al. (2012)	Leadership is associated with lower levels of stress.		√			√	√	√				
Soosalu et al. (2019)	Head, heart, and gut in decision making		√	√	√	√	√					
Specchia et al. (2021)	Leadership styles and nurses' job satisfaction. Results of a systematic review.							√		√	√	√
Starcke & Brand (2012)	Decision making under stress: a selective review.		√	√	√		√	√	√			
Tideman (2013)	Sustainable Leadership.		√	√	√					√	√	

Winston & Fields (2015)	Seeking and measuring the essential behaviors of servant leadership.									√	√	√
Xenikou (2017)	Transformational leadership, transactional contingent reward, and organizational identification		√			√	√			√	√	
Yao et al. (2014)	Leadership, work stress and employee behavior.					√	√			√	√	

Research Question 1: Correlation Between Polyvagal Theory and Sympathetic Nervous Response on Transformational, Transactional and Servant Leadership

In this case, no direct correlation was discovered between the polyvagal theory and the transformational, transactional, and servant leadership styles. Nonetheless, research shows that rationality and nonrationality are the main cognitive decision-making mechanisms in the human mind. According to Soosalu et al. (2019), human beings primarily make decisions using two systems: intuitive (System 1) and analytical (System 2). System 1 is the fastest mechanism because it relies on intuitive thinking (gut instincts), whereas System 2 is slower since it involves deliberate, cognitive, and conscious thinking processes (Soosalu et al., 2019). Furthermore, it is essential to recognize that System 1 also relies on emotion-related associations to make decisions. Still, System 1 and System 2 are complementary structures, so it is relatively challenging to investigate the rationality and nonrationality of leadership decisions without introducing external variables such as stress and trauma.

Research Question 2: The Mediating Role of Stress, Trauma, IQ, and EQ on Leadership Theory?

The findings show a strong correlation between stress and specific leadership styles. For instance, transactional leaders often show low consideration for the followers' satisfaction because the primary focus is the distribution of rewards and punishments (Yao et al., 2014). In other words, transactional leadership is more concerned with whether the employee has accomplished their given roles. This rationale explains why the transactional leadership style often increases stress in the organizational environment. Regarding transformational leaders, these individuals often manifest high consideration for their employees' intrinsic motivation (Yao et al., 2014). As a result, the transformational style ensures that leaders play an active role in raising the subordinates' motivation rather than their performance outcomes (Rowold & Schlotz, 2009). In brief, the authors revealed that leadership acts as a moderator for both positive and negative employee behaviors.

Research studies reveal that exposure to trauma has both negative and positive implications on leadership outcomes. The main negative outcome is a reduction in leadership performance and organizational outcomes due to decreased cognitive and emotional functioning (Kramer & Allen, 2018). Moreover, the leader's internal turmoil can be transmitted to the followers resulting in detrimental behavioral changes. In comparison, the direct positive impact of trauma on leadership revolves around posttraumatic growth. Posttraumatic growth involves the development of essential skills, attitudes, and knowledge which strengthens leadership choices after experiencing a traumatic event (Kramer & Allen, 2018). Examples of traumatic organizational events are workplace bullying and bullying. These actions can result in posttraumatic stress disorder, apathy, withdrawal, anger, depression, and anxiety in both leaders and their followers (Ertureten et al., 2013). In this context, studies show that the transformational and servant leadership styles are associated with better behavioral outcomes in the workplace than the transactional leadership style. Furthermore, the servant leadership style is more suitable for dealing with trauma because it highlights the use of emotional healing to create conducive work environments that

promote recovery and healing from trauma (Baldomir & Hood, 2016). Leaders should choose leadership styles that support positive employee behaviors while mitigating detrimental issues such as stress and trauma.

The transformational, transactional, and servant leadership styles emphasize different aspects of intelligence quotient and emotional intelligence. On one hand, the transactional leadership style is more oriented towards intelligence because it underscores the need for strict distribution of punishments and rewards, task completion, and employee compliance (Batool, 2013). On the other hand, the transformational leadership style concentrates on both emotional intelligence and intelligence quotient through four dimensions: inspirational motivation, intellectual stimulation, idealized influence, and individual consideration (Batool, 2013). The transformational style uses emotional intelligence to motivate and empower followers, whereas the transactional leadership approach uses rewards and the threat of withholding rewards to suppress followers and stimulate productivity (Kumar, 2014). Concerning the servant leadership style, this approach uses emotional healing to improve employee behaviors and performance outcomes. According to Baldomir and Hood (2016), servant leaders "must listen to followers, learn about their needs and aspirations, and be willing to share in their pain and frustration." Therefore, IQ and EQ are integral components of the transformational, transactional, and servant leadership styles.

Research Question 3: Correlation Between Rational and Nonrational Decision-Making and the Transactional, Transformational and Servant Leadership Styles

Although some studies mention links between rationality and leadership styles, these findings do not clearly specify whether the transformational approach places more emphasis on rational decision-making than the transactional style. In essence, there is no universally accepted model for determining the rationality of the two leadership styles (Rehman & Waheed, 2012). Nonetheless, most studies show that the transformational style matches emotional and intuitive decision-making mechanisms, which are the most popular nonrational approaches. As a result, transformational leaders can use positive emotions to build trust and shape the organizational environment. Overall, more research needs to be conducted to determine the correlation between rational and non-rational decision-making in the transformational and transactional leadership styles.

Moreover, studies show that leaders who exhibit the servant philosophy have a high likelihood of making good decisions. Hess (2011) outlines that the servant leadership approach supports a culture of rational decision-making because it underscores the outcomes of leadership decisions. For instance, the servant leadership style can encourage leaders to view affected parties as customers who may be lost or retained (Hess, 2011). Hence, servant leadership prioritizes the rational outcomes and implications of leadership decisions, thereby optimizing satisfaction and retention. However, Winston and Fields (2015) argue that the servant leadership style places more weight on automatic processing than rational information processing. The authors complain about the uncertainty of using weighted measures to evaluate the rationality and nonrationality of servant leadership decisions. Considering that leadership development requires consistent metrics and behaviors, the servant leadership style is surrounded by a lot of ambiguity (Winston & Fields, 2015). Nonetheless, the servant leadership style has continued to gain momentum despite the controversies surrounding its definitions and outcomes.

DISCUSSION

Key Considerations for the Transactional Leadership Style

The findings reveal that transactional leadership prioritizes logical decision-making approaches. This style is acknowledged in most organizations because leadership is perceived as an ongoing exchange between leaders and followers. The exchange primary revolves around the most efficient use of rewards and punishments to stimulate the subordinates' productivity. For many years, transactional leadership has been positively associated with optimal organizational productivity (Jati, 2020). Although the strict bureaucratic dimensions of the transactional leadership style are often criticized, these constructs are essential for building critical self-leadership competencies. Transactional leaders often set themselves apart

because they drive towards their personal goals and monitor their followers' progression. This leadership style involves the use of rational decision-making because leaders and followers mutually exchange expectations and consequences (Furtner, 2020). Therefore, transactional leadership used intrinsic motivation to drive workers to deliver better performance.

The transactional leadership style is particularly suitable for subordinates who pursue self-interest. Accordingly, this leadership style is usually more effective among idiocentric followers (followers who prefer individualistic orientation), whereas transformational leaders often show better results when dealing with allocentric followers (followers who prioritize the wellbeing of others) (Cuevas-Rodríguez et al., 2012). In this context, the transactional leadership style prioritizes logical and rational mechanisms by perceiving employee relations as impersonal bonds based on the exchange of rewards. This notion explains why conditional reward-based exchanges do not strengthen the emotional and affective ties shared by leaders and followers. Therefore, transactional leadership promotes individualistic goals, but transformational leadership enhances collective organizational goals.

Currently, it is essential to recognize that few studies have been conducted to analyze the impacts of stress and trauma on transactional leadership. Nonetheless, most studies contend that transactional leadership is relatively narrow because it focuses on domain-specific behaviors and tasks (Adler et al., 2014). This weakness is often more severe in high-risk occupational settings, where workers tend to experience elevated rates of mental health issues. For example, it is commonly seen in the military sector. Therefore, the main drawback of transactional leadership is it does not emphasize the creation of strong interpersonal relationships by arguing that these ties should be impersonal. However, research findings also illustrate that the transactional leadership approach can address negative mental behaviors because followers are actively monitored, and corrective action can be recommended based on the worker's behavior (Ertureten et al., 2013). All in all, the transactional leadership style is not suited for addressing adverse mental health challenges within the followers.

Key Considerations for the Transformational Leadership Style

The findings show that the transformational leadership style is a multifaceted leadership style. This approach can allow leaders to merge rational and nonrational decision-making factors and EQ and IQ in the workplace. The transformational leadership style typically entails three critical behaviors: charismatic, individualized consideration, and intellectual stimulation (Jati, 2020). Transformational leaders use charisma to gain admiration and trust. Furthermore, these leaders can encourage subordinates to emulate the leader's behaviors. Consequently, inspirational motivation revolves around the leader's ability to motive followers by providing meaning and addressing daily challenges. While inspirational motivation is aligned with EQ, the final behavior intellectual stimulation is tied to IQ. Intellectual stimulation describes how leaders provide stimuli for their workers, thereby improving creativity and innovation (Jati, 2020). Therefore, the transformational leadership style can promote different leadership elements in an organization.

The transformational leadership strategy has become a popular strategy because it departs from the traditional views that leaders should follow strict bureaucratic decision-making strategies. Since the transformational style places emphasis on nonrational, intuitive, and emotional decision-making considerations, these factors are vital for stimulating the followers. A major aspect of transformational leadership lies in the leader's ability to inspire their followers to achieve extraordinary outcomes. However, it can be exceedingly difficult to achieve this goal if the leader cannot support a shared vision for the followers. Unlike traditional leadership styles that promote self-interest within the workforce, the transformational leadership style differs because it offers insights into how they can understand the staff's needs (Tourish et al., 2010). Therefore, transformational leadership supports both rational and nonrational decision-making mechanisms, which is crucial for understanding the followers and inspiring them to improve productivity.

The findings reveal that emotional intelligence is an integral component of the transformational leadership style. An important distinguishing factor between transactional and transformational leadership is the latter can stimulate positive emotions in followers through charisma and enthusiasm (Issah, 2018).

Leaders must demonstrate that they are trustworthy for their followers to show passion for their work. Therefore, emotionally intelligent leaders are essential for building a trusting environment for the workers. Emotional intelligence tied with good interpersonal skills can allow leaders to transform the employee's motives from personal goals to shared goals. In this case, one realizes that truly transformational leadership shows that the leader cares for the overall wellbeing of the subordinates by seeing the 'best in people' and aligning decisions with the ultimate satisfaction of others (Rhodes, 2012). Overall, transformational leaders can gain significant results by identifying and resolving problems that negatively affect the followers.

In this case, the findings reveal that transformational leadership is strongly associated with positive wellbeing and reduced stress and trauma. The mechanisms underlying the transformational leadership style shows that self-efficacy mediates leadership and self-efficacy (Djourouva et al., 2020). As a result, this leadership style can be used to mitigate the adverse implications of work stress, trauma, and other negative emotions. According to some researchers, the transformational leadership style contains different dimensions that improve self-efficacy and employee wellbeing. For instance, idealized influence allows leaders to use communication, positive feedback, and social persuasion to enhance the employees' mental and emotional outcomes. Furthermore, self-efficacy beliefs are vital for positively reframing stressful situations. As a result, transformational leaders are likely to form positive expectations about the future, even when they experience frequent threats (Djourouva et al., 2020). In addition, self-efficacy encourages employees to use self-regulation to control feelings, thoughts, and actions, thereby improving health and wellbeing. This rationale explains why the transformational leadership style is usually associated with higher life satisfaction, decreased psychological distress, emotional wellbeing, and reduced negative affect (Djourouva et al., 2020). Therefore, the transformational leadership style is essential for controlling detrimental emotions and mental issues.

The transformational style can also mitigate stress and trauma by building resilience. In current times, resilience is described as a 'dynamic quality' that varies depending on a person's environment and circumstances. Resilience is also a crucial psychological resource that allows people to adapt to change and withstand life and work challenges (Djourouva et al., 2020). As employees' work demands increase, the line between personal and work life can become blurry. Thus, resilience is a key instrument for resolving everyday setbacks and micro-stressors that emerge at home and work. Resilience helps employees adapt to fluctuations, accept reality, and find meaning in hardship. Furthermore, resilience contributes to positive wellbeing by decreasing the severity of stress, trauma, anxiety, fatigue, and other psychosomatic problems (Djourouva et al., 2020). Overall, self-efficacy and resilience are the main components of transformational leadership that play a critical role in alleviating stress and trauma.

Key Considerations for the Servant Leadership Style

The servant leadership style differs from the transactional and transformational approaches because it centers on morality and ethicality. The servant leadership style demonstrates that leaders can gain positive results if they focus on the moral and ethical implications of their decisions. With representations such as Jesus Christ and Martin Luther King Jr, the servant leadership style uses spirituality and morality as vital decision-making considerations (Rhodes, 2012). Although some scholars debate that nonrationality may interfere with organizational goals, research shows that leaders can create a harmonious balance to achieve the common good and safeguard the stakeholders' needs. However, most organizational structures are more politically-oriented than spiritually-oriented, so servant leaders often face significant challenges in their respective settings (Rhodes, 2012). Despite this challenge, the servant leadership style has been embraced by many leaders because it promotes justice and fairness in the workplace.

Many organizations criticize servant leadership because it usually collides with conventional corporate structures. Presently, servant leadership is an emerging concept, so its applications and outcomes are still in infancy (Elliker, 2016). Although servant leadership is relatively more attractive than traditional leadership styles, its main failing lies in the belief that servant leaders should prioritize the employees' wellbeing over short-term organizational performance. However, if the employee's benefits supersede organizational practices, servant leadership frequently collides with corporate objectives. Therefore, modern organizations have not fully embraced the moral and spiritual needs of typical workplace settings.

With regards to stress and trauma, the servant leadership style performs outstandingly when dealing with adverse mental, emotional, and spiritual challenges. The most important element of servant leadership aligned with mental and psychological wellbeing is emotional healing. Emotional healing describes a leader's ability and willingness to support his or her followers through a time of psychological or emotional difficulty (Baldomir & Hood, 2016). Servant leaders often emphasize the followers' wellbeing by listening to the pains, frustrations, needs, and aspirations. By responding with empathy, servant leaders support emotional healing and offer unique possible solutions from a unique position. As a result, servant leadership can be used to create healthy work environments and promote recovery and healing from mental issues aligned with stress and trauma (Baldomir & Hood, 2016). Similar to transformational healing, servant leadership is essential for improving the employee's mental and emotional outcomes.

The servant leader's capability for emotional healing is strongly linked to his or her personality traits. Characteristics such as listening, compassion, and empathy support a positive relationship with healthy mental and emotional outcomes among leaders and followers. For instance, listening provides leaders and followers with an opportunity for emotional relief and healing (Jit et al., 2017). Likewise, empathy helps leaders calm, comfort, guide, and counsel employees to improve their wellbeing. Finally, compassion allows leaders to take responsibility and provide social, financial, emotional, and administrative support. As a result, positive behaviors can emerge at the individual levels through hope, optimism, resilience, self-efficacy, forgiveness, gratitude, creativity, and wisdom (Jit et al., 2017). At the collective level, the main emotional healing behaviors are organizational citizenship behavior, organizational compassion, organizational virtuousness, and organizational resilience. These positive behaviors can allow servant leaders to build a positive corporate culture and mediate the relationship between the leadership style and higher performance. In brief, servant leadership can be tailored to resolve stress and trauma in the workplace.

Summative Comparison of the Leadership Styles

Although the findings did not discover a strong correlation between the polyvagal theory and leadership theory, moderating factors such as stress and trauma were highlighted as crucial influences of employee behavior. In essence, people tend to experience heightened sensations when exposed to extreme situations (Eberly et al., 2017). This effect is dictated by the polyvagal and sympathetic nerves that determine the basic fight or flight response of the human body. When followers experience stress and trauma due to exposure to extreme situations, they often seek their leaders' guidance to make proper decisions. This rationale explains why followers usually demand capable leaders who can resolve problems under extreme stress or trauma (Harms et al., 2016). Accordingly, the transformational leadership style is more suited to dealing with extreme situations because it gives leaders the ability to cope with exposure to extreme circumstances.

The transactional and transformation leadership styles target different organizational outcomes. Although the transactional leadership style is considered the most logical leadership style in most organizations, the transformational approach acts as a 'source of psychological comfort' during uncertain times (Eberly et al., 2017). Furthermore, this leadership style promotes self-efficacy, resilience, and optimism in the organizational setting. Therefore, modern studies emphasize that transformational leaders strengthen organizational performance by leading from the front, clarifying corporate vision, enhancing unity, and addressing the staff's emotional needs (Eberly et al., 2017). Despite the negative impacts of stress and trauma, these variables serve as crucible moments for nurturing constructive leadership models.

Similar to the transformational leadership style, the servant leadership style merges emotional and intelligence quotients to improve rational and non-rational decision-making. Although some scholars complain about the rationality of leaders acting as servants, this leadership style offers positive results in terms of promoting positive behaviors (Barbuto et al., 2014). For instance, the servant leadership style underscores the use of wisdom and emotional healing in alleviating negative behaviors such as stress and trauma (Baldomir & Hood, 2016). Thus, the servant leadership style supports rational and nonrational decision-making in the organizational setting.

The exploratory study highlights the need to combine intelligence quotient and emotional intelligence in decision-making. Although these constructs are relatively broad, leaders can develop these capabilities by focusing on specific competencies. The principal competencies in IQ are critical analysis and judgment, strategic thinking, and vision and imagination; contrarily, the key competencies in EQ are self-awareness, motivation, emotional resilience, sensitivity, influence, intuitiveness, and conscientiousness (Muller Turner, 2009). These competencies are aligned with vital aspects of rational and non-rational decision-making in the transactional, transformational, and servant leadership styles. In leadership theory, the best approach is to determine an equilibrium between rational and nonrational decision-making. Considering the growing complexity of modern organizations, leaders should acknowledge that no 'one-size-fits-all' leadership approach exists for decision-making.

Future Applications of the Study's Findings

The deciding factor for most leadership approaches is to pursue corporate profit. However, this traditional view of leadership has been the root cause of significant stress, trauma, and other detrimental emotions in the workplace. For that reason, many workers had low expectations about their leaders' decisions because little attention was placed on the workers' welfare. Therefore, this study's findings demonstrate that the three leadership styles (transactional, transformational, and servant leadership) prioritize different rational and nonrational factors. Organizations have evolved dramatically in the present business environment due to the rapid advancement of technology and management processes. As a result, modern companies are pursuing new approaches to improving the staff's wellbeing and supporting positive organizational change. Therefore, leaders should understand the need to balance rational and nonrational cognitive factors when making decisions.

The target of these findings is individuals, professionals, and organizations who understand the need for utilizing leadership styles that match the intrinsic and extrinsic properties of the organization. In modern times, many organizations are promoting shared visions where leaders and followers work together to achieve the corporation's goals. Traditional approaches where leaders used pay rises, incentives, and benefits have become irrelevant in modern times. Nowadays, many employees prefer senior managers who can build interpersonal connections with subordinates. However, many leaders have refused to embrace unique leadership styles by arguing that the transactional leadership style cannot replace transformational or servant leadership. Therefore, this exploratory investigation represents the voice of many leaders and followers struggling between rational and nonrational leadership choices.

CONCLUSION

The exploratory study illustrates that the transactional, transformational, and servant leadership approaches should be used in different organizational circumstances. Foremost, the transactional leadership approach strengthens rational decision-making by using rewards and punishments to stimulate productivity. In comparison, the transformational and servant leadership styles augment both rational and non-rational decision-making, such as spirituality and intuition. Transformational leadership merges both logical and affective mechanisms to drive positive organizational change. Similarly, the servant leadership style encourages rational and nonrational decision-making by encouraging leaders to serve their followers. Through this approach, leaders gain significant insights into the followers' needs, thereby giving them knowledge for optimizing productivity. Although the findings did not discover a positive correlation between the polyvagal theory and leadership, the deductions demonstrate that the three leadership approaches target different organizational objectives.

Overall, the study provides a plausible explanation for the rational and nonrational considerations of the transactional, transformational, and servant leadership styles. Other than demonstrating diverse applications in organizations, the leadership styles can also be utilized to improve workers' mental and emotional outcomes. For example, the transformational and servant leadership styles support healing and recovery, thereby allowing leaders to mitigate stress and trauma. In contrast, the transactional leadership

style does not offer similar psychological and emotional healing benefits. The three leadership approaches have varying applications depending on the leaders' ambitions and the organization's objectives.

The findings of this investigation have significant contemporary applications in modern organizations. Currently, few studies have been conducted to examine the cognitive dimensions separating transactional, transformation, and servant leadership. However, the main limitation of this finding is the inadequacy of reliable information about the link between rational and nonrational cognitive processes in specific leadership approaches. For instance, few studies explain the correlation between the polyvagal theory and different organizational leadership styles. In conclusion, the study emphasizes the need for embracing the strengths and weaknesses of rational and nonrational decision-making mechanisms in organizations.

REFERENCES

- Adler, A.B., Saboe, K.N., Anderson, J., Sipos, M.L., & Thomas, J.L. (2014). Behavioral health leadership: New directions in occupational mental health. *Current Psychiatry Reports*, 16(10), 1–7.
- Aga, D.A. (2016). Transactional leadership and project success: The moderating role of goal clarity. *Procedia Computer Science*, 100, 517–525.
- Ahmed, F., Zhao, F., Faraz, N.A., & Qin, Y.J. (2020). How inclusive leadership paves way for psychological well-being of employees during trauma and crisis: A three-wave longitudinal mediation study. *Journal of Advanced Nursing*, 77(2), 819–831.
- Andersen, J.A. (2018). Servant leadership and transformational leadership: From comparisons to farewells. *Leadership & Organization Development Journal*, 39(6).
- Antonakis, J., House, R.J., & Simonton, D.K. (2017). Can super smart leaders suffer from too much of a good thing? The curvilinear effect of intelligence on perceived leadership behavior. *Journal of Applied Psychology*, 102(7), 1003.
- Bal, V., Campbell, M., & McDowell-Larsen, S. (2008). *Managing leadership stress*. Center for Creative Leadership.
- Baldomir, J., & Hood, J.P. (2016). Servant Leadership as a Framework for Organizational Change. *International Leadership Journal*, 8(1).
- Banks, G.C., McCauley, K.D., Gardner, W.L., & Guler, C.E. (2016). A meta-analytic review of authentic and transformational leadership: A test for redundancy. *The Leadership Quarterly*, 27(4), 634–652.
- Barbuto, J.E., Jr., Gottfredson, R.K., & Searle, T.P. (2014). An examination of emotional intelligence as an antecedent of servant leadership. *Journal of Leadership & Organizational Studies*, 21(3), 315–323.
- Batool, B.F. (2013). Emotional intelligence and effective leadership. *Journal of Business Studies Quarterly*, 4(3), 84.
- Cabantous, L., & Gond, J.P. (2011). Rational decision making as performative praxis: Explaining rationality's Éternel Retour. *Organization Science*, 22(3), 573–586.
- Calabretta, G., Gemser, G., & Wijnberg, N.M. (2016). The interplay between intuition and rationality in strategic decision making: A paradox perspective. *Organization Studies*, 38(3–4), 365–401.
- Chen, Y., Ning, R., Yang, T., Feng, S., & Yang, C. (2018). Is transformational leadership always good for employee task performance? Examining curvilinear and moderated relationships. *Frontiers of Business Research in China*, 12(1), 1–28.
- Choi, S.L., Goh, C.F., Adam, M.B.H., & Tan, O.K. (2016). Transformational leadership, empowerment, and job satisfaction: The mediating role of employee empowerment. *Human Resources for Health*, 14(1), 1–14.
- Cuevas-Rodríguez, G., Gomez-Mejia, L.R., & Wiseman, R.M. (2012). Has agency theory run its course?: Making the theory more flexible to inform the management of reward systems. *Corporate Governance: An International Review*, 20(6), 526–546.

- Djourova, N.P., Rodríguez Molina, I., Tordera Santamatilde, N., & Abate, G. (2020). Self-efficacy and resilience: Mediating mechanisms in the relationship between the transformational leadership dimensions and well-being. *Journal of Leadership & Organizational Studies*, 27(3), 256–270.
- Dong, Y., Bartol, K.M., Zhang, Z.X., & Li, C. (2016). Enhancing employee creativity via individual skill development and team knowledge sharing: Influences of dual-focused transformational leadership. *Journal of Organizational Behavior*, 38(3), 439–458.
- Eberly, M.B., Bluhm, D.J., Guarana, C., Avolio, B.J., & Hannah, S.T. (2017). Staying after the storm: How transformational leadership relates to follower turnover intentions in extreme contexts. *Journal of Vocational Behavior*, 102, 72–85.
- Elçi, M., Şener, İ., Aksoy, S., & Alpkan, L. (2012). The impact of ethical leadership and leadership effectiveness on employees' turnover intention: The mediating role of work-related stress. *Procedia-Social and Behavioral Sciences*, 58, 289–297.
- Elliker, J. (2016). Understanding ontological conflict between servant leadership and organizations. *Servant Leadership: Theory & Practice*, 3(2), 5.
- Ertureten, A., Cemalcilar, Z., & Aycan, Z. (2013). The relationship of downward mobbing with leadership style and organizational attitudes. *Journal of Business Ethics*, 116(1), 205–216.
- Furtner, M.R., Rauthmann, J.F., & Sachse, P. (2015). Unique self-leadership: A bifactor model approach. *Leadership*, 11(1), 105–125.
- Gemeda, H.K., & Lee, J. (2020). Leadership styles, work engagement and outcomes among information and communications technology professionals: A cross-national study. *Heliyon*, 6(4), e03699.
- Harms, P.D., & Credé, M. (2010). Emotional intelligence and transformational and transactional leadership: A meta-analysis. *Journal of Leadership & Organizational Studies*, 17(1), 5–17.
- Harms, P.D., Credé, M., Tynan, M., Leon, M., & Jeung, W. (2016). Leadership and stress: A meta-analytic review. *The Leadership Quarterly*, 28(1), 178–194.
- Hess, J.D., & Bacigalupo, A.C. (2011). Enhancing decisions and decision-making processes through the application of emotional intelligence skills. *Management Decision*, 49(5), 710–721.
- Hoxha, A. (2019). Transformational and transactional leadership styles on employee performance. *International Journal of Humanities and Social Science Invention*, pp. 2319–7722.
- Issah, M. (2018). Change Leadership: The role of emotional intelligence. *Sage Open*, 8(3), 2158244018800910.
- Jati, D.P. (2020). Evaluation of the Transformational Leadership Model. *Sustainable Competitive Advantage (SCA)*, 10(1).
- Jensen, U.T., & Bro, L.L. (2017). How transformational leadership supports intrinsic motivation and public service motivation: The mediating role of basic need satisfaction. *The American Review of Public Administration*, 48(6), 535–549.
- Jensen, U.T., Andersen, L.B., Bro, L.L., Bøllingtoft, A., Eriksen, T.L.M., Holten, A.L., . . . Würtz, A. (2016). Conceptualizing and measuring transformational and transactional leadership. *Administration and Society*, 51(1), 3–33.
- Jit, R., Sharma, C.S., & Kawatra, M. (2017). Healing a broken spirit: Role of servant leadership. *Vikalpa*, 42(2), 80–94.
- Juhro, S.M., & Aulia, A. (2017, July). Transformational leadership through applied neuroscience: Transmission mechanism of the thinking process. *BI Institute Working Paper*, pp. 1–22.
- Khalid, A., Zafar, A., Zafar, M.A., Saqib, L., & Mushtaq, R. (2012). Role of supportive leadership as a moderator between job stress and job performance. *Information Management and Business Review*, 4(9), 487–495.
- Khalili, A. (2016). Linking transformational leadership, creativity, innovation, and innovation-supportive climate. *Management Decision*, 54(9), 2277–2293.
- Khan, H., Rehmat, M., Butt, T.H., Farooqi, S., & Asim, J. (2020). Impact of transformational leadership on work performance, burnout and social loafing: A mediation model. *Future Business Journal*, 6(1), 1–13.

- Kramer, C.A., & Allen, S.A. (2018). Transformational Leadership Styles Pre-and Post-Trauma. *Journal of Leadership Education*, 17(3).
- Kumar, S. (2014). Establishing linkages between emotional intelligence and transformational leadership. *Industrial Psychiatry Journal*, 23(1), 1.
- Lai, F.Y., Tang, H.C., Lu, S.C., Lee, Y.C., & Lin, C.C. (2020). Transformational leadership and job performance: The mediating role of work engagement. *SAGE Open*, 10(1).
- Lucas, M.G., & Caspers, S. (2014). Leadership and adult development: Towards a unified neuro-psycho-economic approach. *Behavioral Development Bulletin*, 19(4), 83.
- Middleton, J., Harvey, S., & Esaki, N. (2015). Transformational leadership and organizational change: How do leaders approach trauma-informed organizational change... twice? *Families in Society*, 96(3), 155–163.
- Müller, R., & Turner, R. (2009). Leadership competency profiles of successful project managers. *International Journal of Project Management*, 28(5), 437–448.
- Neelankavil, J.P. (2015). *International business research*. Routledge.
- Odumeru, J.A., & Ogbonna, I.G. (2013). Transformational vs. transactional leadership theories: Evidence in literature. *International Review of Management and Business Research*, 2(2), 355.
- Parris, D.L., & Peachey, J.W. (2013). A systematic literature review of servant leadership theory in organizational contexts. *Journal of Business Ethics*, 113(3), 377–393.
- Phipps, K.A. (2012). Spirituality and strategic leadership: The influence of spiritual beliefs on strategic decision making. *Journal of Business Ethics*, 106(2), 177–189.
- Porges, S.W. (2009). The polyvagal theory: new insights into adaptive reactions of the autonomic nervous system. *Cleveland Clinic Journal of Medicine*, 76(Suppl 2), S86.
- Porges, S.W. (2018). Polyvagal theory: A primer. *Clinical Applications of the Polyvagal Theory: The Emergence of Polyvagal-Informed Therapies*, 50, 69.
- Rehman, R.R., & Waheed, A. (2012). Transformational leadership style as predictor of a decision-making styles: Moderating role of emotional intelligence. *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, 6(2), 257–268.
- Rhodes, C. (2012). Ethics, alterity and the rationality of leadership justice. *Human Relations*, 65(10), 1311–1331.
- Rowold, J., & Schlotz, W. (2009). Transformational and transactional leadership and followers' chronic stress. *Leadership Review*, 9(1), 35–48.
- Sendjaya, S. (2015). *Personal and Organizational Excellence through Servant Leadership Learning to Serve, Serving to Lead, Leading to Transform*. Springer.
- Sherman, G.D., Lee, J.J., Cuddy, A.J., Renshon, J., Oveis, C., Gross, J.J., & Lerner, J.S. (2012). Leadership is associated with lower levels of stress. *Proceedings of the National Academy of Sciences*, 109(44), 17903–17907.
- Soosalu, G., Henwood, S., & Deo, A. (2019). Head, heart, and gut in decision making: Development of a multiple brain preference questionnaire. *SAGE Open*, 9(1), 2158244019837439.
- Specchia, M.L., Cozzolino, M.R., Carini, E., Di Pilla, A., Galletti, C., Ricciardi, W., & Damiani, G. (2021). Leadership styles and nurses' job satisfaction. Results of a systematic review. *International Journal of Environmental Research and Public Health*, 18(4), 1552.
- Starcke, K., & Brand, M. (2012). Decision making under stress: A selective review. *Neuroscience & Biobehavioral Reviews*, 36(4), 1228–1248.
- Tepper, B.J., Dimotakis, N., Lambert, L.S., Koopman, J., Matta, F.K., Man Park, H., & Goo, W. (2014). Examining follower responses to transformational leadership from a dynamic, person–environment fit perspective. *Academy of Management Journal*, 61(4), 1343–1368.
- Tideman, S.G., Arts, M.C., & Zandee, D.P. (2013). Sustainable Leadership: Towards a Workable Definition. *Journal of Corporate Citizenship*, 2013(49), 17–33.
- Tourish, D., Craig, R., & Amernic, J. (2010). Transformational leadership education and agency perspectives in business school pedagogy: A marriage of inconvenience? *British Journal of Management*, 21, s40–s59.

- VanderPal, G. (2014). Global leadership, IQ and global quotient. Global leadership, IQ and global quotient. *Journal of Management Policy and Practice*, 15(5), 120–134.
- Vasconcelos, A.F. (2009). Intuition, prayer, and managerial decision-making processes: A religion-based framework. *Management Decision*, 47(6), 930–949.
- Williams, J.W., & Allen, S. (2015). Trauma-Inspired Prosocial Leadership Development. *Journal of Leadership Education*, 14(3).
- Winston, B., & Fields, D. (2015). Seeking and measuring the essential behaviors of servant leadership. *Leadership & Organization Development Journal*, 36(4).
- Xenikou, A. (2017). Transformational leadership, transactional contingent reward, and organizational identification: The mediating effect of perceived innovation and goal culture orientations. *Frontiers in Psychology*, 8, 1754.
- Yao, Y.H., Fan, Y.Y., Guo, Y.X., & Li, Y. (2014). Leadership, work stress and employee behavior. *Chinese Management Studies*, 8(1).