

IS THE ROLE OF AUTHENTIC LEADERSHIP EFFECTIVE IN MANAGING OCCUPATIONAL STRESS AND PSYCHOLOGICAL CAPITAL?

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ABSTRACT

This study examines the role of an authentic leadership style in managing levels of occupational stress of employees working in the IT sectors of Pakistan and the UK. By combining strata, purposive and convenience sampling techniques, we gathered data from 220 employees working in software houses in both economies by means of a cross-sectional research design. The measurement model confirmed the reliability and validity of the distinctive variables while Partial Least Square Structural Equation Modeling (PLS-SEM) and correlation were deployed to assess the relationship between the research variables. The findings of the study confirmed that an authentic leadership style is effective in managing occupational stress, specifically organisational and personal stressors of employees working on time-bound projects. Additionally, authentic leadership is effective in developing psychological capital. The research framework is effective for improving employees' work efficiency through stress reduction and the development of psychological capital under an authentic leadership style.

KEY WORDS

Authentic leadership, organisational stress, personal stress, employee creativity, psychological capital, comparative study.

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Introduction

The prime objective of a business is to maximise profit. When considering project-based assignments, the focus is on the completion of the project in a timely manner, so that it is successful, and its target is effectively accomplished with the optimal use of resources. Additionally, there is intense competition on the market, which

drives businesses to be proactive in finishing projects in a timely manner. A study by Ibrahim et al. (2019a) revealed that organisational justice, job control and social support uniquely predict wellbeing (job satisfaction); hence, in the absence of the abovementioned factors, it is likely that employees could be vulnerable to stress.

In order to be competitive when it comes to finishing tasks in a timely manner, there is a potential risk of employees facing higher levels of stress. A plethora of research has confirmed that employees of IT firms experience a higher degree of occupational stress (Haque and Aston, 2016; Haque et al., 2016, 2018; Holmes, 2013; Imran et al., 2018; Nair and Sommerville, 2017). Thus, various studies have confirmed that occupational stress is a phenomenon which exists in a fast-paced business environment. On the other hand, various studies have found that the success of a project depends on several critical success factors (CSFs) such as leadership behaviour, cultural effects, process maturity, and so on (Alias et al., 2014; Nauman et al., 2010; Khan and Zhang, 2010). Nevertheless, among all CSFs stated above, the role of supportive leadership behaviour is found to be most critical in the successful completion of projects (Jaing, 2014).

In spite of this, "the literature has largely ignored the impact of the project manager/supervisor in relation to his/her leadership style and competence towards the project success" (Turner and Müller, 2005, p. 59), while subordinates could be facing different types of organisational and personal stress. Additionally, a study by Geoghegan and Dulewicz (2008) stated that the leadership style of a functional manager contributes to the success of a project, yet it is still the subject of research in comparison to other CSF factors. A number of studies have confirmed the effect of a transformational leadership style on the success of a project (Aga et al., 2016; Anantamula, 2010; Riaz et al., 2013; Lindgren and Packendorff, 2009; Yang et al., 2011; Gablas et al., 2018; Glód, 2018; Tamulevičienė and Androniceanu, 2020). Nevertheless, the extent to which a certain type of leadership style is effective in managing employees' distinctive stressors in relation to time-

bound projects is still not conclusively known. Moreover, there is no conclusive evidence from cross-cultural lenses about the role of an authentic leadership style in managing employee stress levels while ensuring the success of a project; in other words, how leaders ensure psychological capital is retained despite the presence of organisational and personal stressors.

The most important aspect is to explain the concept of 'authentic leadership' in this study as it is an important variable. "It is organisational leadership's positive approach containing attributes such as transparency, ethics and genuineness, which enable leadership in dealing effectively with organisational challenges; mainly project success" (Avolio and Gardner, 2005). Luthans and Avolio (2003) define it as being "trustworthy, reliable, ethical, verifiable and transparent" (p. 4). Walumbwa et al. (2008) identified four core attributes of authentic leaders, namely (1) self-awareness, which refers to the awareness of personal needs, wants, motivation and preferences, (2) balanced processing, which refers to when leaders analyse relevant data during the decision-making process, (3) relational transparency, which refers to the leaders' authentic selves, thoughts to followers and their true feelings, and when they initiate quality relationships with subordinates, and lastly (4) internalised moral perspective, which refers to dealing with ethical objectives while serving the common interests of the group. Authentic leaders promote a supportive context through essential expertise and relevant information in decision making, as well as encourage workers to enhance their working capabilities (Wang et al., 2014). The leaders' authentic actions are assessed by employees to see how leaders' morality and competencies are embedded and reflected during courses of action (Walumbwa et al., 2010). As a consequence, au-

thentic behaviour enables the employees to give their best effort; however, the aspect of how leaders' behaviour is effective in managing stress while developing psychological capital is still under research.

A number of studies have indicated that an authentic leader requires a way or a mechanism to influence the attitude and behaviour of employees (Avolio et al., 2004; Luthans and Avolio, 2009; Luthans and Youssef, 2007; Remenova and Jankelova, 2019; Androniceanu and Tvaronavičienė, 2019). Interestingly, some empirical studies focused primarily on the dynamics of an inclusive leadership process (Walumbwa et al., 2010; Walumbwa et al., 2011; Wang et al., 2014). Gardner and Schermerhorn (2004) argued that the key to better employee performance is through an enlightened positive psychological state, which is initiated through authentic leadership quality. In light of the complementary congruity theory (CCT), this study states that not only is employee productivity enhanced through an authentic leadership style, but also psychological capital is formed in a manner that better equips employees to deal with personal and organisational stressors in an adequate manner, and therefore employees are more effective in completing the projects successfully and in a timely manner. Interestingly, Luthans and Avolio (2003) explained that personal psychological resources form authentic leaders; thus, employee psychological capital (PsyCap) increases under an authentic leadership style.

Stress is the disturbance of the body's natural equilibrium (Haque and Aston, 2016; Haque et al., 2016, 2018; Kumasey et al., 2014; Stranks, 2005). It is visible in an organisational setting, but varies from person to person, sector to sector, industry to industry and so on (Haque et al., 2018). A limited amount of stress could be constructive to some while being destructive

to others. Stranks (2005) categorised the causes of stress into three main types, namely personal stressors (family problems, financial problems, and personality clashes), organisational stressors (task demands, role demands, interpersonal relationships, leadership style, organisational life cycle and organisational structure) and environmental stressors (political uncertainties, economic uncertainties, and technological uncertainties). There is evidence of a connection between stress and style of leadership (Faizan and Zehra, 2016; Rao et al., 2017; Zehra and Faizan, 2017). Haque and Oino (2019) found that social support is effective in reducing the stress levels of employees in contrasting economies, whereas Faizan and Haque (2019) argued that males and females differ in terms of their stress levels due to the use and accessibility of social support systems. In addition, a recent study by Ibrahim et al. (2019) revealed that job control and social support have no effect on job satisfaction. Therefore, it is likely that stress may have a correlation with other factors such as leadership style. However, little is known about which type of stressors are more evident among employees working in the contrasting economies' IT sectors and how effective the authentic leadership style is in managing varying occupational stressors.

Several studies confirmed that employees' psychological capital is enhanced by authentic leadership styles (Amunkete and Rothmann, 2015; Clapp-Smith et al., 2009; Wong and Laschinger, 2013) that leads to the further success of projects (Luthans et al., 2007; Ucol-Ganiron Jr, 2012). Hence, there is a positive association between authentic leadership and PsyCap in relation to project success. On the other hand, studies by Faizan and Zehra (2016) and Zehra and Faizan (2017) found that different styles of leadership are effective in

improving organisational commitment and stress reduction of employees in the IT sector. Nevertheless, within one construct, there is still limited evidence regarding the exploration of the role of an authentic leader in managing stress while enhancing the PsyCap of employees working on time-bound projects in contrasting economies. Hence, the aim of this research is to examine the role of authentic leadership in managing stress as well as increasing PsyCap in order to ensure project success in a timely manner.

1. Literature review

1.1. Authentic leadership

Authentic leadership is the combination of two distinctive words: 'authentic' and leadership'. 'Authentic' reflects dependability/reliability/truth, which is driven by authenticity. On the other hand, leadership is the art of managing and leading people (DePree & Campanella, 1989). However, these are basic terms to simply convey the meaning of the words, but they do not elaborate in depth about the details of the functionality of authentic leadership. Interestingly, organisational settings play a role in leaders demonstrating distinctive styles of leadership (Faizan et al., 2017). Authenticity means to 'be true to oneself' referring to "owning one's experiences" (Gardner, Fischer and Hunt, 2009), be they beliefs, preferences, wants, needs, emotions, or thoughts articulated by the theme to 'know oneself', and "implies that one acts in accord with the true self, expressing oneself in ways that are consistent with inner thoughts and feelings" (Harter, 2002: 382).

The authentic leader is hopeful, optimistic, resilient, transparent, future-oriented, and moral/ethical, and gives priority to developing teams to be leaders (Luthans & Avolio, 2003). Authentic leaders act and behave according to personal values as well as develop credibility, gain respect

and attain trust from employees (Avolio & Gardner, 2005). Under authentic leaders, employees attribute leaders' positive qualities by internalising beliefs, value and behaviour with integrity. In addition, the behaviour of authentic leaders is viewed by employees as having a higher level of honesty and fairness. As a result, the motivation level of employees increases and they work positively to attain the desired results under the influence of authentic leaders (Ilies et al., 2005; Yukl, 2002). A study by Zehra and Faizan (2017) found that under such a type of leadership, there is a positive impact on employees which enables them to complete projects in a timely manner.

Self-awareness is higher among authentic leaders (Ilies, et al., 2005). They have the ability to understand their own strengths and weaknesses in a more comprehensive manner by reflecting on their own personality, motives, emotions, feelings, cognition, actions and behaviours, and values (Ilies et al., 2005). It could be argued that leaders with a better understanding of themselves would be able to develop employees' psychological capital as well as manage occupational stress at the workplace because they have the ability to adapt and respond to the changing situations at hand. Employees with higher levels of openness to experiments are usually more willing to accept new challenges and make certain sacrifices to achieve organisational outcomes (Javed et al., 2018). Moreover, employees with a higher level of innovative work behaviour demonstrate a greater level of risk to attain organisational goals with the encouragement of supportive supervision (Javed et al., 2018). Thus, it could be argued that demonstrating openness to experimentation and innovative work behaviour could have both positive and negative aspects. The positive aspects include the promotion of creativity

and innovation (formation of psychological capital), while the negative aspects could be excessive stress levels among workers. However, there is no conclusive evidence that authentic leaders are able to develop psychological capital while managing employee stress at the workplace.

Ryan and Deci (2001) suggested that higher levels of excellence in the performance of employees are likely to result from the actions, beliefs and values of leaders with a higher level of self-awareness. Considering transparency, openly sharing information with employees and encouraging them to learn new things is a focus of authentic leaders (Ryan and Deci, 2001). However, the exact degree of effectiveness in managing work-related stress and the formulation of psychological capital is still the subject of research. Furthermore, authentic leaders express their thoughts and true feelings while preparing followers to accept workplace challenges as well as exploring opportunities (Ryan and Deci, 2001). Again, it could be argued that this might lead to both the enhancement of psychological capital as well as escalated stress levels at the workplace. Previous empirical studies found that authentic leadership encourages employees by promoting a sense of responsibility to deliver optimal performance in attaining project success in a timely manner (George, 2003; Walumbwa, et al., 2008; Walumbwa et al., 2010).

1.2. Psychological capital (PsyCap)

A plethora of research has confirmed that "PsyCap consists of positive psychological resources such as hope, efficacy, resiliency, and optimism" (Gooty et al., 2009; Luthans and Youssef, 2004; Luthans et al., 2007). A study by Luthans et al. (2007) found that project success is largely dependent on the development of PsyCap,

which results from the role of authentic leadership. Hence, it indicates that there is a positive link between authentic leadership and the development of psychological capital. The same study also argued that the PsyCap of employees is enhanced in several different ways by authentic leaders. The foremost focus of an authentic leader remains on developing personal and professional growth and development along with skills, knowledge, abilities and competencies (Javed et al., 2018). Additionally, an authentic leader also functions as a role model, exhibiting exemplary behaviour through a constructive and positive approach at the workplace. This indicates a professional commitment and performing better at the workplace. However, doing more could lead to creating pressure among workers, because in time-bound projects there are certain deadlines which require extra effort. Hence, it is assumed that while psychological capital is developed, the time constraint creates stress at the same time.

Studies have shown that work-related stress could be further exacerbated due to personal and other stressors, which work as multipliers (Haque and Aston, 2016; Faizan and Zehra, 2016; Zehra and Faizan, 2017). Employees with an authentic leader experience positive emotions, associating them with their leader; an authentic leader fosters employee optimism as a result. Lastly, considering new changes, uncertainty increases; thus, workers need higher levels of resilience at the workplace. This is where authentic leadership enables workers by providing a sense of ownership, in so doing effectively strengthening employees' resilience. Furthermore, an authentic leader initiates a high-quality relationship with employees by emphasising the values of inclusion, thereby helping employees in stressful situations and developing employees' resiliency as a result.

“The authentic leader cultivates a supportive organisational climate comprised of communicative and moral characteristics” (Woolley et al., 2011), positively affecting hope, optimism, self-efficacy and the resilience of employees (Amunkete & Rothmann, 2015). “Employees with PsyCap have higher optimism, self-efficacy, hope, and resiliency; these psychological resources promote employees’ task performance” (Adams et al., 2002; Avey, Nimnicht and Pigeon, 2010; Bandura, 2000; Bandura and Locke, 2003; Luthans et al., 2005; Maddi, 2005). Nevertheless, PsyCap in relation to the authentic leadership style is only studied in a single context. There is still no conclusive evidence of the role of PsyCap in the presence of occupational stress at the workplace in a cross-cultural context.

1.3. Occupational stress

As defined earlier, occupational stress is not a new phenomenon, because it has been evident for decades in the organisational setting. It is the natural response of a body to attack (Haque and Aston, 2016; Selye, 1974; Stranks, 2005). Individuals respond differently to stress when they encounter it in organisational settings; some consider it a positive motivator which helps them to perform well, while others find it a negative attribute which affects their health as well as performance (Haque et al., 2018). Eustress (good stress), distress (bad stress), hyper-stress (too much stress), and hypo-stress (too little stress) are the four categorisations proposed by Selye (Haque et al., 2018; Faizan and Haque, 2019). Stranks (2005) argued that it is good to have a little stress, but excessive distress leads to acute and/or chronic stress among individuals.

In the organisational context, occupational stress is stress which arises at the workplace. However, there is no definite

single feature causing higher or lower stress. Stranks (2005) argued that broadly there are three types of causes of stress, namely personal factors, organisational factors, and environmental factors. Personal factors include all those attributes that are linked closely to the individual’s own self such as family problems, financial problems, and personality clashes (Haque & Aston, 2016; Haque et al., 2016, 2018; Stranks, 2005). Interestingly, a study by Haque and Aston (2016) revealed that personal factors affect females more significantly than males. The same study also found that personal factors affect operational level employees more than managerial level employees in the IT sectors of Pakistan and the UK respectively.

Organisational factors are the second types of stressors that include task demands, role demands, leadership style, organisational structure, interpersonal relationships and the life cycle of the organisation (Stranks, 2005). Interestingly, the Haque and Aston study (2016) found that, in contrast to females, these types of stressors commonly create stress among male employees, irrespective of the type of economy. Furthermore, the study also found that managerial level employees more commonly experience stress due to these factors than lower level employees. A study by Zehra and Faizan (2017) revealed that project-based organisations have higher organisational stressors, largely attributed to the style of leadership. Nevertheless, there is no conclusive evidence regarding the authentic leadership style in relation to managing organisational stressors.

Environmental stressors are factors such as political uncertainties, economic uncertainties, and technological uncertainties (Stranks, 2005). Such types of stressors usually arise due to the external factors associated with work in the organi-

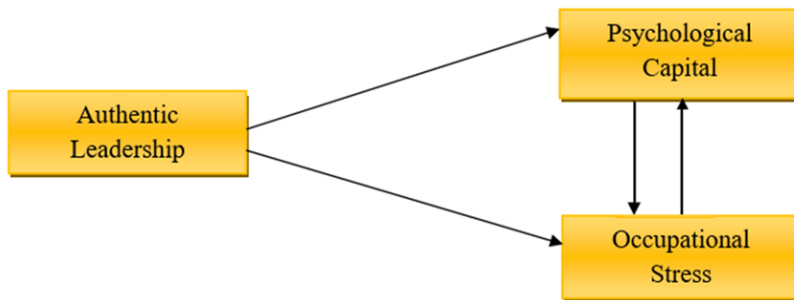
sational setting. The study by Haque and Aston (2016) revealed that environmental factors affect IT employees' working efficiency and performance to a certain extent in both Pakistan and the UK. Nevertheless, little is known about which factors cause more stress to employees working on time-bound projects in software houses in the UK and Pakistan. Furthermore, there is

still no clear evidence regarding the role of the authentic leadership style in managing these distinctive stressors in the IT sectors of contrasting economies. Additionally, there is a need for an investigation to assess how psychological capital is developed by authentic leaders when there are different types of stressors prevalent at the workplace.

2. Research framework

The gaps identified in the literature led to the development of the present research framework.

Figure 1. Self-constructed research framework



Source: Own elaboration.

Consequently, the research hypotheses are as follows.

Hypothesis H1: Authentic leadership plays a positive role in creating the psychological capital of employees in the IT sectors of Pakistan and the UK.

Hypothesis H2: Authentic leadership plays a positive role in managing the occupational stress of employees in the IT sectors of Pakistan and the UK.

Hypothesis H3: There is a correlation between the psychological capital and occupational stress of employees in the IT sectors of Pakistan and the UK.

3. Methodology

3.1. Sample and procedure

The population of this study is formed from employees working in software houses in the UK and Pakistan. The social desirability bias (that is, the tendency of survey respondents to answer questions in a manner that will be viewed favourably by others) was controlled by personally visiting the software houses and recruiting the participants after briefly presenting the objectives of the study. By adopting the strategy of Haque et al. (2018), the convenience and purposive sampling techniques were combined in order to avoid self-biases while opting for an equal proportion of respondents in two contrasting economies.

The researchers began their procedure by approaching the HR department of the target organisations, sending a formal email explaining the purpose of data collection and seeking formal consent. They were also informed of the confidentiality and anonymity of the participants as well as there being no financial considerations applicable to participation in the study. The cover letter also assured the organisations that the lead author has no direct or indirect acquaintances with the subjects. After formal consent was granted, the participants were given a brief description stating that "there is no right or wrong answer. The purpose is to seek their opinion. The survey should take 7-15 minutes; however, there are no time constraints - participants can take as much time as they wish to respond. Their shared views, opinions, experiences and personal information will remain confidential".

The lead author visited a total of 23 organisations (12 in Pakistan and 11 in the UK) and distributed questionnaires to employees who were willing to participate. After a month, the questionnaires were collected first from Pakistan - 110 were completed in total. Thus, the decision was made to use only 110 valid questionnaires from the UK in order to have equal and fair representation from both economies. It took three extra weeks to reach an equal proportion, as the first attempt resulted in the return of only 73 completed surveys from the UK, so extra time was allocated to reach the desired target number.

3.2. Measurements

For all variables of interest, namely authentic leadership, psychological capital and occupational stress, the responses were obtained by using a 5-point Likert-type scale with the following anchors: 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree.

3.2.1. Authentic leadership

The scale by Walumbwa et al. (2008) for authentic leadership contains 16 items, including Relational Transparency, Self-Awareness, Balanced Processing and Internalised Moral Perspective respectively. The same scale was used in other studies, which reported its good reliability (Leroy et al., 2015). Thus, by opting for the test-retest-reliability approach, the same scale was used in this study. Items included were "*I stay true to my personal values*", "*People can count on me to behave the same way in different situations*", and "*I am aware of why I do the things I do*". The Cronbach's alpha reliability scored 0.76, reflecting higher internal consistency.

3.2.2. Psychological capital

Luthans et al. (2007) developed a scale for a psychological capital measurement tool, with 24 items in four categories including self-efficacy, resilience, optimism, and hope. The same scale was used in another study that reported acceptable reliability (Wang et al., 2014). Sample items were "*If organisations transform a new working system which is difficult to understand, I am still confident that I can learn new things from this system*", "*If I have to face bad situations, I believe that everything will change for the better*", and "*I feel confident in analysing long-term problems to find the solution*". The Cronbach's alpha reliability was found to be 0.71, reflecting acceptable internal consistency.

3.2.3. Occupational stress

Haque and Aston (2016) developed a six-item scale from Stranks' (2005) work, which was later adopted and found to be reliable (Haque et al., 2016, 2018; Zehra and Faizan, 2017). Sample items were "*I am expected to do many different tasks in too little time*", "*I work under tight deadlines*", "*I frequently make mistakes in my*

work", "Lately, I respond badly in situations that normally wouldn't bother me", "While relaxing I frequently think about work", and "I usually find the solutions to my problems at work by myself". The Cronbach's alpha reliability was measured as 0.81. Hence, there is a higher level of internal consistency.

3.3. Covariates

The results showed significant differences in stress according to gender ($F=.03$, $P < .05$) while insignificant difference across age ($F=3.14$, $P > .05$), experience ($F=2.67$, $P > .05$), and education ($F= 4.94$, $P > .05$). Thus, gender is a control variable in the present study.

In this study, Partial Least Square Structural Equation Modeling (PLS-SEM) was employed to find the role of an authentic leadership style in creating psychological capital and managing stress. In addition, the correlation between occupational stress and psychological capital was determined using IBM SPSS 23.0.

4. Results

In this section, firstly the descriptive statistics are presented, followed by the measurement model and structural model.

4.1. Descriptive statistics

Demographic variables in the two distinctive economies are discussed below:

Table 1. Demographic variables in contrasting economies

Components	Pakistan		United Kingdom	
	Male	Female	Male	Female
Gender	47%	53%	51.3%	49.7%
	18-25 years		26-33 years	
Age	66%		54%	
	Bachelor's degree		Bachelor's degree	
Education	42%		48.2%	
	3-5 years		6-8 years	
Experience	34.5%		41%	

Source: Own elaboration.

As is evident, the results showed that in terms of gender, the proportion of males compared to female is higher in the UK than Pakistan (Males (UK: PAK) = 51.3% > 47% compared to females (UK: PAK) = 49.7% < 51.3%). The UK sample is relatively more experienced than the Pakistani one, as the majority of respondents lie in the age bracket of 26-33 years, with six to eight years of experience. On the other hand, the sample from Pakistan is fresh (most participants are aged between 18-25 years) with substantial (three to five years) experience. The majority of the participants in both economies hold bachelor's degrees.

4.2. Measurement model

In this section, the validity of the measurement model is determined through Cronbach's alpha (α), composite reliability (CR), Average Variance Extracted (AVE) and the Fornell and Larcker Criterion by assessing it in both economies. Considering Cronbach's alpha and composite reliability, the benchmark is 0.7; a figure equal to or greater than this reflects an acceptable value, while AVE should be equal or above 0.50 (Hair et al., 2016; Imran et al., 2018; Vveinhardt and Gulbovaite, 2018; Lušňáková et al., 2019). The obtained values of α , CR and AVE are acceptable in this study (Table 2).

Table 2. Constructs validity and reliability values

Constructs	Pakistan			United Kingdom		
	(α)	CR	AVE	(α)	CR	AVE
Authentic Leadership (AUTL)	0.77	0.721	0.552	0.75	0.712	0.534
Psychological Capital (PsyCap)	0.72	0.713	0.513	0.70	0.701	0.532
Occupational Stress (OCSTR)	0.83	0.812	0.672	0.79	0.785	0.598

Source: Own elaboration.

The above table confirmed that Cronbach's alphas (α) in both countries are greater than the threshold value (0.70) for all three items on the scale, reflecting acceptable internal consistency (AUTL--> 0.77 > 0.70; 0.75 > 0.70; PsyCap--> 0.72 > 0.70; 0.70 \geq 0.70; OCSTR-->0.83 > 0.70; 0.79 > 0.70; Table 2). Similarly, composite reliability (CR) in both countries is evident to be greater than 0.7, reflecting the fact

that composite reliability is acceptable (AUTL--> 0.72 > 0.70; 0.71 > 0.70; PsyCap--> 0.71 > 0.70; 0.70 \geq 0.70; OCSTR--> 0.81 > 0.70; 0.78 > 0.70; Table 2). AVE in both economies are greater than 0.5; thus, the measurement model is valid (AUTL--> 0.55 > 0.5; 0.53 > 0.5; PsyCap--> 0.51 > 0.5; 0.53 > 0.5; OCSTR-->0.67 > 0.5; 0.59 > 0.5; Table 2).

Table 3. Fornell-Larcker criterion (Constructs validity values)

Constructs	Pakistan		
	AUTL	PsyCap	OCSTR
AUTL	0.729		
PsyCap	0.679	0.711	
OCSTR	0.703	0.673	0.709
United Kingdom			
AUTL	0.724		
PsyCap	0.619	0.709	
OCSTR	0.701	0.671	0.702

Note: AUTL= authentic leadership; PsyCap= Psychological Capital; OCSTR= Occupational Stress

Source: Own elaboration.

"The Fornell-Larcker criterion is based on the correlation among the exogenous variables while such values of the variables are compared with the square root of AVEs" (Hair et al., 2016). Table 3 revealed that the correlation among all the variables is less than the square root averages (AVEs), which is highlighted in a crosswise manner. Thus, the results confirmed the discriminant validity of the measurement model in the current study. The heterotrait-monotrait ratio of correlations (HTMT) is a new criteria by which to evaluate the discriminant

validity (Hair et al., 2016). The values of HTMT should be less than 1. Therefore, this study found all values of HTMT under 1, confirming discriminant validity.

Table 4. HTMT

Constructs	AUTL	PsyCap	OCSTR
Pakistan			
AUTL	0.706		
PsyCAP	0.632	0.702	
OCSTR	0.696	0.654	0.687
United Kingdom			
AUTL	0.713		
PsyCAP	0.635	0.704	
OCSTR	0.624	0.644	0.698

Note: AUTL = authentic leadership; PsyCap = Psychological Capital; OCSTR = Occupational Stress

Source: Own elaboration.

4.3. Structural model

After validation of the measurement model, the next step is assessing the relationship between research variables by testing the research hypotheses. Three main aspects in structural equation modeling are path coefficient criteria, coefficient of determination (R^2) and effect size (f^2). "The path coefficient criteria are assessed through consideration of the t-value, which should be equal to or greater than 1.96 at a 0.05 significance level" (Imran et al., 2018; Derevianko, 2019). R^2 shows the variability within the dependent variable caused by latent variables; the rule of thumb is that

$R^2=0.75$ reflects substantial variability, 0.50 indicates moderate variability while 0.25 represents weak variability (Hair et al. 2016). In this study, R^2 is substantial in both countries: Pakistan $R^2=0.745$, indicating that 74.5% of the variability in psychological capital is caused by authentic leadership, while in the UK $R^2=0.696$, revealing 69.6% variability. It also indicates that an authentic leadership style has a significant, visible role in managing stress at the workplace. Lastly, Imran et al. (2018) explained that the effect size (f^2) of up to 0.02 is small, 0.15 is moderate, and 0.35 is strong.

Table 5. Structural model results

Hypothesis	B	SD	T Value	Decision	f2	R2
Pakistan						
AUTL -> PsyCap	.282	0.085	3.317***	0.001**	0.251	0.745
AUTL -> OCSTR	.325	0.036	9.027***	0.000**	0.369	
PsyCap -> OCSTR	.186	0.052	3.576***	0.000**	0.292	
United Kingdom						
AUTL -> PsyCap	.237	0.089	2.662**	0.002**	0.236	0.696
AUTL -> OCSTR	.362	0.042	8.619***	0.000**	0.356	
PsyCap -> OCSTR	.175	0.068	2.573**	0.001**	0.213	

Note: *** $p < 0.01$, ** $p < 0.05$, ns= nonsignificant ($p > .05$) (Two Tail)

Source: Own elaboration.

Table 6. Correlation between variables of interest

Correlation variable	Pearson Correlation	Sig Value	Results	Interpretation
Pakistan				
Authentic leadership & Psychological Capital	.822	0.001	$p < \alpha$	***
Authentic Leadership & Occupational Stress	.751	0.000	$p < \alpha$	****
Psychological Capital & Occupational Stress	.861	0.000	$p < \alpha$	****
United Kingdom				
Authentic leadership & Psychological Capital	.837	0.002	$p < \alpha$	****
Authentic Leadership & Occupational Stress	.762	0.000	$p < \alpha$	****
Psychological Capital & Occupational Stress	.875	0.000	$p < \alpha$	****

NS = No Significance, ** = significant, *** = highly significant, and **** = highly statistically significant

Source: Own elaboration.

Table 7. Path coefficients in the baseline model

Structural Path	Path Coefficients
Authentic Leadership → Psychological Capital	.71**
Authentic Leadership → Occupational Stress	.57**
Psychological Capital → Occupational Stress	.52**

Notes * $p < .05$, ** $p < .01$, *** $p < .001$

Source: Own elaboration.

After establishing acceptable discriminant validities, the next step was to test the research hypotheses; since gender is a control variable, it was therefore used to test hypotheses, which are presented in Table 4.

Hypothesis H1 stated that authentic leadership plays a positive role in creating the psychological capital of employees in the IT sectors of Pakistan and the UK. The statistical results confirmed that it does indeed play a positive role in both economies ($\beta = 0.282, p < 0.05$; $\beta = 0.237, p < 0.05$; Table 5). Thus, hypothesis 1 is retained. Hypothesis H2 stated that authentic leadership plays a positive role in managing occupational stress of employees in the IT sectors of Pakistan and the UK. Hence, in light of the statistical evidence, hypothesis H2 is retained ($\beta = 0.325, p < 0.05$; $\beta = 0.362, p < 0.05$; Table 5). Lastly, hypothesis H3 stated

that there is a link between the psychological capital and occupational stress of employees in the IT sectors of Pakistan and the UK. The results confirmed that there is a positive direct relationship between psychological capital and occupational stress, reflecting that an increase in psychological capital leads to a tendency to manage occupational stress effectively ($\beta = 0.186, p < 0.01$; $\beta = 0.175, p < 0.01$; Table 5). The correlation revealed that there is a statistically significant correlation between occupational stress and psychological capital ($PAK = 0.000 < 0.05$; $p < 0.05$; $UK = 0.000 < 0.05$; $p < 0.05$; Table 6). In addition, an authentic leadership style plays a significant role in effectively managing occupational stress and developing psychological capital (CI values between 0.51 to 0.71, Table 7). Hence, hypothesis H3 was supported.

5. Discussion

The purpose of this study was to examine the role of an authentic leadership style in managing occupational stress and developing psychological capital in the fast-paced IT sector in contrasting economies. The findings confirmed that an authentic leadership style plays a positive role in the development of psychological capital as well as managing occupational stress effectively. Furthermore, results also found that employees with higher levels of psychological capital are more effective in managing occupational stress in both emerging and developed economies.

The results predict a positive relationship between authentic leadership and psychological capital; therefore, the findings are aligned with the work of Aga et al. (2016). Additionally, a positive relationship between authentic leadership and Psy-Cap helps with the successful completion of project, which means the present findings confirmed the earlier work of Aga et al. (2016). Moreover, the supportive behaviour of leaders was found to encourage employees to accomplish the organisational objectives in a timely manner. Thus, this study supports the earlier work of Zehra and Faizan (2017). It is also evident that transparent, hopeful and resilient leaders are more effective in developing social and psychological capital. Hence, this study supports the work of Luths and Avolio (2003). Furthermore, this study indirectly supports the work of Ilies et al. (2005) and Haque et al. (2018) that a leader's greater understanding of oneself through having a clear view of motives, emotions, feelings, and behaviours helps in managing occupational stress at the workplace and leads to the formulation of psychological capital, as they have a greater tendency to respond to a consistently changing environment.

Additionally, the interpersonal relationships between authentic leaders and employees lead to the successful completion of tasks in a timely manner. It also helps employees to manage their personal and organisational factors, which increases employees' confidence in authentic leaders. A relationship between an authentic leadership style and occupational stress was also established. Both personal and organisational stressors are confirmed in this study; therefore, this study supports the work of Stranks (2005). In addition, gender was used as a controlled variable, and it was found that females have higher levels of stress due to personal factors while males are more stressed due to organisational factors. Hence, this study is aligned with the work of Haque and Aston (2016), Haque et al. (2016) and Haque et al. (2018) while contradicting the work of Kumasey et al. (2014).

There is an evident link between psychological capital, leadership style and improved task performance; thus, the study is aligned with the work of Gooty et al. (2010). Moreover, there is also a new finding that employees with higher levels of psychological capital are more effective in managing stress at the workplace.

Conclusions

The findings conclude that authentic leadership plays a significant role in the formation of psychological capital as well as in reducing occupational stress in the fast-paced sectors of the contrasting economies which were the subject of research. In other words, authentic leadership is effective in terms of managing employee stress and developing psychological capital. The impact of authentic leadership is moderate to strong in both economies. The findings revealed that leaders who are viewed as honest and reliable are more effectively fol-

lowed by employees. The job performance of employees improves due to authentic leaders. Hence, it is confirmed that there is a positive, statistically significant relationship between an authentic leadership style and the creation of psychological capital in both economies. The findings also confirmed that authentic leaders play a positive role in the effective management of occupational stress. Moreover, it is confirmed that occupational stressors including personal and organisational factors affect the efficiency of workers in the organisational setting. Using gender as a controlled variable, it is found that males are subject to higher levels of stress due to organisational factors such as role demands, task demands, leadership style, organisational structure and the life cycle of the organisation, whereas females are more stressed due to personal factors including family problems, financial problems and personality clashes. Lastly, the study confirms that there is a positive direct link between psychological capital and occupational stress. With the increase of psychological capital, there is a greater tendency to manage workload.

The present study contributes to the enhancement of the existing body of knowledge by confirming that there is a direct relationship between occupational stress and psychological capital in the context of developed economies as well as emerging economies. There is evidence for the positive impact of authentic leadership in reducing stress and improving psychological capital in the contrasting economies. The findings support the theme of Social Cognitive Theory (SCT) that behaviours and cognitive processes of individuals change by observing others. According to Bandura (1977), social learning theory attempts to explain human behaviour "in terms of a continuous reciprocal interaction between cognitive, behavioural, and

environmental determinants" (p. vii). In the present study, authentic leadership is evidently effective in creating an external supportive environment that helps in reducing stress and enhancing psychological capital. Both personal and organisational stressors are confirmed in this study; therefore, this study supports the work of Stranks (2005). In addition, gender was used as a controlled variable, and it was found that females have higher levels of stress due to personal factors while males are more stressed due to organisational factors. SCT explains that the particular behaviour of employees is due to first viewing the authentic leaders' capabilities, hope, optimism and resiliency (Bandura, 2000). Thus, when individuals possess these resources, through the support of authentic leadership they then successfully perform a given role while also developing psychological capital and reducing stress. Hence, the findings of the present study support the arguments posed by SCT.

This research has several implications related to the literature on authentic leadership, psychological capital and occupational stress. Firstly, the study theorises that there is a shift from traditional autocratic leadership styles to authentic leadership styles for the fast-paced industry, developing long-term psychological capital while at the same time reducing occupational stress. Secondly, the study also adds a new dimension to the existing literature, as previously there was literature related to the relationship between authentic leadership and psychological capital; however, no studies had previously examined occupational stress as another interlinked dimension. Thus, the present study theorises that authentic leadership not only forms PsyCap, but also plays an important role in the reduction of occupational stress. The effective management of occupational stress is another important mechanism

by which to improve working efficiency through an authentic leadership style.

It is recommended that an authentic leadership style should be used more often in the fast-paced industry requiring the successful completion of projects in a timely manner. Additionally, it is also proposed that supervisors/managers should promote a supportive environment to reduce employee stress so that positive psychological resources including optimism, self-efficacy, hope and resiliency could be sustained in the long term.

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