



## Research article

# Transformational leadership in a crisis: Dimensional analysis with psychological capital

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## ABSTRACT

Previous research attests to the benefits of transformational leadership (as a unitary construct) for various employee outcomes. Less is known about how specific dimensions of transformational leadership relate to outcomes during crisis. In the present paper, we investigate how each dimension of transformational leadership, namely, intellectual stimulation, individualized consideration, inspirational motivation, and idealized influence relate to employees' psychological capital in a crisis, specifically the COVID-19 pandemic. A cross-sectional study was conducted where employees from 301 small and medium sized enterprises in Kenya completed a survey containing the variables of interest. Quantitative data analysis using partial least squares structural equation modelling was utilized to test the study hypotheses using Smart PLS 4 software. Results showed that only two of the four transformational leadership dimensions had a positive and significant impact on employees' psychological capital: Intellectual stimulation and individualized consideration. In terms of the theorized hypotheses, fear of COVID-19 moderated the relationship between (a) idealized influence, (b) intellectual, and (c) individualized consideration, and employees' psychological capital. However, only intellectual stimulation reached a significant effect size. The present study reveals the varied relevance of transformation leadership dimensions to psychological capital in a crisis. A new condition (emotional assessment of a crisis) for assessing this relationship was proposed. We discuss theoretical and practical implications, strengths, limitations, and suggestions for future studies.

## 1. Introduction

Crises can bring immense uncertainty and potential damage to organizations and their employees; they also provide a context in which effective leadership can be especially important. Crisis refers to low likelihood, high impact incidents that destabilize a social system [1]. A crisis involves a high degree of uncertainty of cause and effect of an occurrence and means of resolving it [1,2]. The recent COVID-19 pandemic is arguably a strong example of a crisis as it involved significant uncertainty, including reductions in remuneration, sizeable layoffs and increased disruption for employees [3,4]. The pandemic created an atmosphere of unpredictability among people for a long period of time [5,6], especially for small and medium enterprises (SMEs). Although COVID-19 had significant impact for organizations and their leaders, it is unlikely that the pandemic is the only crisis leaders will face.

One important resource for employees and organizations during a crisis is employees' psychological capital [7]. Psychological capital refers to a positive mental state of development composed of four dimensions: self-efficacy, optimism, hope and resilience [8]. In a dynamic environment, psychological capital is a beneficial resource that yields significant returns beyond financial and social

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capital [7]. During crisis, given the importance for psychological capital for employee engagement and organizational performance [9], it is important to understand this variable. Although researchers have called for research to understand its developmental interventions [10], studies on the antecedents of psychological capital are still few [11]. Some of the identified predictors of psychological capital include: leadership styles, supportive organizational climate, organizational justice, and ethnic diversity [10,12]. In terms of leadership styles, transformational (as a unitary construct), authentic, humble, empowering, and abusive leadership have received the most attention as antecedents of psychological capital [11,13,14].

We focus on transformational leadership as a predictor of psychological capital because this style provides considerable promise during crises through its proven effects on motivation, inspiration and development of employees [13]. Transformational leadership refers to leaders who have the ability to enhance their employees' motivation, morals, and morale [15]. Transformational leadership facilitates employees accomplishing challenging organizational objectives [16] and is especially effective in uncertain and changing work environments [17].

Transformational leadership consists of four dimensions. *Intellectual stimulation* refers to behaviours that boost employees' interest and awareness in challenges and how to address them in novel ways [15]. *Idealized influence* involves role modelling to appeal to employees' sense of purpose through a leader's actions [18]. *Inspirational motivation* refers to behaviours that promote consistent values and vision for a bright future [19]. *Individualized consideration* includes behaviours that enable leaders to notice, and respond to personal employees' needs [18].

Studies of transformational leadership, however, have received criticism over the predominant unitary analyses-treating leadership as a single construct rather than multi-dimensional [20]. Researchers have called for a greater understanding of its four underlying dimensions [21,22] since they are likely to relate to outcomes differently [19,23]. Few studies have examined whether all dimensions uniformly predict employee outcomes [24,25], and to the best of our knowledge, no studies have examined psychological capital as an outcome variable. This represents an important gap in the literature because of growing evidence of the importance of the role of psychological capital on employees' well-being and the ability to perform effectively [11]. While studies suggest transformational leadership as a unitary construct positively relates to psychological capital [14,26], much remains to be discovered in terms of the most relevant transformational behaviours for employees' psychological capital development during a crisis [27]. Paradoxically, crisis research suggests differential effects at the dimensional level of transformational leadership. Hence, there is a need to understand which elements are most relevant during a crisis [28]. Moreover, it is important to analyze the how each dimension of transformational leadership affects psychological capital because of their potentially varied levels of applicability to extreme contexts such as those experienced in the recent global pandemic. A study found that only intellectual stimulation and individualized consideration are universally effective for followers while the perception of idealized influence and inspirational motivation largely varies across employees [9].

The importance of dimensional analyses of transformational leadership dimensions for developing employees' personal resources particularly relevant for SMEs [29]. SMEs have lower capacity to retain employees than their larger competitors, given that larger firms often provide better monetary benefits [30]. SMEs therefore need to understand how to use alternative yet effective methods such as leadership style to develop employees [31]. Since leaders and subordinates work closer together in SMEs than in larger organizations [30], there is a unique opportunity for leaders to make strong positive psychological impact on subordinates, hence the need to fine tune the application of transformational leadership behaviours. Despite the importance of psychological capital as a driving force for motivating employees, it has hardly been explored in SMEs' setting [7].

SMEs in Kenya are especially worthy of study. In Kenya the definition of SMEs covers the following scope, small enterprises refer to firms containing ten to forty nine employees and medium sized enterprises contain fifty to ninety-nine employees [32]. Kenya is unique culturally, with a mix of collectivistic and individualistic cultures [33] with a high power distance [34]. The Kenyan culture also involves high uncertainty avoidance [35]. Centralization is popular in Kenya and employees generally expect to be told what to do [35]. Previous scholars have however shown that transformational leadership is more effective in collectivistic and low power distance cultures [36]. Since culture has an influence on leadership [37], these cultural characteristics make Kenyan SMEs interesting to study.

The purpose of the present study is to assess the relationship between the individual dimensions of transformational leadership and employees' psychological capital. Whereas most studies of crisis have explored how macro-elements (financial, economic, political) factor into understanding crisis, few studies have considered the perspective of the individual employee and how he or she views the crisis. In the present study we propose that the link between transformational leadership and psychological capital will be moderated by employees' fear of COVID-19.

We use the lens of the job-demand resources (JD-R) theory which attributes the psychological well-being of employees to components of their environment categorized as job demands and job resources [38]. Job demands, such as working in an SME during a crisis, can be offset by job resources, such as the relevant transformational leadership behaviours, to increase employees' psychological capital.

The contribution of this present study is fourfold: First, this present paper contributes by examining individual transformational leadership dimensions and how they relate to psychological capital in crisis. The present study is particularly important for theory development because theories supporting why leadership is an antecedent of psychological capital are limited [14]. Second, this present study goes beyond the macro analyses of the COVID-19 crisis taken by most writers [39] and considers how the crisis is viewed from the employees' experience. That is, not all employees are likely to experience a crisis in the same way; some might find it more impactful and fearful than others. The present study tests for moderation effects for a more nuanced understanding of the integrated relationships between transformational leadership behaviours and employees experience (fear of COVID), which in combination suggests that employees' experience of their environment have implications for personal resources like psychological capital. Third, the outcome of this study will be important to enable SMEs' leaders to focus on transformational behaviours that most impact

psychological capital during a period of crisis. Fourth, the study also contributes in terms of its novel context, Kenya. Transformational leadership behaviour assessment is likely to vary across cultures. As explained above, Kenya is a high-power distance, and a high uncertainty avoidance culture [35]. By testing the direct and moderated effect of transformational leadership dimensions and psychological capital, this is a step towards extending the predominantly western centric literature to African context.

The remainder of the study is structured as follows: The next section discusses the theoretical underpinning of the present study, the JD-R theory. The importance of psychological capital and transformational leadership as resources is highlighted and the role of fear of COVID-19 as a demand is explained. The results, general discussion, strengths and limitations of the present study, and avenues for future studies follow.

## 2. Literature review and hypothesis development

### 2.1. Job demands-resources theory (JD-R)

The present research used the job demands-resources (JD-R) theory as its grounding theory. According to this theory, employees' well-being, work attitudes, and outcomes can be attributed to work demands and work resources [38]. Work demands continually deplete employees' resources and energy, whereas work resources (either intrinsic or extrinsic) continually replenish new resources and energy [40]. The JD-R theory proposes that employees with high job demands will flourish when their personal resources are high [41]. Crises precipitate a number of job demands for employees such as extended working hours, increased clients incivility, conflicts and miscommunication which can have adverse effects on employee well-being [42,43]. Through the necessitation of sustained effort, job demands exhaust employees' resources resulting in ill psychological and physical health [41]. Job resources, such as supportive leadership, can reduce the weight of job demands [42]. Job resources can be leveraged to make up for consumption, especially when employees encounter difficulties and setbacks [36] because they alter perceptions and cognitions evoked by stressors [41].

In the present study, the four dimension of transformational leadership, namely, idealized influence, intellectual stimulation, individualized consideration, inspirational motivation and psychological capital are viewed as job and personal resources respectively, that can help ease the job demands of employees working in SMEs during crises periods. Employees who view a crisis as a challenge job demand (less fearful employees) will be motivated to learn and grow during the crisis, while those who view the crisis as a hindrance job demand (more fearful employees) will be constrained consistent with their threat appraisal [44]. Indeed, the JD-R theory proposes an extensive set of principles that account for how environmental factors can exacerbate or mitigate the impact of leadership [45].

### 2.2. Psychological capital

Psychological capital is a comprehensive motivational state of inner development that encompasses hope, self-efficacy, resilience and optimism, which work synergistically to facilitate work outcomes [8]. Hope is exhibited by people who persevere towards goals and plans to succeed while self-efficacy is characterized by the ability to take on challenging duties and put effort into executing them [46]. Resilience on the other hand is the ability to spring back and recover from disturbances, while optimism is a positive style of viewing reality at work and in life [46]. Psychological capital is recognized as the key to providing a competitive advantage to a firm by enriching human capital at the individual level [47]. This present study utilizes the psychological capital concept as a unitary construct containing four psychological states because of their synergetic benefit together especially in a crisis. Research notes that when all the four resources of psychological capital are combined they share commonalities of a positive orientation, resourcefulness in adversity, adaptability, positive contribution to wellbeing and positive impact on performance [47].

Psychological capital is important at work places because it has a major bearing on work effectiveness, wellbeing and job satisfaction [47]. Psychological capital is also an important resource because it helps to resist and cope with work demands [48]. Psychological capital actually alleviates individual stress during hard times [49]. Additionally, psychological capital is a key part of positive organizational behavior (POB) that is adaptable to management and human resource training to enable organizations to experience performance improvements [47]. Psychological capital can be developed by management through constructive feedback and favorable criticism [49].

Psychological capital is a particularly important resource for small firms. Previous researchers indicated that psychological capital is important to enable small firms to overcome challenges and emerge successful [50,51]. These entrepreneurial challenges include changing customer needs, legal constraints, funding constraints, and employee turnover, which are more pronounced in smaller entrepreneurial firms than in larger ones [51]. Psychological capital is important in the SMEs' context because it influences performance [52].

Predictors of psychological capital from the leadership styles perspective include transformational [53], ethical [54], transactional [55], and authentic leadership [56]. Existing research on transformational leadership as a predictor of psychological capital is still insufficient [14]. It is important to consider transformational leadership style, especially during a crisis, as it is reported to be crucial for corporate turnaround [57]. While transformational leadership style has been analyzed previously as a mediator associated with a range of performance outcomes [53], this present study seeks to understand the specifics of each transformational behaviors relationship with psychological capital in a crisis.

### 2.3. Transformational leadership

Transformational leadership refers to a style in which leaders have the ability to lead followers to astounding achievements while developing their own leadership capacity [58]. A transformational leader is effective in convincing followers, by means of charisma and vision, to make fundamental changes in their values and perceptions so that they can transcend to high levels of achievement and self-actualization [49]. This leadership style is effective for individual and organizational outcomes. The benefit of transformational leadership to an individual is that it improves their psychological well-being [59]. The benefits of transformational leadership to a firm include, a positive effect on performance [60], organizational citizenship behaviour [61], and safety climate [62].

Only a few studies have gone into the details of transformational leadership dimensions and related them to their outcomes [14]. Research has shown that transformational capital is a predictor of psychological capital when evaluated as a unitary construct [26], but it might not be so much when it is done for each specific dimension. In addition, each of these dimensions influence differently depending on circumstances and context [28]. An understanding of the differing influences of transformational leadership dimensions on psychological capital during a crisis is more conducive for providing targeted measures for the improvement of the psychological capital of employees.

### 2.4. Fear of COVID-19

Disease outbreaks are generally viewed with fear globally since human beings have an inborn fear of death inherent in disease infections [63]. Globally, approximately 665 million people were infected with COVID-19 by December 2022 with 6.71 million of them succumbing [64]. The COVID-19 outbreak evoked various negative emotions such as fear and worry due to the uncertain environment and risk that the pandemic involved [65]. Certain factors contributed to greater intensity of COVID-19 fear including losing relatives and the media's vicarious traumatization due to frequent coverage of the effects of the pandemic [66]. The service sector particularly experienced higher risk of exposure to COVID-19 from direct interaction with customers [67]. Emotional states elicited during a crisis are important for people to successfully adapt to their stressors [44].

Fear of COVID-19 has been used as variable to assess people's reaction to the pandemic [63]. Individuals adopt different attitudes towards risk which could determine the extent of fear of COVID-19 [68]. Factors that play a role in the perceived fear of COVID-19 include social support and emotion regulation [69]. Fear can negatively affect people's well-being and psychological health [70, 71]. Previous findings state that fear of COVID-19 is adversely associated with psychological capital [72]. Fear is certainly recognized as a threat that drains psychological resources [67]. Extreme fear of COVID-19 could however cause irrational thinking that may lead to psychological distress [73].

Several calls have been made to better understand the effects of fear of COVID-19 on employee outcomes [74]. The present study considers the concept of fear among employees and aims to contribute to literature in explaining the role of the employees' emotional assessment of crises and the corresponding psychological outcome.

## 3. Hypothesis development

### 3.1. Intellectual stimulation and psychological capital

Based on the JD-R theory, we argue that intellectual stimulation is a job resource that builds employees' psychological capital in crisis by promoting a rational, careful approach to problem solving. Intellectual stimulation is a job resource because it leads to motivation as opposed to strain and health impairment [75]. Job resources encompass elements within a job that facilitate the achievement of work-related objectives, mitigate job demands and their associated costs, and foster personal growth and development [38]. Intellectual stimulation is important in a crisis to enable followers to discover new ideas and innovative answers to the problems brought about by the crisis [27]. It refreshes employees' thoughts, innovativeness and capacity to think outside the box [25]. The use of intellectual stimulation enhances the follower's problem solving ability in adverse situations [76]. Through intellectual stimulation, employees learn of ways for them to change the way they think about human relations, technical and personal problems in adverse situations [77].

This present study argues that SMEs, which tend to have greater resource constraints as compared to larger firms, need more creative solutions during crises which can be obtained with intellectual stimulation. Intellectually stimulating leaders bring non-conforming and unique perspectives to problems and this inspires followers' thinking [78]. Past literature noted that intellectual stimulation enables followers to respect and trust their leaders and this increases their self-efficacy and motivation [36]. Based on this literature, the following hypothesis is formulated.

**Hypothesis 1.** Intellectual stimulation is positively associated with employees' psychological capital.

### 3.2. Individualized consideration and psychological capital

Based on the JD-R theory, we postulate that individualized consideration is a job resource that builds employees' psychological capital since employees' immediate needs are seen, and their welfare improved in a crisis. When employees are experiencing a crisis, individualized consideration enables them to grow their confidence, resiliency and efficacy [28]. Individualized consideration is practical and provides the resources for success that employees may uniquely need hence increasing their perceptions of being valued

[9].

Leaders in organizations can aid their employees develop their skills and potential by providing individualized consideration to their aspirations, abilities, and basic needs [19]. Through individualized consideration, leaders have a developmental orientation towards followers and respond appropriately to their personal needs [79]. Leaders adopting individualized consideration develop followers through mentoring, coaching and consulting [78]. Individualized consideration represents a crucial aspect of transformational leadership, wherein the leader assigns unique significance to each employee [80]. This approach enhances their motivation and performance, as they perceive themselves as integral contributors to the organization [80].

Individualized consideration is particularly important when leading those who are struggling disproportionately so that they can feel protected and valued [27]. In crisis, SMEs' employees can be considered as struggling more from the emotional and economic effects of the crisis; hence, the present study argues that these employees would need individualized consideration to feel that their needs are seen and well-thought-out in order to boost their psychological capital. Based on these propositions, the following hypothesis is formulated.

**Hypothesis 2.** Individualized consideration is positively associated with employees' psychological capital.

### 3.3. *Inspirational motivation and psychological capital*

Based on the JD-R theory, we propose that inspirational motivation is a job resource that builds employees' psychological capital in crisis by communicating high prospects, using symbols to concentrate energies, and stating crucial purposes in simple ways. In a crisis, inspirational motivation is important to generate spirit, enthusiasm, and optimism from subordinates [27]. An inspirational leader generates excitement and confidence to followers by giving pep talks and remaining optimistic in times of crisis [27,78]. Inspirational motivators communicate enthusiastically about future goals and hence encourage followers about the prospects of what is to come [78].

The boasting of the motivational capacity of employees outside their presumptions is also enabled by inspirational motivation [25]. Inspirational motivation is crucial to any transformational behavior and entails the promotion of a consistent vision, mission, and set of values to members [18]. Inspirational motivation enables employees to believe in their own abilities and turn difficulties into opportunities and thus strengthen their efficacy, optimism and resilience [36].

Since leaders in SMEs have less oversight and bureaucracy [81], inspirational motivation can be effectively used to impact subordinates [82]. The use of the term inspirational motivation is however restricted to when a leader utilizes non-intellectual and emotional qualities into the influence process [16]. Based on these arguments, the following hypothesis is formulated.

**Hypothesis 3.** Inspirational motivation is positively associated with employees' psychological capital.

### 3.4. *Idealized influence and psychological capital*

Based on the JD-R theory, we argue that idealized influence is a job resource that builds employees' psychological capital in a period of crisis by exercising charisma, which provides vision, pride, and respect which are all sources of employee motivation. Idealized leaders have referent power obtained from showing respect to others and building their follower's self-confidence [77]. Idealized influence provides a model for employees that is consistent with the values of the leader [83]. Idealized leaders exemplify moral and ethical behavior and elicit followers' loyalty and influence [78].

In an organizational setting, idealized influence behavior enables leaders to act as role models to demonstrate their determination to accomplish organizational goals [84]. Idealized leaders earn the veneration of their employees by communicating the organizational goals and demonstrating unwavering resolve to achieve them [84]. Leaders who use idealized influence behavior shape employees' devotion by depicting organizational values [16]. Based on this literature, the following hypothesis is formulated.

**Hypothesis 4.** Idealized influence is positively associated with employees' psychological capital.

### 3.5. *The moderating role of fear of COVID-19 on the relationship between transformational leadership behaviors and psychological capital*

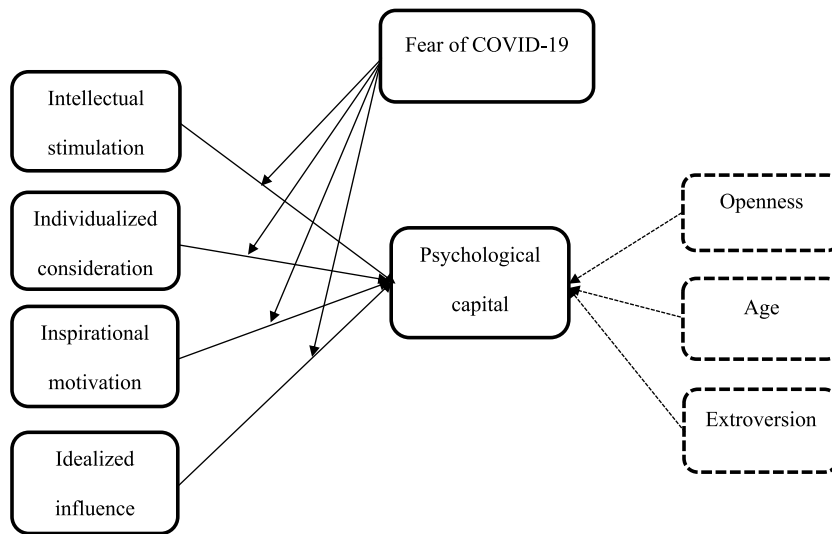
To better understand the nature of the relationship between each transformational leadership dimensions and psychological capital, we use the JD-R theory to explain how people's psychological capital might vary based on their emotional assessment of the crisis. Indeed, how transformational leadership dimensions affect outcomes has remained largely unclear [20]. A caveat on transformational leadership dimensions is that they are not perceived in the same way by followers [77]. One study found that individualized consideration positively affected wellbeing in COVID-19 crisis while intellectual stimulation did not [28]. Another study noted that individual differences impact follower response to transformational leadership behaviors [9]. For instance, followers' perceptions of individualized consideration and intellectual stimulation depend on how much they trust a leader [9]. Other factors such as anxiety, stress and depression might affect the influence of each transformational leadership dimension's ability to influence [28].

We argue that the more fearful a follower is, the more they need to identify with a leader for intellectual stimulation, individualized consideration, inspirational motivation and idealized influence. Previous research noted that high fear when compounded with the consequences of a crisis (for example loss of job, reduced earnings, relationship problems) has the capacity to cause irrational thinking in people that may lead to psychological turmoil [73]. Based on this literature, the following hypotheses are formulated.

**Hypothesis 5.** Fear of COVID-19 moderates the relationship between (a) intellectual stimulation (b) individualized consideration (c)

inspirational motivation (d) idealized influence and employees’ psychological capital such that the association is stronger when fear of COVID-19 is high versus low.

3.6. Conceptual framework



Source: Author’s own conceptualization

4. Materials and methods

This section discusses the study participants, measures, control variables, reliability of the measures, and common method variance assessment.

4.1. Participants

The present study’s population comprises one hundred and twenty one thousand, seven hundred and nineteen SMEs in Kenya [32]. The unit of analysis is the firm (SME). The data used in this present study were gathered from employees who worked in SMEs in three counties in Kenya (Nairobi, Nakuru, Kiambu) during the month of February 2022 when Kenya was facing the fifth wave of infections from a severe variant of the COVID-19 virus, the Omicron BA1 [5]. During the months of February 2022, there were five thousand, six hundred and thirty nine reported COVID-19 deaths and three hundred and twenty two thousand, nine hundred and thirty confirmed cases in Kenya [85]. Nairobi, Nakuru and Kiambu counties were considered for this study because they accounted for about sixty one percent of Kenya’s SMEs and shared a similar ‘red zones’ risk profile for COVID-19 infections [32,86].

We sampled three hundred and ninety-eight SMEs from the three counties in Kenya. The sample size was calculated using Yamane formula [87]. Due to the unavailability of a public registry of SMEs’ employees, we used convenience sampling, which is a common method in such a situation [81]. The inclusion terms for the respondents were that they had to have been working in the SME from the onset of the COVID-19 outbreak in Kenya [88] and they had to have a boss in mind to rate their leadership behaviors.

This present study was approved by the relevant institutional ethical review committee under reference number: SU-IERC1243/21. National ethical approval was also granted by The National Commission for Science, Technology, and Innovation under the reference number NACOSTI/P/22/15671. The respondents participated voluntarily in filling the paper and online based questionnaires and we complied with ethical standards stated in our research ethical approval. A total of three hundred and one employees provided useable responses for this present study. A minimum sample of 200 cases are generally considered sufficient to conduct structural equation modelling [89] hence this study had sufficient cases.

The survey respondents had an almost equal gender representation where 53.83 % were male and 45.51 % were female. Most of the respondents were between 35 and 39 years old (34.22 %), had completed their education up to the diploma level (45.85 %) and had a 6–10-year tenure in the SME (35.88 %). This information is displayed in full in Table 1.

4.2. Measures

This present study used established and validated measures for the variables of interest. Transformational leadership behaviors

were gauged using the Multifactor Leadership Questionnaire (MLQ) which is authored by Avolio and Bass [90] based on 20 measurement items on a five-point Likert scale. The MLQ measurement tool, which is copyrighted and restricted for publication sharing can be assessed from [mindgreen.com](http://mindgreen.com).

Employees' psychological capital was quantified using Luthans' [8] psychological capital questionnaire (PCQ) based on 24 items on a five-point Likert scale. The PCQ measurement tool can also be assessed from [mindgreen.com](http://mindgreen.com) since it is a copyrighted tool with sharing restrictions.

Extroversion and openness were measured using the Big Five Inventory-10 (BFI) outlined by Rammstedt and John [91] based on two items each on a five-point Likert scale. The personality measurement tool is included in the appendices (See appendix 3).

#### 4.3. Control variables

The study controlled for two personality traits, extroversion and openness which influence the development of psychological capital [92]. Extroversion includes characteristics such as being sociable, outgoing, assertive, talkative, and active [93]. Agreeableness includes characteristics such as intellectual curiosity and warmth to others [94]. We also controlled for age as younger people have been found to suffer more distress from the pandemic [95].

#### 4.4. Common method variance

To lessen concerns about common method bias, we following recommended preventative measures [96]. First respondents were assured of anonymity to diminish the need for social desirability. Second, psychological capital, agreeableness and extroversion contained reverse coded items to help minimize response style biases. Third, validated and established tools were used for the study. Harman's single-factor test [97] was used to statistically test the degree of common method bias in the present cross-sectional study. A single factor extracted 28.568 % of the total variance, which is less than the 50 % cut-off level [97]. We concluded that common method variance did not significantly affect the relationships among the variables in our model.

### 5. Data analysis and results

#### 5.1. Descriptive and correlational analysis

In terms of the mean scores for transformational leadership dimensions, individualized consideration had the highest mean of 3.15, followed by idealized influence with a mean of 3.07, inspirational motivation with a mean of 3.00 and finally intellectual stimulation with a mean of 2.80. Previous research found individualized consideration as one of the most relevant transformational behavior during crisis to enable employees to feel seen and understood [28]. Fear of COVID-19 had a mean score of 2.49 which is relatively low and could probably be explained by the increased knowledge of COVID-19 and increased vaccination measures by then in Kenya [5]. Psychological capital had a mean score of 2.91 which is relatively high and could probably be explained by the increased psychological adjustment in employees as the threat of COVID-19 was gradually reducing.

In terms of skewness and kurtosis of the variables in the present study, the skewness values of individualized consideration (-0.17), idealized influence (-0.10), inspirational motivation (0.06), intellectual stimulation (0.19), fear of COVID-19 (-0.92) and psychological capital (0.25) were below the threshold of 3 [6]. Similarly, the kurtosis values were also within the -1.96 and + 1.96 range [6]. The kurtosis values were as follows: Individualized consideration (-1.16), idealized influence (-0.67), inspirational motivation (-1.12), intellectual stimulation (-0.87), fear of COVID-19 (0.44) and psychological capital (-0.70). The data were therefore normally distributed.

In terms of the correlations, psychological capital had a significant positive relationship with intellectual stimulation ( $r = 0.65, P < 0.01$ ), inspirational motivation ( $r = 0.62, P < 0.01$ ), individualized consideration ( $r = 0.61, P < 0.01$ ), and idealized influence ( $r = 0.56, p < 0.01$ ). Psychological capital had a significant negative relationship with fear of COVID-19 ( $r = -0.59, P < 0.01$ ). In addition, all dimensions of transformational leadership are moderately correlated and this is expected in the psychometric properties of the scale [98]. The means, standard deviations, and correlations for all study variables are shown in [Table 2](#).

We tested measurement and structural models quantitatively using partial least squares modelling methods on Smart PLS 4 software. This is a variance based structural equation modelling (VB-SEM) method of data analysis which is robust for both the present sample size, and for models involving a second-order construct such as psychological capital [99].

#### 5.2. Measurement model

We adopted the two-step disjoint assessment of models with higher order constructs [99]. The first step in the two-step measurement model assessment was assessing the factor loadings for all lower order constructs including idealized influence, fear of COVID-19, inspirational motivation, hope, individualized consideration, optimism, intellectual stimulation, efficacy and resilience. Almost all factor loadings were above 0.70 signifying a good relationship of each vindicator to the underlying factor. Two indicators of resilience labelled (Res 4 & Res 5) and one measurement of hope labelled (Hop 6) loaded lowly to their respective underlying factors and were therefore discarded in line with best practice regarding indicators that are problematic [99]. The remaining indicators represented the constructs well as shown in [Table 3](#).

The next step was assessing the reliability of the constructs. We ascertained the internal consistency of the variables using

Cronbach's alpha with a threshold above 0.70 [99]. Internal reliability was also assessed using composite reliability values which were also above the 0.70 cut-off [100]. Construct validity was assessed using average variance extracted values which were above the 0.50 value [100]. Variance inflation factors were assessed to check if multicollinearity was a problem, and all factors were below the value of 3 [99] hence there was no alarm for multicollinearity. The measurement model standardized factor loadings, reliability, validity, and variance inflation factors are displayed in Table 3. Next was the assessment of discriminant validity which assessed the degree to which one variable is separate from another. Heterotrait monotrait (HTMT) criteria was used to ascertain discriminant validity as shown in Table 4.

The second step of the disjoint measurement model assessment using the second order construct of psychological capital was assessed using latent scores. Similarly, the construct reliability and validity were assessed. The Cronbach alpha (0.75) and composite reliability (0.75) values for the higher order psychological capital were above threshold and so was average variance extracted (0.57). The discriminant validity of the second order psychological capital construct with the other lower order constructs in this study was also ascertained using HTMT values shown in Table 5. After ascertaining the soundness of the measurement model in two steps, we proceeded to test the hypotheses. First the direct relationships were assessed then the moderated relationships were tested.

### 5.3. Structural model

We used the bootstrapping technique with 10000 samples [101]. This technique is a non-parametric procedure that has the advantages of correcting any normality and sample size issues using maximum likelihood method [101]. In terms of model fit statistics, the estimated model had a standard root mean square residuals (SRMR) value of 0.047 and a normed fit index (NFI) value of 0.817 hence within standard threshold [101]. The results showed that the overall model shown in Figure 1 was significant and explained 66.50 percent ( $R^2$ ) of the variation in psychological capital ( $\beta = 0.665, p < .001$ ). In terms of the direct relationships between transformational leadership dimensions and psychological capital, only individualized consideration ( $\beta = 0.326, p < .001$ ) and intellectual stimulation ( $\beta = 0.481, p < .001$ ) were significant and positive predictors. Inspirational motivation was positive but not significant while idealized influence was negative but not significant which may probably be explained by perception of utopian and distal goals [9]. The path coefficients are shown in Table 6. In terms of the circumstances theorized, fear of COVID-19 moderated the relationship between (a) idealized influence ( $\beta = 0.072, p < .045$ ), (b) intellectual stimulation ( $\beta = -0.118, p < .024$ ), and (c) individualized consideration ( $\beta = -0.064, p < .030$ ) and employees' psychological capital. Fear of COVID-19 did not moderate the relationship between inspirational motivation and psychological capital. This means that the charismatic element of inspirational motivation may be universally effective [9] and not affected by levels of fear.

The effect sizes ( $F^2$ ) for the moderation effects of fear of COVID-19 on intellectual stimulation and inspirational motivation were small and significant. Moderation effect sizes of idealized influence and individual consideration were not significant. This is shown in Table 7. Only the moderation effect of fear of COVID-19 on the association between intellectual stimulation and employees' psychological capital is consistently significant.

With intellectual stimulation meeting the criteria of having both a significant path coefficient and effect size, we probed the interaction for intellectual stimulation to accomplish the testing of different levels of the moderator at high (one standard deviation above the mean) and low levels (one standard deviation below the mean). The results in Table 8 show that fear of COVID-19 moderates the relationship between intellectual stimulation and employees' psychological capital such that the association is stronger when fear of COVID-19 is low versus high as graphed in Figure 2. This may be feasible since employees who are less fearful are more mentally responsive than those who are too fearful. Finally, in this present study, we ran our analyses with three control variables and found that extroversion ( $\beta = 0.099, p < .011$ ) and openness ( $\beta = -0.070, p < .028$ ) were significant predictors of employees' psychological capital while the age of employee ( $\beta = -0.002, p < .450$ ) was not.

## 6. Discussion

The first aim of the present study was to assess the relationship between each dimension of transformational leadership and employees' psychological capital. The results supported two hypotheses (H1 & H2). Specifically, only intellectual stimulation and individualized consideration were significant and positive predictors of psychological capital. When leaders provide individualized support, they reduce ambiguities about expectations and this clarifying behavior has been found to have considerable applicability to employee motivation as compared to other transformational leadership behaviors [83]. With intellectual stimulation, leaders encourage employees to question their patterns of thinking to come up with innovative solutions to problems which enhances employees' self-efficacy and resilience which are a key aspect of psychological capital [83]. In summary, intellectual stimulation and individualized consideration are more universally effective for follower outcomes than the other dimensions [9]. We speculate that this occurs because the two dimensions are more practical as opposed to charismatic which requires more follower's buy-in [9]. Said differently, idealized influence and inspirational motivation are charismatic dimensions of transformational leadership which are aspirational and can be less universally effective for employees [9]. Previous findings on the outcomes of the transformational leadership dimensions also showed different relevance of the aspects with all but individualized consideration significantly influencing the outcomes of employee creativity & organizational innovation [25]. Our findings support previous recommendations that research on transformational leadership would benefit from exploring its individual dimensions.

The second aim was to assess the moderating role of fear of COVID-19 on the relationship between each dimension of transformational leadership and employees' psychological capital. The results supported the moderation effect of fear of COVID-19 on the relationship between (a) intellectual stimulation, (b) individualized consideration and employees' psychological capital. Only the



moderation effect with intellectual stimulation had a significant effect size. This suggests that how intellectual stimulation relates to psychological capital is not universal but can depend on employees' emotional states such as fear of COVID-19. Indeed, intellectual stimulation which involves seeking and looking for different perspectives to a problem is highly linked to emotions related to the creative cognitive process [102] and hence this could explain the fluctuation under different emotional states of fear. The prediction made in this present study that this moderation effect is stronger when fear is high versus low is inversed in the results meaning this moderating condition works for employees who are somehow in control of their emotions (low fear). An employee who is too fearful is likely to be irrational and that could explain why the conditional effect for this category (high fear) is not significant. This also means that theories such as the JD-R theory could probably be expanded to consider how circumstances such as emotional states contribute to our understanding of the theory. Currently the theory only includes a proposition that personal resources including positive self-evaluations related to an individual's perceived ability to control and influence their environment, play a moderating role in the impact of job demands on employee well-being [103].

## 7. Implications

### 7.1. Theoretical implications

The findings point out that intellectual stimulation and individualized consideration are the most relevant transformational leadership dimensions for employees' psychological capital development. The findings also show that how intellectual stimulation relates to psychological capital depends on an employee's emotional assessment of a crisis. This adds to theory by contributing to the precision of transformational leadership theory by examining individual dimensions and how they relate to psychological capital which is an important resource during crisis [14].

From the application of the JD-R theory, this present study viewed each transformational leadership behavior as a resource with varying value propositions to the demands of a crisis environment. Although JD-R theory is well established it fails to consider the potential emotional differences in people that may dampen how personal resources are replenished after the job demands of a crisis environment. More crises are likely in future and therefore it is valuable to analyze the interaction between job demands and resources in such an environment.

This present study is also relevant to leading-in-crisis literature. The burden of a crisis affects organizations differently based on the size and geographic location of the organization among others [104] and research on the most important resources for organizations in crisis is warranted. Of the fourteen East African countries, Kenya was among the most hit by the spread of the COVID-19 pandemic [104]. SMEs in Kenya were already vulnerable due to low managerial technical capacity, scarce slack resources, and low employee development [34,105] and hence, there is a need for them to elicit the contribution of leaders and followers to survive subsequent crises. The present study provides evidence of how transformational leadership behaviors relate to employees' psychological capital, which has important implications for SMEs' human resource development practices from the perspective of leadership and followership.

### 7.2. Practical implications

Assessing the relationships of different transformational leadership dimensions is practically valuable for human resources management because the results offer leaders/owners with important empirical references to appropriately fine-tune their leadership style [29]. With the advancement of positive psychology, there is rising support that psychological capital contributes to human fulfillment in a wide array of areas [106]. The present study contributes to greater precision in leadership practice by probing what exactly a leader should do to enhance the psychological capital of employees in terms of embodying transformational leadership behaviors. Studying transformational leadership as a higher-order construct does not provide sufficient depth for guiding leaders [9].

In this regard, the present study results offer practical guidance about emphasizing intellectual stimulation and individual consideration dimensions since they account for a large proportion (66.50 %) of the change in employees' psychological capital. By examining individual transformational leadership behaviors, the present study responded to calls to separate these behaviors because they have different relevance to outcomes [19,107]. The role of fear of COVID-19 as a dampening condition for employees' psychological capital is also brought out. SMEs should therefore take into consideration the employees' emotional experience of a crisis since it is an important contextual factor that affects psychological capital development.

## 8. Strengths, limitations and future studies

A strength of the present study is that it assessed transformational leadership dimensions in an unexpected macro crisis. The COVID-19 crisis was also unique in that everyone felt its effects in some way. Despite the adverse effects felt globally, the crisis provided a unique opportunity to study and advance leadership discourse. The present study brought out empirical evidence that resources such as psychological capital which are important for workers to mitigate work demands in a global crisis [108], are amenable to leadership intervention through different transformational leadership behaviors. Africa is hardly represented in crisis literature, and hence another strength of the present study. Indeed, a recent structured literature review on early empirical research on the COVID-19 crisis found no information from quality journals about the effects of the COVID-19 pandemic on entrepreneurship in African economies (0.0 %) [109]. Lastly, majority of the studies that use COVID-19 pandemic as an example of a disruptive crisis were conducted during the first wave of the crisis with little studies being conducted in subsequent waves [110] such as the fifth wave as

utilized by the present study.

Although the present study is set against the backdrop of the COVID-19 crisis, our findings may also be relevant for other local and global crises. Each crisis may have unique characteristics but the destabilization of entities including organizations, lack of sufficient information for decision making and adaptive resource allocation are likely to be important for different types of crises including geopolitical, climate and economic disruptions [48,111]. Recent research notes that the net impact of COVID-19 has not been fully specified and the projections indicate that continued analyses of practical implications of the crisis to firms are needed [112]. On a worldwide scale, firms hurried to adopt leadership behaviors and make other social changes to survive the crisis without much knowledge of their effectiveness in the most severe crisis of the contemporary era, the COVID-19 crisis [112,113]. Even though the pandemic appears to be over, it is not likely to be the only crisis service SMEs may face and it is important to take lessons from past crises to apply to the future [48].

The potential weakness of the present study includes the use of a cross-sectional design whereby we are unable to attribute causality. Cross sectional design is used to provide preliminary evidence but future studies could use a longitudinal design to attribute causal relationships [114]. Generally, studies that employ cross-sectional design do not allow for temporal sequencing of the outcome and exposure variables, which is an essential requirement for making causal inferences [114]. A longitudinal design could also help to cover the entire period of the pandemic [110] which is important to track any changes in psychological capital since perceptions of leadership behaviors and fluctuations in levels of fear of COVID-19 could have varied over time.

Another weakness could be the fact that the present study only confined itself to licensed SMEs. This overlooks many SMEs that exist, especially in Kenya, that are not licensed [32]. The findings from the present study may not be generalizable across organizational contexts. Other organizational contexts such as large firms and nonprofits could provide interesting insights on leadership, fear and psychological capital based on their unique characteristics and challenges.

Future studies addressing the mechanisms and contexts under which transformational leadership dimensions are likely to predict the psychological capital of employees are needed [107]. Not much is known about how and when each of the transformational leadership behaviors affects psychological capital especially in SMEs' contexts in a crisis. Since psychological capital is a moderately new concept with an emphasis on employee's self-directed execution [115], there is need for future studies to provide a more integrated theoretical model to examine the impact of transformational leadership behaviors on psychological capital.

Studies have yet to fully understand the antecedents of psychological capital. From a leadership perspective, there are calls for researchers to compare which leadership styles are the strongest predictors of psychological capital among styles such as transformational, empowering, authentic leadership styles [11]. Moreover, it is important to understand how leadership styles relate to the sub-constructs of psychological capital, namely, hope, efficacy, resilience and optimism on employee outcomes. Unpacking psychological capital is important because recent studies show that psychological capital dimensions are unequally distributed among people [116]. Another opportunity for study is the role of cultural differences in the effects reported here [115]. Recent literature showed that Hofstede's dimensions of national culture may influence the relationships between psychological capital and its antecedents [11]. In summary, it is important to unpack psychological capital elements to increase the diagnostic potential of what could be impacted most by exposure variables [115].

## 9. Conclusion

The present study is a novel attempt at advancing the study of transformational leadership and psychological capital by taking a dimensional view of transformational leadership dimensions during times of crisis among SMEs. Intellectual stimulation and individualized consideration are the most important dimensions for psychological capital development in this context. Additionally, how intellectual stimulation relates to psychological capital depends on levels of fear of COVID-19 such that its importance is greater among employees who experience higher versus lesser fear of the crisis.

## Ethics statement

This study complied with ethical standards for research in Kenya. Institutional ethics approval was obtained from SU-IERC reference number: SU-IERC1243/21. The National Commission for Science, Technology, and Innovation (NACOSTI) reference number: NACOSTI/P/22/15671 also authorized this study. We sort informed consent for all participants.

## Data availability statement

Data associated with this study has been deposited into a publicly available repository, Mendeley. The link to it is Njaramba, Faith (2024), "SME Leadership PsyCap, Fear, Personality Data", Mendeley Data, V2, <https://doi.org/10.17632/6th7k228wr.2>.

## CRedit authorship contribution statement

**Faith Njaramba:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization.

**Declaration of competing interest**

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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**Appendix A. Supplementary data**

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.heliyon.2024.e35900>.

**Appendices.**

**Table 1**  
Demographic data

Personal characteristics	Categories	Frequency	Percentage
Gender	Male	162	53.82
	Female	137	45.51
	Other	2	0.66
	Total	301	100
Age	18–34	54	17.94
	35–39	103	34.22
	40–49	53	17.61
	50–59	54	17.94
	Above 60	37	12.29
	Total	301	100
	Education level	Postgraduate	6
	Undergraduate	103	34.22
	Diploma	138	45.85
	Certificate	24	7.97
	Others	30	9.97
	Total	301	100
Tenure in SME	2–5 years	74	24.58
	6–10 years	108	35.88
	11–15 years	79	26.25
	16–20 years	16	5.32
	Over 20 years	24	7.97
	Total	301	100

Source: Authors' compilation

**Table 2**  
Means, standard deviations, and correlations with confidence intervals.

	M	S.D	1	2	3	4	5	6	7	8
INT	2.80	0.95	–							
IDC	3.15	1.08	0.47**	–						
INS	3.00	1.05	0.55**	0.50**	–					
IDF	3.07	0.89	0.49**	0.45**	0.53**	–				
PSY	2.91	0.70	0.65**	0.61**	0.62**	0.56**	–			
Fear	2.49	0.82	–0.50**	–0.38**	–0.43**	–0.45**	–0.59**	–		
EXT	3.23	1.15	0.26**	0.27**	0.38**	0.35**	0.36**	–0.38**	–	
OPN	3.19	1.20	0.19**	0.14*	0.24**	0.21**	0.23**	–0.32**	0.83**	–
Age	2.95	1.37	–0.02	–0.02	–0.09	–0.07	–0.05	0.01	–0.05	–0.05

Note (s). N = 301.

(1) \*\* indicates the correlation is significant at the 0.01 level (2-tailed).

(2) INT, IDC, INS, IDF, EFF, HOP, OPT, RES, FCVD, EXT, OPN are used to denote intellectual stimulation, individualized consideration, inspirational motivation, idealized influence, efficacy, hope, optimism, resilience, fear of COVID-19, extroversion and openness respectively.

(3) Age was coded as follows: 18 to 34 = 1, 35 to 39 = 2, 40 to 49 = 3, 50 to 59 = 4, above 60 = 5.

Source: Authors' compilation

**Table 3**  
Confirmatory factor analysis.

Variables	Items	Factor loadings	VIF	Cronbach Alpha	Composite Reliability	Average Variance Extracted
INT	INT1	0.84	1.94	0.83	0.84	0.67
	INT2	0.77	1.70			
	INT3	0.82	1.73			
	INT4	0.84	1.86			
IDC	IDC1	0.84	1.93	0.85	0.85	0.68
	IDC2	0.84	2.04			
	IDC3	0.81	1.80			
	IDC4	0.82	1.79			
INS	INS1	0.81	1.81	0.85	0.85	0.68
	INS2	0.84	2.03			
	INS3	0.81	1.84			
	INS4	0.84	1.91			
IDF	IDF1	0.77	1.89	0.89	0.89	0.57
	IDF2	0.78	1.97			
	IDF3	0.72	1.82			
	IDF4	0.74	1.91			
	IDF5	0.73	1.77			
	IDF6	0.75	1.83			
	IDF7	0.78	1.90			
	IDF8	0.75	1.83			
EFF	EFF1	0.78	1.85	0.87	0.87	0.61
	EFF2	0.79	1.93			
	EFF3	0.79	1.88			
	EFF4	0.77	1.83			
	EFF5	0.79	1.95			
	EFF6	0.77	1.75			
HOP	HOP1	0.79	1.87	0.86	0.85	0.65
	HOP2	0.80	1.84			
	HOP3	0.80	1.83			
	HOP4	0.80	1.82			
	HOP5	0.83	2.04			
OPT	OPT1	0.75	1.84	0.89	0.89	0.60
	OPT2	0.79	1.99			
	OPT3	0.76	1.82			
	OPT4	0.81	2.17			
	OPT5	0.77	1.91			
	OPT6	0.76	1.87			
	OPT7	0.78	1.97			
RES	RES1	0.83	1.66	0.80	0.80	0.71
	RES2	0.87	1.82			
	RES3	0.83	1.64			
FCVD	FCVD1	0.74	1.67	0.86	0.86	0.55
	FCVD2	0.75	1.73			
	FCVD3	0.72	1.58			
	FCVD4	0.75	1.77			
	FCVD5	0.75	1.74			
	FCVD6	0.74	1.74			
	FCVD7	0.73	1.66			

**Note (s).** N = 301. INT, IDC, INS, IDF, EFF, HOP, OPT, RES, FCVD are used to denote intellectual stimulation, individualized consideration, inspirational motivation, idealized influence, efficacy, hope, optimism, resilience and fear of COVID-19 respectively.

**Source:** Authors' compilation

**Table 4**  
Heterotrait monotrait ratio of lower order constructs.

	FCVD	EFF	HOP	OPT	RES	IDF	IDC	INS
FCVD								
EFF	0.55							
HOP	0.46	0.51						
OPT	0.58	0.52	0.49					
RES	0.45	0.46	0.47	0.52				
IDINF	0.52	0.48	0.47	0.52	0.45			
IDC	0.45	0.52	0.54	0.54	0.58	0.52		
INS	0.50	0.55	0.51	0.58	0.60	0.61	0.60	
INT	0.59	0.65	0.56	0.57	0.56	0.57	0.56	0.65

**Source:** Authors' compilation

**Table 5**  
Heterotrait monotrait ratio with higher order psychological capital construct.

	FCVD	PSY	IDF	IDC	INS
FCVD					
PSY	0.73				
IDF	0.52	0.68			
IDC	0.45	0.77	0.52		
INS	0.50	0.80	0.61	0.60	
INT	0.59	0.83	0.57	0.56	0.65

Source: Authors' compilation

**Table 6**  
Structural model path coefficients.

Path	Coefficient	T statistics	P values	Significant
Intellectual - > PsyCap	0.48	3.15	0.00	yes
Individualized - > PsyCap	0.33	3.70	0.00	yes
Inspirational - > PsyCap	0.12	0.95	0.17	no
Idealized - > PsyCap	-0.09	0.81	0.21	no
Fear - > PsyCap	0.05	0.49	0.31	no
Fear x Intellectual - > PsyCap	-0.12	1.98	0.02	yes
Fear x Individualized - > PSY	-0.06	1.88	0.03	yes
Fear x Idealized - > PsyCap	0.07	1.70	0.05	yes
Fear x Inspirational - > Psycap	0.01	0.18	0.43	no

Source: Authors' compilation

**Table 7**  
Moderation effect size  $F^2$ .

Path	Coefficient	T statistics	P values	Significant
FCVD x IDF - > PSY	0.04	1.58	0.06	no
FCVD x INS - > PSY	0.05	1.73	0.04	yes
FCVD x INT - > PSY	0.05	1.71	0.04	yes
FCVD x IDC - > PSY	0.04	1.63	0.05	no

Source: Authors' compilation

**Table 8**  
Conditional Effects

Path	Coefficient	T statistics	P values	Confidence intervals 5 % 95 %	
INT- > PSY conditional at FCVD at -1SD	0.28	4.62	0.00	0.18	0.39
INT- > PSY conditional at FCVD at mean	0.19	4.76	0.00	0.12	0.25
INT- > PSY conditional at FCVD at +1SD	0.09	1.44	0.08	-0.01	0.20

Source: Authors' compilation

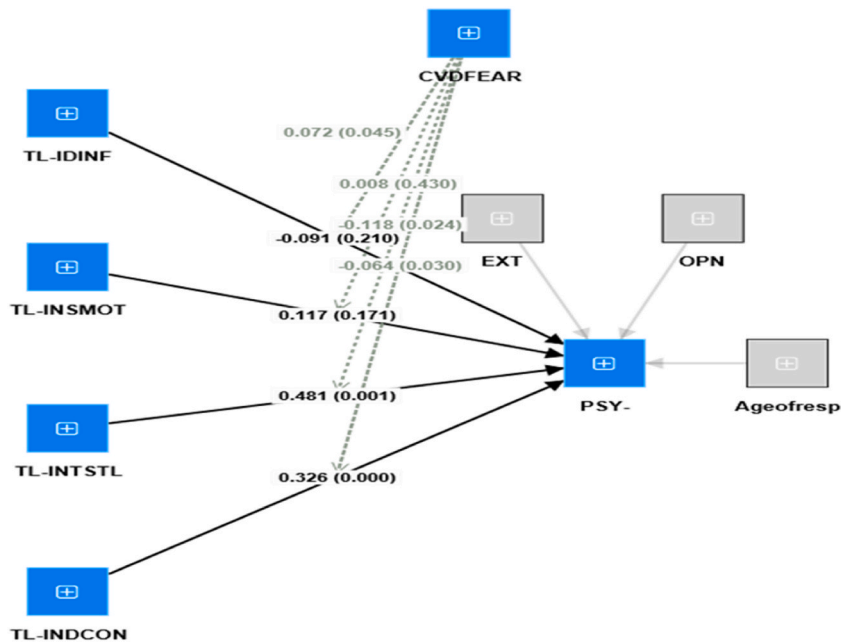


Fig. 1. Structural model results.

Note (s). TL-INTSTL, TL-INDCON, TL-INSMOT, TL-IDINF, PSY, EXT, OPN, Ageofresp are used to denote intellectual stimulation, individualized consideration, inspirational motivation, idealized influence, psychological capital, extroversion, openness, and age of respondent respectively.

Source: Authors' compilation

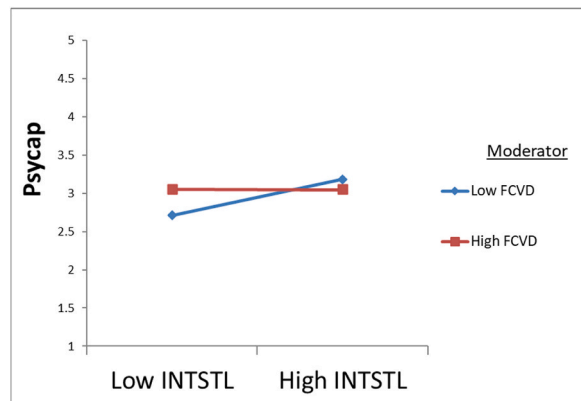


Fig. 2. Moderation graph.

Note (s). INTSTL and FCVD refer to intellectual stimulation and fear of COVID-19 respectively.

Source: Authors' compilation

3. Measurement tools

1. Multifactor leadership questionnaire (MLQ) <https://www.mindgarden.com/16-multifactor-leadership-questionnaire>
2. Psychological capital questionnaire (PCQ) <https://www.mindgarden.com/136-psychological-capital-questionnaire>
3. Big Five Inventory-10 (BFI)

Big Five Inventory-10 (BFI)

Statement	Scale				
I am someone who ....	1	2	3	4	5

(continued on next page)

(continued)

Statement	Scale				
I am someone who ....	1	2	3	4	5
is reserved					
is generally trusting					
tends to be lazy					
is relaxed, handles stress well					
has few artistic interests					
is outgoing, sociable					
tends to find fault with others					
does a thorough job					
gets nervous easily					
has an active imagination					

**Source: Rammstedt and John (2007)****Scoring the BFI-10 scales (R = item is reverse-scored):**

Extraversion: 1R, 5.

Agreeableness: 2, 7R

Conscientiousness: 3R, 8.

Neuroticism: 4R, 9.

Openness to Experience: 5R, 10.

## References

- [1] T. Maak, N.M. Pless, F. Wohlgezogen, The fault lines of leadership: lessons from the Global COVID-19 Crisis, *J. Change Manag* 21 (2021) 66–86, <https://doi.org/10.1080/14697017.2021.1861724>.
- [2] J. Badu, B.I. Kruke, G.B. Saetren, Crisis communication and trustworthiness among crisis actors: towards a typology of crisis management difficulties, *Saf. Extreme Environ.* 5 (2023) 119–130, <https://doi.org/10.1007/s42797-023-00074-8>.
- [3] I.A. Elshaer, Social-psychological risk perception impacts on job insecurity and turnover intention: a mediation model using PLS-SEM technique, *Cogent Psychol* 11 (2024).
- [4] A. Nath, S. Rai, J. Bhatnagar, C.L. Cooper, Coping strategies mediating the effects of job insecurity on subjective well-being, leading to presenteeism: an empirical study, *Int. J. Organ. Anal.* 32 (2024) 209–235, <https://doi.org/10.1108/IJOA-10-2022-3476>.
- [5] E.W. Kagucia, A.K. Ziraba, J. Nyagwange, B. Kutima, M. Kimani, D. Akech, M. Ng'oda, A. Sigilai, D. Mugo, H. Karanja, J. Gitonga, A. Karani, M. Toroitich, B. Karia, M. Otiende, A. Njeri, R. Aman, P. Amoth, M. Mwangangi, K. Kasera, W. Ng'ang'a, S. Voller, L.I. Ochola-Oyier, C. Bottomley, A. Nyaguara, P. K. Munywoki, G. Bigogo, E. Maitha, S. Uyoga, K.E. Gallagher, A.O. Etyang, E. Barasa, J. Mwangangi, P. Bejon, I.M.O. Adetifa, G.M. Warimwe, J.A.G. Scott, A. Agweyu, SARS-CoV-2 seroprevalence and implications for population immunity: evidence from two health and demographic surveillance system sites in Kenya, february–december 2022, influenza other respir, *Viruses* 17 (2023) e13173, <https://doi.org/10.1111/irv.13173>.
- [6] R. Singh, P. Sihag, A. Dhoopar, Role of resilient leadership and psychological capital in employee engagement with special reference to COVID-19, *Int. J. Organ. Anal.* 31 (2023) 232–252, <https://doi.org/10.1108/IJOA-09-2021-2975>.
- [7] A.-C. Grözinger, S. Wolff, P.J. Ruf, D.B. Audretsch, P. Moog, The impact of SME leader's psychological capital on strategic responses during crisis, *BRQ Bus. Res. Q.* (2023) 23409444231184481, <https://doi.org/10.1177/23409444231184481>.
- [8] F. Luthans, C.M. Youssef, B.J. Avolio, *Psychological Capital: Developing the Human Competitive Edge*, Oxford University Press, Oxford; New York, 2007.
- [9] S.R. Seitz, B.P. Owens, Transformable? A multi-dimensional exploration of transformational leadership and follower implicit person theories, *Eur. J. Work. Organ. Psychol.* 30 (2021) 95–109, <https://doi.org/10.1080/1359432X.2020.1830761>.
- [10] P. Khandelwal, F. Khanum, *Psychological capital*, *Indian J. Ind. Relat.* 53 (2023).
- [11] S. Loghman, M. Quinn, S. Dawkins, M. Woods, S. Om Sharma, J. Scott, A comprehensive meta-analysis of the nomological network of psychological capital (PsyCap), *J. Leader. Organ. Stud.* 30 (2023) 108–128, <https://doi.org/10.1177/15480518221107998>.
- [12] Y. Wang, C.-H. Tsai, F.-S. Tsai, W. Huang, S.M. De la Cruz, Antecedent and consequences of psychological capital of entrepreneurs, *Sustainability* 10 (2018) 3717, <https://doi.org/10.3390/su10103717>.
- [13] D. Vilarino del Castillo, E. Lopez-Zafra, Antecedents of psychological Capital at work: a systematic review of moderator–mediator Effects and a New Integrative Proposal, *Eur. Manag. Rev.* 19 (2022) 154–169, <https://doi.org/10.1111/emre.12460>.
- [14] H. Bak, M.H. Jin, B.D. McDonald, Unpacking the transformational leadership-innovative work behaviour relationship: the mediating role of psychological capital, *Public Perform. Manag. Rev.* 45 (2022) 80–105, <https://doi.org/10.1080/15309576.2021.1939737>.
- [15] B.M. Bass, *Two decades of research and development in transformational leadership*, *Eur. J. Work. Organ. Psychol.* 8 (1999) 9–32.
- [16] B.M. Bass, *Leadership and Performance beyond Expectations*, Free Press, 1985.
- [17] R.B.S. Madi Odeh, B.Y. Obeidat, M.O. Jaradat, R. Masa'deh, M.T. Alshurideh, The transformational leadership role in achieving organizational resilience through adaptive cultures: the case of Dubai service sector, *Int. J. Prod. Perform. Manag.* (2021), <https://doi.org/10.1108/IJPPM-02-2021-0093>.
- [18] C. Niphadkar, A.M. Kuhl, The new age of transformational leadership: evolution and attributes, *Int. J. OfScientific Eng. Res.* 8 (2017) 546–555.
- [19] I.U. Khan, R.U. Amin, N. Saif, Individualized consideration and idealized influence of transformational leadership: mediating role of inspirational motivation and intellectual stimulation, *Int. J. Leader. Educ.* 0 (2022) 1–11, <https://doi.org/10.1080/13603124.2022.2076286>.
- [20] J. Yin, Z. Ma, H. Yu, M. Jia, G. Liao, Transformational leadership and employee knowledge sharing: explore the mediating roles of psychological safety and team efficacy, *J. Knowl. Manag.* 24 (2020) 150–171, <https://doi.org/10.1108/JKM-12-2018-0776>.
- [21] D. van Knippenberg, S.B. Sitkin, A critical assessment of charismatic-transformational leadership research: back to the drawing board? *Acad. Manag. Ann.* 7 (2013) 1–60, <https://doi.org/10.1080/19416520.2013.759433>.
- [22] M.H. Minai, H. Jauhari, M. Kumar, S. Singh, Unpacking transformational leadership: dimensional analysis with psychological empowerment, *Person. Rev.* 49 (2020) 1419–1434, <https://doi.org/10.1108/PR-10-2019-0580>.
- [23] S.K. Hilton, W. Madilo, F. Awaah, H. Arkorful, Dimensions of transformational leadership and organizational performance: the mediating effect of job satisfaction, *Manag. Res. Rev.* 46 (2021) 1–19, <https://doi.org/10.1108/MRR-02-2021-0152>.
- [24] K.A. Arnold, Transformational leadership and employee psychological well-being: a review and directions for future research, *J. Occup. Health Psychol.* 22 (2017) 381–393, <https://doi.org/10.1037/ocp0000062>.

- [25] M. Shafi, Z. Lei, X. Song, M.N.I. Sarker, The effects of transformational leadership on employee creativity: moderating role of intrinsic motivation, *Asia Pac. Manag. Rev.* 25 (2020) 166–176, <https://doi.org/10.1016/j.apmr.2019.12.002>.
- [26] P.B. Le, How transformational leadership facilitates radical and incremental innovation: the mediating role of individual psychological capital, *Asia-Pac, J. Bus. Adm.* 12 (2020) 205–222, <https://doi.org/10.1108/APJBA-04-2020-0129>.
- [27] M.R. Asmawi, M.A. Fulazzaky, Indonesian president's transformational leadership in the critical era, *J. Public Aff.* 22 (2022) e2715, <https://doi.org/10.1002/pa.2715>.
- [28] K. McCombs, E. Williams, The resilient effects of transformational leadership on well-being: examining the moderating effects of anxiety during the COVID-19 crisis, *Leader. Organ. Dev. J.* 42 (2021) 1254–1266, <https://doi.org/10.1108/LODJ-02-2021-0092>.
- [29] N.P. Djourova, I. Rodríguez Molina, N. Tordera Santamatilde, G. Abate, Self-efficacy and resilience: mediating mechanisms in the relationship between the transformational leadership dimensions and well-being, *J. Leader. Organ. Stud.* 27 (2020) 256–270, <https://doi.org/10.1177/1548051819849002>.
- [30] J. Mesu, K. Sanders, M. van Riemsdijk, Transformational leadership and organisational commitment in manufacturing and service small to medium-sized enterprises: the moderating effects of directive and participative leadership, *Person. Rev.* 44 (2015) 970–990, <https://doi.org/10.1108/PR-01-2014-0020>.
- [31] C.K. Wijekuruppu, A. Coetzer, P. Susomrith, The prospective applicability of the strengths-based approach to managing and developing employees in small businesses, *J. Organ. Eff. People Perform.* 8 (2021) 323–346, <https://doi.org/10.1108/JOEPP-04-2020-0051>.
- [32] Kenya National Bureau of Statistics, *Micro, Small and Medium Establishment (MSME) Survey Basic Report, 2016*.
- [33] T. Jackson, K. Amaeshi, S. Yavuz, Untangling African indigenous management: multiple influences on the success of SMEs in Kenya, *J. World Bus.* 43 (2008) 400–416, <https://doi.org/10.1016/j.jwb.2008.03.002>.
- [34] F. Crick, S.M.S.U. Eskander, S. Fankhauser, M. Diop, How do African SMEs respond to climate risks? Evidence from Kenya and Senegal, *World Dev.* 108 (2018) 157–168, <https://doi.org/10.1016/j.worlddev.2018.03.015>.
- [35] Country Comparison Tool, 2024. <https://www.hofstede-insights.com/country-comparison-tool>. (Accessed 9 February 2024).
- [36] Y. Li, G. Castaño, Y. Li, Linking leadership styles to work engagement: the role of psychological capital among Chinese knowledge workers, *Chin. Manag. Stud.* 12 (2018) 433–452, <https://doi.org/10.1108/CMS-04-2017-0108>.
- [37] A. Caza, B.B. Caza, B.Z. Posner, Transformational leadership across cultures: follower perception and satisfaction, *Adm. Sci.* 11 (2021) 32, <https://doi.org/10.3390/admsci11010032>.
- [38] E. Demerouti, A.B. Bakker, F. Nachreiner, W.B. Schaufeli, The job demands-resources model of burnout, *J. Appl. Psychol.* 86 (2001) 499–512, <https://doi.org/10.1037/0021-9010.86.3.499>.
- [39] H. Bouzgarrou, Z. Pfiti, W. Loughichi, M. Yousfi, What can we learn about the market reaction to macroeconomic surprise? Evidence from the COVID-19 crisis, *Res. Int. Bus. Finance* 64 (2023) 101876, <https://doi.org/10.1016/j.ribaf.2023.101876>.
- [40] J.J. Hakanan, M.C.W. Peeters, W.B. Schaufeli, Different types of employee well-being across time and their relationships with job crafting, *J. Occup. Health Psychol.* 23 (2018) 289–301, <https://doi.org/10.1037/ocp0000081>.
- [41] E. Demerouti, A.B. Bakker, The Job Demands-Resources model: challenges for future research, *SA J. Ind. Psychol.* 37 (2011) 1–9.
- [42] D. Gom, T.Y. Lew, M.M. Jiony, G.H. Tanakinjal, S. Sondoh, The role of transformational leadership and psychological capital in the hotel industry: a sustainable approach to reducing turnover intention, *Sustainability* 13 (2021) 10799, <https://doi.org/10.3390/su131910799>.
- [43] M.A. Rahman, N. Hoque, S.M. Alif, M. Salehin, S.M.S. Islam, B. Banik, A. Sharif, N.B. Nazim, F. Sultana, W. Cross, Factors associated with psychological distress, fear and coping strategies during the COVID-19 pandemic in Australia, *Glob. Health* 16 (2020) 95, <https://doi.org/10.1186/s12992-020-00624-w>.
- [44] O.M. Karatepe, E.T. Ampofo, F. Asiedu-Appiah, F. Frempong, Abusive supervision: serial and moderated mediation effects, *Serv. Ind. J.* (2023) 1–25, <https://doi.org/10.1080/02642069.2023.2270924>.
- [45] S. Farley, D. Mokhtar, K. Ng, K. Niven, What influences the relationship between workplace bullying and employee well-being? A systematic review of moderators, *Work. Stress* 37 (2023) 345–372, <https://doi.org/10.1080/02678373.2023.2169968>.
- [46] F. Luthans, C.M. Youssef-Morgan, Psychological Capital: an evidence-based positive approach, *Annu. Rev. Organ. Psychol. Organ. Behav.* 4 (2017) 339–366, <https://doi.org/10.1146/annurev-orgpsych-032516-113324>.
- [47] L. Zhang, W. Wider, M.A. Fauzi, L. Jiang, J.C.M. Tanucan, L. Naces Udang, Psychological capital research in HEIs: bibliometric analysis of current and future trends, *Heliyon* 10 (2024) e26607, <https://doi.org/10.1016/j.heliyon.2024.e26607>.
- [48] T.M. Bricka, Y. He, A.N. Schroeder, Difficult times, difficult decisions: examining the impact of perceived crisis response strategies during COVID-19, *J. Bus. Psychol.* 38 (2023) 1077–1097, <https://doi.org/10.1007/s10869-022-09851-x>.
- [49] M. Wu, F.A. Kader Cassim, A. Priambodo, C. Ko, Psychological capital's impact on the leadership-organizational climate preference relationship in potential leaders ~ A study comparing teachers and sportsmen, *Heliyon* 8 (2022) e09310 <https://doi.org/10.1016/j.heliyon.2022.e09310>.
- [50] M.M. Baluku, J.F. Kikooma, G.M. Kibanja, Psychological capital and the startup capital-entrepreneurial success relationship, *J. Small Bus. Entrep.* 28 (2016) 27–54, <https://doi.org/10.1080/08276331.2015.1132512>.
- [51] J. Tucci, W. Clouse, *The Entrepreneurial Executive*, vol. 10, 2005, p. 116.
- [52] A. Machmud, E. Ahman, Effect of entrepreneur psychological capital and human resources on the performance of the catering industry in Indonesia, *J. Entrep. Educ.* 22 (2019).
- [53] J. Gooty, M. Gavin, P.D. Johnson, M.L. Frazier, D.B. Snow, In the eyes of the beholder: transformational leadership, positive psychological capital, and performance, *J. Leader. Organ. Stud.* 15 (2009) 353–367, <https://doi.org/10.1177/1548051809332021>.
- [54] D. Bouckenoghe, A. Zafar, U. Raja, How ethical leadership shapes employees' job performance: the mediating roles of goal congruence and psychological capital, *J. Bus. Ethics* 129 (2015) 251–264, <https://doi.org/10.1007/s10551-014-2162-3>.
- [55] A.J. McMurray, A. Pirola-Merlo, J.C. Sarros, M.M. Islam, Leadership, climate, psychological capital, commitment, and wellbeing in a non-profit organization, *Leader. Organ. Dev. J.* 31 (2010) 436–457, <https://doi.org/10.1108/01437731011056452>.
- [56] A. Rego, F. Sousa, C. Marques, M.P. e Cunha, Authentic leadership promoting employees' psychological capital and creativity, *J. Bus. Res.* 65 (2012) 429–437, <https://doi.org/10.1016/j.jbusres.2011.10.003>.
- [57] M. Van Wart, N. Kapucu, Crisis management competencies: the case of emergency managers in the USA, *Publ. Manag. Rev.* 13 (2011) 489–511, <https://doi.org/10.1080/14719037.2010.525034>.
- [58] G.R. Hickman, *Leading Organizations: Perspectives for a New Era*, SAGE, 2010.
- [59] E.K. Kelloway, N. Turner, J. Barling, C. Loughlin, Transformational leadership and employee psychological well-being: the mediating role of employee trust in leadership, *Work. Stress* 26 (2012) 39–55, <https://doi.org/10.1080/02678373.2012.660774>.
- [60] T. Dvir, D. Eden, B.J. Avolio, B. Shamir, Impact of transformational leadership on follower development and performance: a field experiment, *Acad. Manag. J.* 45 (2002) 735–744, <https://doi.org/10.5465/3069307>.
- [61] R.K. Purvanova, J.E. Bono, J. Dziewieczynski, Transformational leadership, job characteristics, and organizational citizenship performance, *Hum. Perform.* 19 (2006) 1–22, [https://doi.org/10.1207/s15327043hup1901\\_1](https://doi.org/10.1207/s15327043hup1901_1).
- [62] J.E. Mullen, E.K. Kelloway, Safety leadership: a longitudinal study of the effects of transformational leadership on safety outcomes, *J. Occup. Organ. Psychol.* 82 (2009) 253–272, <https://doi.org/10.1348/096317908X325313>.
- [63] S. Goorah, J. Cheeneebash, A. Gopaul, S. Ramchurn, Fear of COVID-19 during confinement in Mauritius, *Emerald Open Res.* 1 (2023), <https://doi.org/10.1108/EOR-02-2023-0016>.
- [64] M.F. Jalil, B. Tariq, M.A. Zaheer, Z. Ahmed, Responses to COVID-19, small and medium enterprises' corporate social responsibility and psychological capital of employees: from the mediating perspective of affective commitment, *Heliyon* 9 (2023) e15004, <https://doi.org/10.1016/j.heliyon.2023.e15004>.
- [65] K. Yang, J. Kim, J. Min, A. Hernandez-Calderon, Effects of retailers' service quality and legitimacy on behavioral intention: the role of emotions during COVID-19, *Serv. Ind. J.* 41 (2021) 84–106, <https://doi.org/10.1080/02642069.2020.1863373>.
- [66] E.M. Szepietowska, E. Zawadzka, S. Filipiak, The psychological impact of the COVID-19 pandemic on the sense of life changes: the moderation effect of personality traits, *Curr. Psychol.* (2023), <https://doi.org/10.1007/s12144-023-04929-y>.



- [67] K. Haldorai, W.G. Kim, C. Agmapisarn, J. (Justin) Li, Fear of COVID-19 and employee mental health in quarantine hotels: the role of self-compassion and psychological resilience at work, *Int. J. Hospit. Manag.* 111 (2023) 103491, <https://doi.org/10.1016/j.ijhm.2023.103491>.
- [68] U. Raja, S. Jahanzeb, M. Malik, M. Baig, Dispositional causes of burnout, satisfaction, and performance through the fear of COVID-19 during times of pandemic, *Appl. Psychol.* 72 (2023) 998–1019, <https://doi.org/10.1111/apps.12417>.
- [69] A. Estévez, L. Macía, G. Aonso-Diego, M. Herrero, Early maladaptive schemas and perceived impact of COVID-19: the moderating role of sex and gambling, *Curr. Psychol.* (2023), <https://doi.org/10.1007/s12144-023-05337-y>.
- [70] D.K. Ahorsu, C.-Y. Lin, V. Imani, M. Saffari, M.D. Griffiths, A.H. Pakpour, The fear of COVID-19 scale: development and initial validation, *Int. J. Ment. Health Addict.* 20 (2022) 1537–1545, <https://doi.org/10.1007/s11469-020-00270-8>.
- [71] S.R. Khattak, I. Saeed, S.U. Rehman, M. Fayaz, Impact of fear of COVID-19 pandemic on the mental health of nurses in Pakistan, *J. Loss Trauma* 26 (2021) 421–435, <https://doi.org/10.1080/15325024.2020.1814580>.
- [72] Z.G. Çağış, M. Yıldırım, Understanding the effect of fear of COVID-19 on COVID-19 burnout and job satisfaction: a mediation model of psychological capital, *Psychol. Health Med.* 28 (2023) 279–289, <https://doi.org/10.1080/13548506.2022.2077970>.
- [73] N. Sakib, T. Akter, F. Zohra, A.K.M.I. Bhuiyan, M.A. Mamun, M.D. Griffiths, Fear of COVID-19 and depression: a comparative study among the general population and healthcare professionals during COVID-19 pandemic crisis in Bangladesh, *Int. J. Ment. Health Addict.* 21 (2023) 976–992, <https://doi.org/10.1007/s11469-020-00477-9>.
- [74] A. Maslakçı, L. Sürücü, Gender effects on depression, anxiety, and stress regarding the fear of COVID-19, *Trends Psychol* 32 (2022) 152–164, <https://doi.org/10.1007/s43076-022-00227-x>.
- [75] L.G. Tummers, A.B. Bakker, *Leadership and job demands-resources theory: a systematic review*, *Front. Psychol.* 12 (2021) 25–53.
- [76] C. Mason, M. Griffin, S. Parker, Transformational leadership development: connecting psychological and behavioural change, *Leader. Organ. Dev. J.* 35 (2014) 174–194, <https://doi.org/10.1108/LODJ-05-2012-0063>.
- [77] B.J. Avolio, D.A. Waldman, F.J. Yammarino, Leading in the 1990s: the four I's of transformational leadership, *J. Eur. Ind. Train.* 15 (1991), <https://doi.org/10.1108/03090599110143366>.
- [78] C. Deng, D. Gulseren, C. Isola, K. Grocutt, N. Turner, Transformational leadership effectiveness: an evidence-based primer, *Hum. Resour. Dev. Int.* 26 (2023) 627–641, <https://doi.org/10.1080/13678868.2022.2135938>.
- [79] A.E. Rafferty, M.A. Griffin, Dimensions of transformational leadership: conceptual and empirical extensions, *Leader. Q.* 15 (2004) 329–354, <https://doi.org/10.1016/j.leafqua.2004.02.009>.
- [80] K. Ismail, W. Khurram, T. Hussain, S.K.A. Jafri, *Perceptions for transformational leadership, followers' psychological capital and intent to leave in Pakistan: an insight from medical and engineering sector*, *Interdiscipl. J. Res. Bus.* 1 (2011) 49–61.
- [81] E. Knezović, A. Drkić, Innovative work behaviour in SMEs: the role of transformational leadership, *Employee Relat.* 43 (2020) 398–415, <https://doi.org/10.1108/ER-03-2020-0124>.
- [82] M. Schuckert, T.T. Kim, S. Paek, G. Lee, Motivate to innovate: how authentic and transformational leaders influence employees' psychological capital and service innovation behavior, *Int. J. Contemp. Hosp. Manag.* 30 (2018) 776–796, <https://doi.org/10.1108/IJCHM-05-2016-0282>.
- [83] M. Diebig, K.C. Bormann, J. Rowold, A double-edged sword: relationship between full-range leadership behaviors and followers' hair cortisol level, *Leader. Q.* 27 (2016) 684–696, <https://doi.org/10.1016/j.leafqua.2016.04.001>.
- [84] L. Afshari, Idealized influence and commitment: a granular approach in understanding leadership, *Person. Rev.* 51 (2021) 805–822, <https://doi.org/10.1108/PR-03-2020-0153>.
- [85] Africa CDC, *Outbreak Brief 111: Coronavirus Disease 2019 (COVID-19) Pandemic*, Afr. CDC, 2022. <https://africacdc.org/download/outbreak-brief-111-coronavirus-disease-2019-covid-19-pandemic/>. (Accessed 7 May 2024).
- [86] MOH, Ministry of Health, 2022. <https://www.health.go.ke/covid-19/>. (Accessed 30 May 2022).
- [87] G. Israel, *Determining Sample Size*, 2003.
- [88] B. Ahoya, J.A. Kavle, L. Kiige, C. Gathi, B. Samburu, L. Maina, L. Ramirez, R. Wambu, P. Codjia, How COVID-19 affected food systems, health service delivery and maternal and infant nutrition practices: implications for moving forward in Kenya, *Matern. Child Nutr.* 19 (2023) e13466, <https://doi.org/10.1111/mcn.13466>.
- [89] D. Demirović Bajrami, A. Terzić, M.D. Petrović, M. Radovanović, T.N. Tretiakova, A. Hadoud, Will we have the same employees in hospitality after all? The impact of COVID-19 on employees' work attitudes and turnover intentions, *Int. J. Hospit. Manag.* 94 (2021) 102754, <https://doi.org/10.1016/j.ijhm.2020.102754>.
- [90] B.J. Avolio, B.M. Bass, *Multifactor leadership questionnaire. Manual and Sample Set*, Mind Garden, Redwood City, CA, 2004.
- [91] B. Rammstedt, O.P. John, Measuring personality in one minute or less: a 10-item short version of the Big Five Inventory in English and German, *J. Res. Pers.* 41 (2007) 203–212, <https://doi.org/10.1016/j.jrp.2006.02.001>.
- [92] R. Li, N. Che Hassan, N. Saharuddin, Psychological capital related to academic outcomes among university students: a systematic literature review, *Psychol. Res. Behav. Manag.* 16 (2023) 3739–3763, <https://doi.org/10.2147/PRBM.S421549>.
- [93] N. Aftab, S. Rashid, S.A. Ali Shah, Direct effect of extraversion and conscientiousness with interactive effect of positive psychological capital on organizational citizenship behaviour among university teachers, *Cogent Psychol* 5 (2018) 1514961, <https://doi.org/10.1080/23311908.2018.1514961>.
- [94] P.T. Luc, The relationships between Big-Five personality traits and social entrepreneurship intention, *Cogent Bus. Manag.* 9 (2022) 2137950, <https://doi.org/10.1080/23311975.2022.2137950>.
- [95] Y. Zhao, R. Wang, H. Li, C. Chen, B. Zhou, X. Weng, Y. Hua, Y. Jia, Y. Wu, Y. Li, Impact of Easing COVID-19 Restrictions on fear of COVID-19 and social support among Chinese students: a longitudinal analysis, *Psychol. Res. Behav. Manag.* 16 (2023) 4685–4696, <https://doi.org/10.2147/PRBM.S434765>.
- [96] H. Baumgartner, J.-B.E.M. Steenkamp, Response styles in marketing research: a cross-national investigation, *J. Mark. Res.* 38 (2001) 143–156, <https://doi.org/10.1509/jmkr.38.2.143.18840>.
- [97] P.M. Podsakoff, S.B. MacKenzie, J.-Y. Lee, N.P. Podsakoff, Common method biases in behavioural research: a critical review of the literature and recommended remedies, *J. Appl. Psychol.* 88 (2003) 879–903, <https://doi.org/10.1037/0021-9010.88.5.879>.
- [98] M.J. Tejada, T.A. Scandura, R. Pillai, The MLQ revisited: psychometric properties and recommendations, *Leader. Q.* 12 (2001) 31–52, [https://doi.org/10.1016/S1048-9843\(01\)00063-7](https://doi.org/10.1016/S1048-9843(01)00063-7).
- [99] M. Sarstedt, J.F. Hair, J.-H. Cheah, J.-M. Becker, C.M. Ringle, How to specify, estimate, and validate higher-order constructs in PLS-SEM, *Australas. Mark. J. AMJ* 27 (2019) 197–211, <https://doi.org/10.1016/j.ausmj.2019.05.003>.
- [100] J. Hair, M. Sarstedt, L. Hopkins, V.G. Kuppelwieser, Partial least squares structural equation modeling (PLS-SEM): an emerging tool in business research, *Eur. Bus. Rev.* 26 (2014) 106–121, <https://doi.org/10.1108/EBR-10-2013-0128>.
- [101] J.F. Hair, J.J. Risher, M. Sarstedt, C.M. Ringle, When to use and how to report the results of PLS-SEM, *Eur. Bus. Rev.* 31 (2019) 2–24, <https://doi.org/10.1108/EBR-11-2018-0203>.
- [102] W. Küpers, J. Weibler, How emotional is transformational leadership really? Some suggestions for a necessary extension, *Leader. Organ. Dev. J.* 27 (2006) 368–383, <https://doi.org/10.1108/01437730610677972>.
- [103] A.B. Bakker, E. Demerouti, A. Sanz-Vergel, Job demands–resources theory: ten years later, *Annu. Rev. Organ. Psychol. Organ. Behav.* 10 (2023) 25–53, <https://doi.org/10.1146/annurev-orgpsych-120920-053933>.
- [104] A. Kassegn, E. Endris, Review on socio-economic impacts of 'triple threats' of COVID-19, desert locusts, and floods in East Africa: evidence from Ethiopia, *Cogent Soc. Sci.* 7 (2021) 1885122, <https://doi.org/10.1080/23311886.2021.1885122>.
- [105] A. Hampel-Milagrosa, M. Loewe, C. Reeg, The entrepreneur makes a difference: evidence on MSE upgrading factors from Egypt, India, and the Philippines, *World Dev.* 66 (2015) 118–130, <https://doi.org/10.1016/j.worlddev.2014.08.005>.
- [106] N. Pellerin, E. Raufaste, M. Corman, F. Teissedre, M. Dambun, Psychological resources and flexibility predict resilient mental health trajectories during the French covid-19 lockdown, *Sci. Rep.* 12 (2022) 10674, <https://doi.org/10.1038/s41598-022-14572-5>.

- [107] M. Jensen, K. Potočník, S. Chaudhry, A mixed-methods study of CEO transformational leadership and firm performance, *Eur. Manag. J.* 38 (2020) 836–845, <https://doi.org/10.1016/j.emj.2020.05.004>.
- [108] R. Niswaty, H. Wirawan, H. Akib, M.S. Saggaf, D. Daraba, Investigating the effect of authentic leadership and employees' psychological capital on work engagement: evidence from Indonesia, *Heliyon* 7 (2021) e06992, <https://doi.org/10.1016/j.heliyon.2021.e06992>.
- [109] A. Kuckertz, L. Brändle, Creative reconstruction: a structured literature review of the early empirical research on the COVID-19 crisis and entrepreneurship, *Manag. Rev. Q.* 72 (2022) 281–307, <https://doi.org/10.1007/s11301-021-00221-0>.
- [110] I. Jaén, C. Ausín, D. Castilla, Psychological impact of the COVID-19 pandemic on Spanish healthcare workers: a systematic review of prevalence and wave-based patterns, *Curr. Psychol.* (2023), <https://doi.org/10.1007/s12144-023-05542-9>.
- [111] J. Eichholz, N. Hoffmann, A. Schwering, The role of risk management orientation and the planning function of budgeting in enhancing organizational resilience and its effect on competitive advantages during times of crises, *J. Manag. Control* (2024), <https://doi.org/10.1007/s00187-024-00371-8>.
- [112] G.D. Sharma, S. Kraus, E. Liguori, U.K. Bamel, R. Chopra, Entrepreneurial challenges of COVID-19: Re-thinking entrepreneurship after the crisis, *J. Small Bus. Manag.* 62 (2024) 824–846, <https://doi.org/10.1080/00472778.2022.2089676>.
- [113] J. Okoli, N.P. Arroiteia, A.I. Ogunsade, Failure of crisis leadership in a global pandemic: some reflections on COVID-19 and future recommendations, *Leadersh. Health Serv.* 36 (2022) 186–199, <https://doi.org/10.1108/LHS-06-2022-0061>.
- [114] X. Wang, Z. Cheng, Cross-sectional studies: strengths, weaknesses, and recommendations, *Chest* 158 (2020) S65–S71, <https://doi.org/10.1016/j.chest.2020.03.012>.
- [115] S. Agrawal, Role of Sub-constructs of psychological capital and transformational leadership in engaging employees in service sector, *Bus. Perspect. Res.* 8 (2020) 244–256, <https://doi.org/10.1177/2278533719887455>.
- [116] E. Dóci, L. Knappert, S. Nijs, J. Hofmans, Unpacking psychological inequalities in organisations: psychological capital reconsidered, *Appl. Psychol.* 72 (2023) 44–63, <https://doi.org/10.1111/apps.12379>.