



The Varying Effects of Self-efficacy and Creative Cognition on Employees' Adaptability in Uncertain Work Situations



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Abstract: This research paper aims to expand the literature on employee adaptability in uncertain situations by establishing its relationship with creative cognition. The study also tests the interacting effect of self-efficacy on the relationship between creative cognition and adaptability. A self-administered survey was conducted on 431 healthcare professionals working in central districts of Khyber Pakhtunkhwa. Data was tested through regression analysis on SPSS version 23 to analyze the relationship hypothesized in a theoretical framework. The results of the analysis demonstrated that creative cognition predicts employee adaptability in uncertainty. The results also affirmed that this relationship become more strengthened for employees with high self-efficacy. The research study makes a valuable contribution to employee adaptability pieces of literature by examining the relationship between creative cognition and employee adaptability in uncertain and unpredictable work situations and by witnessing self-efficacy as an interacting variable such as that higher value of self-efficacy will strengthen the established relationship of creative cognition and adaptability. The study also expressed the managerial implications, limitations of the study and future directions also discussed.

Key Words: Creative cognition, Self-efficacy, Adaptability, Uncertainty

JEL Classification:

Introduction

Organizations do not operate in a vacuum; they are affected by the change in their environment (Van Robaey et al., 2017). Several emergencies and crises such as the Covid-19 pandemic may impose uncertain and challenging conditions on organizations (Charoensukmongkol, & Phungsoonthorn, 2021). The pandemic of Covid-19 has also abruptly changed the business dynamics (Park & Park, 2020) by influencing technology,

techniques, and skill competencies (Bravo & Ostos, 2020). Thus, it has become a prime concern for organizations operating in such a volatile environment to have a workforce having such adaptive capacity which may abruptly adapt to the changing business contexts (Charbonnier-Voirin & Roussel, 2012; Park & Park, 2019). Sometimes, these challenges resulted in a more severe and uncertain situation due to sudden changes in the environment. Organizations also need to

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operate and survive in such changing and uncertain situations (Griffin, Neal, & Parker, [2007](#); Baard, Rench, & Kozlowski, [2014](#); Jundt, Shoss, & Huang, [2015](#)). Due Covid-19 pandemic, several uncertain conditions such as health risks, long working hours due to quarantine of colleagues, lockdowns put great concerns on management to maintain the performance of every sector and especially healthcare units (Saleem, Malik, & Qureshi, [2021](#)).

In this study, the performance adaptation process in uncertain and unpredictable work situations is examined by examining the role of cognitive and psychological factors. Based on cognitive adaptation theory (Taylor, [1983](#)), this study examines the role of creative cognition in predicting the employee's adaptability in uncertain and volatile work situations. In the current volatile business environment, organizations need to have an adaptable workforce confronting such uncertain and unpredictable work situations, (Groenen et al., [2021](#)). Hence, the organizational HRD program intends to develop capabilities and improve performance which can ultimately boost employees' capacity for adaptation by offering more learning and development opportunities. However, further research in the HRD field is required to fully understand employees' adaptableness (Park & Park, 2019). Organizations need to manage adaptive performance if they desire to deal with increasing environmental uncertainty, varying job roles, and emerging opportunities (O'Grady, Akroyd & Scott, [2017](#)). Uncertainty is described as "an individual's perceived inability to predict something accurately" (Milliken, [1987](#), p. 136). Uncertainty is one's doubtful condition, one's own state of doubt in his environment, which also includes doubts about the environment's qualities, as well as the interaction between oneself, others, and the surroundings. (Jordan & McDaniel, [2014](#)). Previously, literature mostly discussed the negative aspects of uncertainty but now the researcher considers it a more positive perspective which acts as a source of stimulating new thoughts, beliefs and actions (Beghetto, [2022](#)).

Employees who deal with emergencies, unexpected performance requirements, and dynamic situations should have the required competencies and skills to adapt to uncertain performance conditions (Naami et al., [2014](#)). Adaptability enables individuals to adjust their capabilities and skills to face the challenges such as a change in environment, technology, and varying job requirements (Naami et al., 2014). In short, adaptability has become the key to success for organizational survival in such a volatile business environment (Park & Park, 2020). In short, adaptive performance has become the key to success for organizational survival in such a volatile business environment (Park & Park, 2020). The employees serving in organizations offering emergency handling services (like hospitals and rescue agencies) need to demonstrate a high level of adaptive role. Healthcare professionals serve as frontline workforce dealing with uncertain and unpredictable work conditions despite a high probability of their exposure to pathological diseases (Labrague, & Santos, [2020](#)). The adaptability of employees is considered a crucial skill in today's changing and uncertain work situations. In the human resources aspect, organizations need to have such employees who can adapt quickly to changing work situations. This adaptability can be acquired by learning new skills, working creatively, and adapting to novel work environments (Şahin, & Gürbüz, [2014](#)). Adaptable employees who are able to "think out of the box" are in a position to effectively deal with complex challenges and a fast-changing business environment (Jafri, Dem, & Choden, [2016](#)). In the literature, there are numerous individual-level factors that were tested as predictors for adaptive performance and its sub-dimensions which includes dealing with uncertain and unpredictable work situation (Park & Park, 2019; Jundt et al, 2015). These individual-level predicting variables include general cognitive ability (Gottfredson, [2002](#); Allworth & Hesketh, [1999](#); Blickle et al., [2011](#); Pulakos et al., [2002](#)), openness to experience (Griffin and Hesketh, [2004](#)), emotional stability (Pulakos et al., 2002), conscientiousness (Shoss et al.,

2012; Huang, Ryan, Zabel, & Palmer, 2014), and goal orientation (Bell & Kozlow, 2008) but the relationship of cognitive capacity of creativity i.e creative cognition with the employee adaptability was not been studied in literature. Cognitive abilities of the employees may also help employees in maintaining a certain level of adaptability in changing and uncertain business contexts that require employee creativity for thriving in chaos, be proactive, and grow by overcoming hardships and difficulties (Yu, Li, Tsai & Wang, 2019). In literature, specific employee's general cognitive abilities such as the ability to learn or individuals' information processing capacity (Le Pine et al., 2000), cognitive flexibility, cognitive openness, and focused attention (Jundt et al., 2015) were studied as an antecedent to adaptive performance whereas creative cognition which is the creative ability to think creatively was not studied in relation with adaptive performance. Thus, this study is going to fill this gap in the literature by testing creative cognition as an antecedent of employee adaptive capacity in uncertain and unpredictable work situations.

Since the conception of adaptive performance (Pulakos et al 2000), several individual differences were checked as antecedents to adaptive performance. Which includes personality, capability, skill, knowledge, and emotional stability but the most studied antecedent related to individual differences in adaptive performance is self-efficacy (Park & Park 2019). Self-efficacy is defined as one's judgment of "how well one can execute courses of conduct needed dealing with prospective situations" (Bandura, 1982, p. 122). Individuals having an advanced position of psychological capacity like efficacy can handle problems at work and meet the immediate conditions of the job (Ozturk & Karatepe, 2018). Therefore, in line with the literature, this study also going to test the moderating part of self-efficacy between the relationship of creative cognition and individual adaptive ability in uncertain and changeable work situations.

Literature Review and Theoretical Framework

Adaptability in Uncertain and Unpredictable Work Situations

In literature, employee adaptability was related to a wide variety of unpredictability and uncertainty in working conditions. Performance efficiency depends on the ability of workers that how quickly they adjust and deal with the unpredictable nature of situations. Pulakos et al (2000) define adaptive performance comprehensively in eight sub-dimensions. Dealing with uncertain and unpredictable work situations is one sub-dimension. The adaptive performance described by Pulakos et al., (2000) is the capacity of an individual to take the right, effective, and appropriate decision actively by responding to the situation on his perceptions and predictions in case of low information on the matter (uncertain and unpredictable situations). This adaptability also includes the ability to prioritize work according to the demand of changing situations so that all the plans and actions could be adjusted with demanding working conditions, and also to develop such effective way of working which could facilitate employees in changing work demand (Pulakos et al., 2000).

Creative Cognition

Creative cognition is a general mental capacity to create new and novel ideas and products that arise from the application of common and basic cognitive processes to existing knowledge structures Creative cognition is a mental capacity to generate such ideas and tangible products that emerge from the application of ordinary, fundamental cognitive processes that are novel and useful (Ward 2007). Creative cognition is defined as: "The cognitive capacity to behave creatively is a normative characteristic of humans and seeks to advance our understanding of creativity through precise characterization and rigorously scientific study of the cognitive processes that lead to creative and noncreative outcomes" (Ward, 2007, p. 28). The creative cognitive approach assumes that

humans have the cognitive capacity to form, modify, extend and combine simple and complex concepts and that these processes are used in creative thinking (Ward et al., 1997). Davis (2004) defined creative cognition as the generation of more creative ideas by the human mind through the use of creative techniques and strategies. Rogaton and Moneta (2015) define creative cognition as the application of a certain level of creative ability and stated that people with high creativity may not be able to express creative insights at work, whereas people with low creativity may be able to do so. So, creative cognition is the application of creative thoughts that one could produce based on his own cognitive level.

Several research studies highlighted the importance of cognitive capability in the work context, Pulakos et al, (2002) highlighted that to achieve efficiency in changing work situations, cognitive capability makes one able to modify his/her behaviour. Cognitive abilities also help employees in maintaining a certain level of adaptability in changing business contexts that requires employee creativity (Yu, Li, Tsai & Wang, 2019). Creative cognition also supports the creation of goal-directed, self-generated thought processes, and novel ideas which are particularly essential to meet specific task demands i.e., changing work demands (Beaty et al., 2016). The cognitive adaptation theory (Taylor, 1983) also stated that while confronting a critical situation, an individual will adjust his behaviour based on his cognitive capacity and modify the circumstances into positive illusions. Thus, based on the cognitive adaptation theory (Taylor, 1983) and previous literature, the current study proposed a positive association between creative cognition and employee adaptability in uncertain and unpredictable work situations.

H1: Creative cognition is positively related to employee adaptability in uncertain and unpredictable work situations.

Self-efficacy

Self-efficacy is termed as one's positive belief on his capabilities. According to Bandura (1997), self-efficacy is defined as the

confidence to carry out the resources and actions necessary to successfully complete a task in a challenging environment. (Stajkovic and Luthans 1998b). Individuals who scored high on their self-efficacy can carry out difficult tasks, organize the necessary cognitive assets, and even thrive in the face of obstacles. A person's self-efficacy is based not only on their beliefs about their abilities but also on their belief that they can achieve something by using their abilities (Bandura, 1986). An individual's self-efficacy depends not only on what they intend to do but rather on their beliefs about the capacity or ability of what they can do (Maddux, 2012). Cognition

Several empirical pieces of research demonstrate a positive effect of PsyCap on several

work outcomes i.e. performance (Newman et al. 2014). High levels of collective PsyCap, as reflected in self-efficacy, increases organizational performance, as employees whose PsyCap are high have more chances to display the goodwill and confidence needed to master their jobs and perform to improve (Chen et al., 2021; Luthans et al. 2008; Chen, Wang, Chen, Fosh, & Wang, 2021). In another study, Gully et al. (2002) also found that self-efficacy is linearly and positively associated with team performance as highly efficacious employees encouraged each other to set high goals, succeed on challenges, put extra effort to accomplish their goals and thereby perform well. An empirical study in the Chinese context also has found that a high level of PsyCap including efficacy would enable employees to feel stimulated and challenged in changing business environments (Luthans et al. 2005, 2008; Chen et al., 2021). Another empirical study by Hmieleski and Carr (2008), which measures entrepreneurs' job performance in a dynamic industry environment, also found that this association between PsyCap and performance is stronger for entrepreneurs whose PsyCap level was high. In an uncertain work environment, high levels of self-efficacy might learn from stress and anxiety at work by seeing uncertainty as a chance for learning and development. (Luthans and Youssef 2004). Hmieleski and Baron (2009) also hold that a

positive perception of an uncertain work environment made employees confident in achieving their organizational goals. Based on these works of literature, supports, the current research study is going to check the positive association between employee self-efficacy and adaptability in uncertain and unpredictable work environments.

H2: Self-efficacy is positively related to adaptability in uncertain and unpredictable work environments.

Research in positive psychology demonstrates that certain personal resources (e.g. self-efficacy) enable employees to deal with difficulties in the workplace and achieve positive work outcomes (Bouzari & Karatepe, 2017; Harms, Vanhove & Luthans, 2018). Employees who possess high psychological capabilities, such as self-efficacy, are able to deal with workplace issues and meet the immediate needs of the workplace (Ozturk & Karatepe, 2019). Self-efficacy (Bandura, 1986) has also been tested as a major antecedent of performance in impulsive and demanding work situations (Schunk, 1983). In addition, an empirical study was conducted to examine the impact of task-specific self-efficacy on adaptation to unpredictable and unsafe work situations (Pulakos et al, 2002). As self-efficacy is a personal belief in his ability to perform so that it is theorized that an individual with highly efficacious will mostly adapt to change in uncertain work situations by utilizing his cognitive capacity of creativity. So in the current research study, the contingent effect of self-efficacy between creative cognition and individual adaptability in uncertain work situations will be assessed,

H3: Self-efficacy will moderate the positive relationship between creative cognition and employee adaptability in uncertain work situations

Methods

Sample and Procedure

Procedure

For a collection of responses from the respondents, the current study adopts the

quantitative survey method. Structured questionnaires were distributed among healthcare professionals working in primary and secondary healthcare units of Khyber Pakhtunkhwa and responses were recorded. Keeping in view the large population, probability sampling was not feasible due to the difficulties involved in approaching the total population. In such a situation, non-probability sampling is suitable to adopt (Singleton & Straits, 2005). Thus, the purposive sampling method of the non-probability sampling technique was used for data collection which helped us to collect data in sufficient numbers from the targeted organizations to fulfill the research objectives. The researcher personally met with the respondents and briefed them about the main objective of conducting this research study and also about the secrecy of the data. The respondents were requested to respond questionnaire and efforts were made to take responses through direct contacts to resolve all the queries in a questionnaire on the spot.

Sample

The sampling frame of this research consists of healthcare professionals deploying in government-owned primary and secondary healthcare units located in the central districts of Khyber Pakhtunkhwa i.e., Peshawar, Mardan, Nowshera, Charssada, and Swabi. For adequacy of representativeness, efforts were made to acquire responses from respondents working in different departments of healthcare units. A total sample of 600 self-administered questionnaires were distributed out of which a total of 450 questionnaires were collected back with a percentage of 75%. Out of these 450 questionnaires, 19 questionnaires were incomplete and unusable, which were then dropped from the data. The overall response rate of respondents was 71%. English is the official language of communication and is well understood in all hospitals as all respondents to this survey have at least a college degree. Therefore, the questionnaire was written in English. The sample of the study includes senior doctors working in managerial positions (02 per cent), domain-specific specialist

doctors (20 per cent), duty medical doctors (37 per cent), trainee medicine (25 per cent), and medical graduates working as house officers (16 per cent). In gender representativeness, the sample consists of 67% male respondents and 33% female respondents.

Measures

This research study was required to measure adaptive performance, compassion, creative cognition, and psychological capital directly from the healthcare professionals working in primary and secondary healthcare units of Khyber Pakhtunkhwa. The construct of creative cognition, and adaptability in uncertain and unpredictable work situations were measured with a 5-grade Likert scale, (1 = Highly Disagree to 5 = Highly agree) and the personality construct self-efficacy was measured with a 6-grade Likert scale, (1 = Highly Disagree to 5 = Highly agree).

Adaptability in Uncertain and Unpredictable Work Situations

Employee adaptability in an uncertain and unpredictable work situation, a sub-dimension of adaptive performance was measured with high reliability and mostly cited multi-dimensional measure operationalized by Pulakos et al., (2000). Out of 36 items, 04 items of the measure were used for measuring dealing with uncertain or unpredictable work situations. A Sample item "I easily reorganize my work to adapt to the new circumstances" to measure the Uncertain and Unpredictable Work Situations dimension of adaptive performance. In literature, this measure has shown good internal consistency reported by researchers (Stokes, Schneider, & Lyons, 2010) by having Cronbach alpha value ($\alpha = 0.94$). In the current research investigation, the scale has good internal consistency by having a Cronbach alpha value ($\alpha = 0.85$).

Creative Cognition

This research study adopted the Use of Creative Cognition Scale (Rogaten & Moneta, 2015a) to measure creative cognition. This uni-

dimensional measure was developed by Rogaten and Moneta (2015). The scale was validated by several studies and found a reliable measure to assess creative cognition. Construct validity of this scale has been assessed on the basis of CFA by (Rogaten & Moneta, 2015a) and found a more valid scale to measure creative cognition (Rogaten & Moneta, 2015a). two studies were also conducted to assess the reliability of the Use of Creative Cognition Scale and high internal consistency, in these studies $\alpha = 0.82$ (Rogaten & Moneta, 2015a) & $\alpha = 0.89$ (Rogaten & Moneta, 2015b) found more reliable scale for measuring creative cognition. Similarly, in the current research study, the scale also has good internal consistency by having a Cronbach alpha value ($\alpha = 0.75$).

Self-efficacy

Self-efficacy was measured with psychological capital scale (PCS) developed and validated by Luthans, Youssef and Avolio (2007b), and Luthans, Avolio, Avey and Norman (2007a). In this 24 items scale, six items were represent self-efficacy, a sub-dimension of the second-order construct of PsyCap. The measure has a sample item "I feel confident helping to set targets/goals in my work area", the scale PCQ-24 (Luthans et al., 2007) was validated in several research studies (Du Plessis & Barkhuizen, 2012; Luthans et al., 2007; Antunes, Caetano, & Pina-Cunha, 2017; Qingshan, Le, & Xuansheng, 2014; Çetin and Basim, 2012). Most of the studies found good internal consistency of the measure indicating α value between 0.80 and 0.90. The current research study also validates this scale also by scoring good internal consistency by having Cronbach alpha value ($\alpha = 0.80$).

Control Variables

Gender, age, and job-related experience were used as controlled variables in this study. All these three variables are likely to significantly predict adaptability in uncertain work situations. Gender a dichotomous variable was assessed by coding as 1 = male, 2 = female.

Results

Prior to detailed analysis, data was assessed for testing assumptions of data normality such as missing values, linearity, heteroscedasticity, univariate outliers, and multicollinearity were tested and no significant problems were found except missing value. There are seven cases of missing values in data that were corrected through the ugh mean substitution method.

Descriptive statistics as shown in Table 1 consist of means and standard deviations,

the table also shows correlations among all the variables on diagonal lines. On average, respondents gave a CreCog score of 3.93, an adaptability score in uncertain work situations of 3.91, and a self-efficacy score of 4.32. Creative cognition, self-efficacy, and the control variables were significantly correlated with adaptability in uncertain work situations. The strongest correlations were found between creative cognition and adaptability in uncertain work situations.

Table 1

Mean, Standard Deviation and Correlation

	Means	St Dev	1	2	3	4	5	6
1. Gend	1.3295	.47057	1					
2. Age	2.0789	.96125	-.135**	1				
3. Exp	2.4176	1.34582	-.130**	.956**	1			
4. CreCog	3.9366	.58323	.040	.026	.028	1		
5. Adaptability	3.9124	.64069	.023	.087	.090	.430**	1	
6. SelfEfficacy	4.3202	.73344	.004	-.043	-.044	.421**	.338**	1

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

The hypothesized relationships of the study were assessed by regression analysis using SPSS version 23. All the proposed relationships such as between independent and dependent variables (hypotheses H1), moderating variable and dependent variable, and the moderating effect of self-efficacy in the relationship between creative cognition and adaptability were tested. I tested Model 1 for testing moderation hypotheses using the SPSS process macro. However, I used standardized values of predictors, including independent variables, moderating variables, and control variables. The results of the investigation are summarized in Table 2. The results showed that the association between CreCog and adaptability is positive and significant ($\beta = 0.319$, $SE = 0.144$, $p = 0.027$) supporting hypothesis H1. The results also

showed that self-efficacy (moderating variable) is also positively and significantly associated with adaptability in uncertain work situations ($\beta = 0.319$, $SE = 0.144$, $p = 0.027$), which also supports the study's hypothesis H2.

The results, as given in Table 3, show the main effect of CreCog on adaptability is positive and significant ($\beta = 0.319$, $SE = 0.144$, $p = 0.027$) which supports hypothesis H1 of the study. The main effect of self-efficacy on adaptability is positive and insignificant ($\beta = 0.169$, $SE = 0.145$, $p = 0.271$) which did not support hypothesis H2 of the study. Similarly, their interaction term (CreCog x Self-efficacy) is positive and significantly related to adaptability ($\beta = 0.135$, $SE = 0.037$, $p = 0.000$). These statistical findings support hypothesis H3 of the study.

Table 2

Moderation Analysis of Self-efficacy in the relation between Creative Cognition and Uncertain work situations

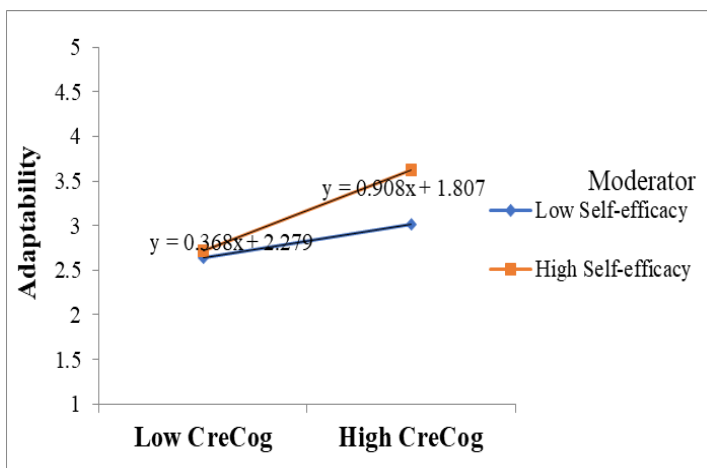
Variables	(DV: Adapty) β (SE)p-value	Results
CreCog	0.319(.144)0.027	
Self-efficacy	0.169(.154)0.271	H1 supported
Int (CreCog x Self-Eff)	0.135(.037)0.000	H2 not supported
Gender	-0.035(0.037)	H3 supported
Age	-0.056(0.061)	
Experience	0.076(0.043)	
R-squared	0.692	

The moderation effect of self-efficacy was also plotted on a Mod graph (shown in Figure 1). The two crossing lines indicate a significant interaction effect of CreCog and Self- efficacy on adaptability in uncertain work situations. The blue line describes the relationship between CreCog and adaptability at a lower level of self-efficacy while the red line demonstrates the relationship between CreCog and adaptability at a higher level of self-efficacy. The different dots on the blue line in the moderation plot demonstrate that the value of adaptability is low at lower levels of self-efficacy and CreCog. The graph

demonstrated that at the low value of CreCog, adaptability remains low both at high and low levels of self-efficacy. The value of adaptability remains low at a high level of compassion and a low level of self-efficacy, but at a high level of self-efficacy and a high level of creative cognition the adaptability in uncertain work situations was increased. Hence, the moderation plot supports hypothesis H3 of the study demonstrating that there is a significant interaction effect of self-efficacy on the relationship of creative cognition and employee adaptability.

Figure 1

The Moderation Analysis of Self-efficacy Between Creative Cognition and Adaptability in Uncertain Work Situation



Discussion

Firstly this research studies investigate the positive relationship between creative

cognition and individual adaptability in uncertain and unpredictable work situations. The results of the investigation indicated that creative cognition is positively and

significantly related ($\beta=.427$) to employee adaptability in uncertain and unpredictable work situations. The statistical findings of this association are supported and in line with the previous literature. Gorgievski & Hobfoll (2008) validated that employees who is having high cognitive resources will be highly adaptable and eventually perform better. The cognitive adaptation theory (Taylor, 1983) also support this association and hold that in critical and threatening situation individual will adapt his behaviour by demonstrating positive illusions of the events. Thus, an employee who is high in cognitive resources of creative ability will be highly adaptable in uncertain and unpredictable work situations by demonstrating his creative cognition capacity to deal with uncertainty by finding more adequate solutions and positive illusions. In an empirical investigation, Beaty et al (2016) confirmed that creative cognition creates goal-directed, self-generated thought processes, and novel ideas which are particularly essential to meet specific task demands i.e., changing work demands. Based on the statistical finding of the current study and literature support, it is concluded that creative cognition is related positively and significantly to employee adaptive capacity in uncertain and unpredictable work situations.

The second hypothesis proposed in the study is to assess the moderating effect of self-efficacy on the relationship between creative cognition and individual adaptability in uncertain and unpredictable work situations. The statistical findings of the analysis confirmed this relationship by founding the significant relation of an interactive term (CreCog*Self-efficacy) with dependent variable adaptability in uncertain and unpredictable work situations ($\beta = 0.135$, $SE = 0.037$ $p = 0.000$). This result of the analysis implies that the employees may experience a change in their adaptive ability in uncertain work situations that represents the cognitive capacity of individuals when they are high cognitive capacity as well as highly confident. The effect was also found significant at various levels of self-efficacy. Such that, at the higher level of CreCog and lower level of self-efficacy, the adaptive

capacity was lower. But at the higher level of CreCog and higher self-efficacy, the effect on adaptive capacity was higher. The findings of the analysis demonstrate a significant moderating effect of self-efficacy on the relationship between creative cognition and employees' adaptability in uncertain work situations. The findings also hold that self-efficacy has a strong contingent effect on the relationship between creative cognition and adaptability in an uncertain work situation in such a way that high self-efficacy strengthens the association between cognition and adaptive performance.

Practical Implications

This study offers several implications for professionals in healthcare settings. Healthcare is one of the most complex and volatile workplaces where employees are often confronted with uncertain and unpredictable work situations. The results also highlight the significance of creative cognition for healthcare professionals to perform effectively in emergency, uncertain, and problematic situations of health. This finding implies that to perform in certain uncertain and unpredictable work situations, a doctor would require a high level of cognitive capacity to perform well. Hence, organizations should facilitate those employees who have stronger creative cognition so that better performance in variant work settings is achieved. Those human resource practices which appreciate the creative capacity of employees and provide them an opportunity for promotion may be promoted. For instance, training interventions such as conferences, seminars, simulations, workshops, and self-assessment tools which develop employees' cognitive capabilities may be introduced. Similarly, rewarding employees with creative cognition may encourage healthcare professionals to demonstrate creative cognitive skills for addressing emergency, stressful, and problematic situations. Further, healthcare managers need to recognize the value of creative cognition for assigning challenging job roles to healthcare professionals for

significant performance outcomes in uncertain healthcare events. Healthcare managers may also adopt some modules of brain exercises for healthcare professionals and cases involving healthcare dilemmas to reinforce the creative capacities of healthcare professionals during emergency, critical, uncertain, and unpredictable task conditions.

Limitations & Future Recommendations

Like other research investigations, the current study also has a couple of limitations. First, this study was conducted only in primary and secondary healthcare units of Khyber Pakhtunkhwa only; future research would also investigate these findings in other

emergency handling setting such as rescue units and private healthcare settings. The second limitation of this study is that it is a cross-sectional study and potentially cross-sectional data would limit the research to draw causal conclusions about various hypothetical associations. Future research may collect data at different points either by using time-lag or longitudinal research designs. Third, this study investigated the contingent effect of only one psychological aspect of personality i.e. self-efficacy; future research may investigate the moderating role of other personality aspects such as consciousness and pro-activity on the relationship of creative cognition and adaptability.

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