

## **How Change Leadership affects Change Adaptability? Investigating the moderated mediation effect of Cognitive Resistance and Change Efficacy**

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### **Abstract**

Drawing on the social cognitive theory, this research examines the relationship between organizational change leadership and change adaptability with mediating effect of change efficacy and moderating role of cognitive resistance. A longitudinal research design with a three-waved data collection procedure was followed to obtain responses from 246 employees working in services sector organizations operating in the province of Punjab, Pakistan. The obtained data were analyzed through Process Macro technique introduced by Hayes (2017) using SPSS 25. The results demonstrated that change leadership has a significant positive impact on change adaptability and change efficacy partially mediated the stated relationship. Further, cognitive resistance to change moderated the mediated relationship between change leadership and change adaptability through change efficacy. This research introduced an innovative model to initiate and implement an organizational change initiative with the help of organizational change leadership. Further, findings also highlighted the importance of developing change efficacy and managing cognitive resistance to change to increase the success ratio of any organizational change process. This research offered implications for the practice side to deploy the services of change leaders to manage the affairs related to organizational change. Furthermore, the key task of the change leaders is to increase the change efficacy and reduce the cognitive resistance to implement an organizational change successfully. This research adopted a novel approach to link a specialized branch of leadership (i.e., change leadership) with change adaptability by addressing the cognitive patterns of employees during change.

**Keywords:** organizational change leadership, change efficacy, cognitive resistance to change, change adaptability, social cognitive theory.

## 1. Introduction

In the contemporary dynamic age, organizations are facing extreme pressure to introduce change initiatives to remain competitive and ensure survival in the market (Appelbaum et al., 2017; Rosenberg & Mosca, 2011). There are numerous aspects behind this notion as organizational change contributes to creativity (Maimone & Sinclair, 2014), competitive advantage (Mishra & Gupta, 2010), innovation (Kim & Choi, 2020), approaching a new paradigm (Tsoukas & Chia, 2002), problem-solving (Basadur et al., 2014), and performance (Ramezan et al., 2013). Resultantly, the concern of top management is to implement required changes effectively but, so far, a decent total of research indicated that about to seventy percent of change initiatives failed to reap the required objectives (Amburgey et al., 1990; Burnes, 2005; Hughes, 2011; Imran et al., 2016; Thomas et al., 2016). The key reason behind the high unsuccessful rate is the poor management of resistance to change especially from individuals and groups (Bovey & Hede, 2001; Coghlan, 1993; Del Val & Fuentes, 2003; Forsyth, 2020). Furthermore, Burnes and Jackson (2011) highlighted that organizational change is one of the critical factors that can uplift or drop an organization. Previously, organizations have undergone many alpha and beta level changes that are incremental, normally denoted as first-order changes (Bartunek & Moch, 1987). On the other hand, with the advent of globalization and cut-throat competition, a shift from incremental to emergent change has been introduced which is regarded as a second-order change of gamma changes (Van der Voet et al., 2014).

A good amount of research also pointed out the injurious effects of not managing effectively the processes of organizational change, such as the decrease in market share (Sarkar & Osiyevskyy, 2018), turnover of employees (Raza et al., 2018), and organizational death (Castillo, Fernandez, & Sallan, 2018). Among various factors that potentially affect the success or failure fate of any organizational change initiative, leadership is regarded the most powerful (Kotter, 1995). There are various reasons behind this argument. First, organizational change is a challenging task that needs proper attention and cares that a leader can give (Al-Ali et al., 2017; Imran et al., 2017). Second, change involve the emotions of the employees as they feel uncertain post-change scenarios and in such times, leaders' assurance is mandatory to pull them up with the motivation to change (Agote et al., 2016). Third, maintaining an adequate level of readiness for change is another task that leaders do during an organizational change process (Shea et al., 2014). Fourth, leaders communicate about the prospective benefits of changing to followers that reduce the possible resistance factors (Erwin & Garman, 2010). Last, leaders have charismatic personality traits that are proven to manage the employees in the better interests of the organizations (Burnes & By, 2012).

Further, previous studies provided the basis to opt for task-specific leadership to reap better outcomes (Chan, 2019; Shafique & Beh, 2017). In this regard, change leadership emerged as a specific style of leadership that deals with organizational change. Moreover, an effective change leader is viewed as a person that can manage the affairs of organizational change from initiation to post-implementation phase. Thereby, the current research

examines the relationship between organizational change leadership and change adaptability. Many researchers worked out antecedents of successful organizational change and illuminate the importance of individual-level change readiness and resistance factors (Foster, 2010; Onyeneke, & Abe, 2021; Rafferty et al., 2013; Vakola, 2014). It is one of the important tasks that has been assigned to change leaders is to maximize the change readiness and minimize the change resistance to implement a change initiative successfully. Holt et al. (2007) are of the view that employee change efficacy is an important trigger to develop individual-level readiness for change. Further, change leaders induce change-related self-efficacy in the followers that motivate them to implement change for the broader interest of the organization. Change efficacy referred to the individual beliefs of the organizational members that they can initiate and implement this change successfully. Contemporary literature supports the relationship between leadership and change efficacy (Giovanita & Mangundjaya, 2017; Paglis & Green, 2002) but its direct link with change leadership is still missing.

Further, a decent total of research also clarified that change-related self-efficacy put forward a positive role in implementing organizational change initiatives (Grant, 2014; Jimmieson et al., 2004). Based on these grounds, this study investigates the mediating effect of change efficacy in the relationship between change leadership and change adaptability. The foremost intention to study this relationship is to highlight the importance of developing change efficacy during the times of organizational change with the skills of change leaders and how it transmits a cumulative effect to boost the change adaptability in employees. Apart from the factors that are helpful to implement an organizational change initiative, Oreg (2006) claimed that every change faces resistance, and elements of resistance cannot be ignored from planning to the post-implementation phase of change. An organizational change initiative confronts different types of resistance factors, such as dispositional (Thakur & Srivastava, 2018), behavioral (Ansoff et al., 2019), affective (Bovey & Hede, 2001), and cognitive (Oreg, 2003). A handsome percentage of change attempts futile due to improper attention given to change resistance. Within the parameters of individual resistance factors, cognitive resistance is considered critical as it is based on general adverse beliefs of the employees towards proposed or ongoing change (Bovey & Hede, 2001).

The posits of the social cognitive theory (Wood & Bandura, 1989) states that when organizational members' self-efficacy towards change is high then it can be able to reduce the cognitive resistance among employees and increase the success chances of the change process. In the above connections, very limited research available that uses social cognitive theory to investigate the link between leadership, change the efficacy, and cognitive resistance notwithstanding of fact that these have been proved as imperative towards success or failure of any change initiative in existing literature (Basadur et al., 2014; Foster, 2010; Imran et al., 2017; Oreg & Berson, 2019). With the aim of filling this research gap, this study examines the direct relationship between change leadership and change adaptability at the first level. Further, it also investigates the moderated mediation effect of change efficacy as a mediator and cognitive resistance as a moderator on the stated relationship between change leadership and organizational change adaptability. The

services sector has emerged as the fastest-growing sector in Pakistan during the last two decades. These organizations have been continuously increasing their share by aligning their products and services with national and international demands. In order to meet the changing demands of the market, these organizations have been incessantly introducing change programs with respect to technology, structure, processes, and market appearance. Therefore, services sector organizations operating in Southern Punjab Pakistan were the context of the current study. This research adds existing literature on leadership and organizational change with a cognitive approach model to implement change and tells practice to increase the success ratio of change programs by deploying the services of change leadership.

## **2. Theoretical Base and Hypothesis Development**

### *2.1 Organizational Change Leadership and Change Adaptability*

Organizational By et al. (2016) change leadership refers to a specialized branch of leadership that deals with change initiatives from initiation to implementation (van der Voet, 2016). In every organizational process, leadership plays an important role as it majorly deals with human aspects of the organizations which can increase or decrease the accomplishment chances of the particular process (Neck et al., 2006). Previously, organizations are not opting focused leadership style for specialized tasks, resultantly some critical aspects remain unattended and organizations have to bear losses (Walshe et al., 2004). In order to deal with organizational changes, Kotter (1995) introduced change leadership as a new paradigm that can transform organizations swiftly. Later on, a good amount of research has studied change leadership (Gill, 2002; Graetz, 2000; Higgs & Rowland, 2000). On the other hand, change adaptability is concerned with the post-change situation where it has to be determined that employees have adopted the new transformation or else (Folke et al., 2010). Further, majority of the researches of change leadership is of exploratory in nature (Burnes et al., 2018) and its empirical links are missing with other change-related outcomes (By et al., 2016). Conversely, change adaptability speaks out about the success or failure of change initiatives (Zaccaro & Banks, 2004). Change leaders with the help of their traits can advance organizational changes, such as motivating employees, modeling the change, vision, change culture, change valence, and provision of coaching in the time of need (Burnes et al., 2018). Further Ling et al. (2018) argued that change leadership mainly works on altering the employees' perception of change. Moreover Onyeneke, and Abe (2021) recently provided support to this notion that employees' attitudinal support is a necessary element to get success in the planned change process. Thereby, the key theme behind engaging change leaders to embrace change is to deal with the cognitive beliefs of the employees about change and transform them in the best interest of the organization (Oreg, 2003).

In the existing literature, scholars have made attempts to establish links of organizational change leadership with various change related processes, such as commitment to change (Ling et al., 2018), emotions during change (Issah, 2018), work engagement (Caulfield & Senger, 2017), change-oriented culture (Al-Ali et al., 2017) and individual innovative work

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behavior (Jaroensutiyotin et al., 2019). Further Feng et al. (2016) claimed that focus leaders are effective to create a liaison between management and employees and also fruitful to develop congruence between these two organizations' powers during change. So far, change leadership link with change adaptability is missing in the contemporary literature. Recently By et al. (2016) illuminate the further room in studying the relationship of change leadership with other numerous change parameters. Based on the above discussion, we propose the following hypothesis:

- **H<sub>1</sub>:** Change leadership can increase organizational change adaptability.

### *2.2 The Mediating Effect of Employee Change Efficacy*

According to social cognitive theory (Wood & Bandura, 1989), employee self-efficacy refers to "how well one can execute courses of action required to deal with prospective situations". This way, Jimmieson et al. (2004) defined change efficacy as the cognitive beliefs of employees on their ability to implement organizational change successfully. The contemporary literature on change efficacy emphasized that the development of change efficacy is a difficult task that needs appropriate consideration from the management side (Grant, 2014; Malone, 2001) that can be achieved through proper coaching and counseling (Giovanita & Mangundjaya, 2017). A noteworthy volume of research claimed that change leaders could not directly affect the position of change adaptability during organizational change processes until or unless they create change-related motivation (Gilley et al., 2009; Paglis & Green, 2002). The main reason behind this notion is that a motivated employee is full of commitment and self-efficacy to implement the required change (Burnes & By, 2012). The other reason is that management normally engages the services of change leaders to get engage employees in positive ways towards undergoing organizational change (Chawla & Kelloway, 2004). Further, change-related self-efficacy is very minutely studied in the organizational literature; rather it has mostly been used in psychological research (Tierney & Farmer, 2011). At the first level, this research fills a missing link by way of illuminating the importance of change-related self-efficacy during organizational change processes. Further more, Budhiraja (2020) argued that employees' actions, either pro-change or against-change, are attached to change efficacy. Recently Budhiraja (2021) claimed that gaining change efficacy is contingent on continuous learning about change-related processes.

Drawing of the notion that when employees feel they are incompetent and cannot initiate the proposed organizational change, they are likely to resist the proposed change (Wood & Bandura, 1989). On the other hand, employees who trust in their abilities and think that they are capable to perform well during change are the helping hands for organizations during these critical times (Jimmieson et al., 2004). According to Paglis and Green (2002), leaders are the front men of the management to develop effective change-related self-efficacy to increase the chances of successful organizational change. Recently, Andrew and Mohankumar (2017) studied change efficacy as an important antecedent of readiness for change. This way, change efficacy can have a dual side effect; it can be an outcome of change leadership and an antecedent for change adaptability. Based on these grounds, the following hypothesis may be suggested:

- **H<sub>2</sub>:** Change efficacy mediates the relationship between change leadership and change adaptability.

### *2.3 The Moderating Role of Cognitive Resistance*

Change resistance is a common factor that every change faces (Imran et al., 2016). In the initial days of change management discipline, Coch and French Jr (1948) and Lewin (1951) worked on the resistance factors and elaborated that resistance is a natural response when the status quo challenged. Later on, a good amount of research is available that investigate resistance to change as an anti-change behavior and a major obstacle towards implementing an organizational change (Bovey & Hede, 2001; Del Val & Fuentes, 2003; Erwin & Garman, 2010; Thakur & Srivastava, 2018). Comprehensively, Oreg (2003) defined resistance to change as “a tridimensional (negative) attitude towards change, which includes behavioral, affective, and cognitive components”. The behavioral side of resistance reflects adverse actions towards proposed or changing. Moreover, affective resistance encompasses a negative attitude about change, and the cognitive aspect of resistance is concerned with cognitive beliefs about change which constitute that “change is not beneficial” or “change is unnecessary”. recently, Stryja and Satzger (2019) highlighted the importance of cognitive resistance. They are of the view that behavioral and affective resistance can be managed with the use of human side interventions but cognitive resistance is very dangerous that requires appropriate care, strategy, and direction. Further, Hughes (2011) argued that maximum organizational change failure occurs due to improper management of resistance factors.

In the existing literature, there is evidence that leadership is an important device to deal with resistance to change (Geller, 2003; Levay, 2010). Moreover, Van Dam (2013) studied the inverse relationship between resistance to change and change adaptability. The current research, with its high importance, proposed cognitive resistance to change as a moderator on the mediated relationship between change leadership and change adaptability via change efficacy. The main purpose behind this supposition is that the intensity of adverse beliefs could be a reason to reduce the existing positive relationship between change leadership and change efficacy and change efficacy and change adaptability. Previously, Smith (2013) established that cognitive factors of resistance to change have negative effects on the change-related self-efficacy of employees. Further, social cognitive theory (Wood & Bandura, 1989) also provided a link between cognitive resistance and self-efficacy as both factors are contingent on the beliefs of the employees towards any situation. The other reason is that when change leadership provides vision, guidance and information about change which will increase the change efficacy among employees, simultaneously the presence of cognitive resistance can affect the stated relationship inversely. Furthermore, same pattern could be repeated for relationship between change efficacy and change adaptability. Drawing on the above discussion, we proposed the following hypothesis:

- **H<sub>3</sub>:** Cognitive resistance to change moderates the mediated relationship between change leadership and change adaptability through change efficacy

In Figure-I, the proposed research framework of the current study is reflected which is showing the direct, indirect, and interactional relationship among the variables of this study. Three key mechanisms were investigated in this research-based social cognitive theory. First, investigating the direct effect of organizational change leadership on change adaptability. Second, examining the mediating effect of change efficacy between organizational change leadership and change adaptability. Third, probing the moderating effect of cognitive resistance on the mediated relationship between organizational change leadership and change adaptability through change efficacy.

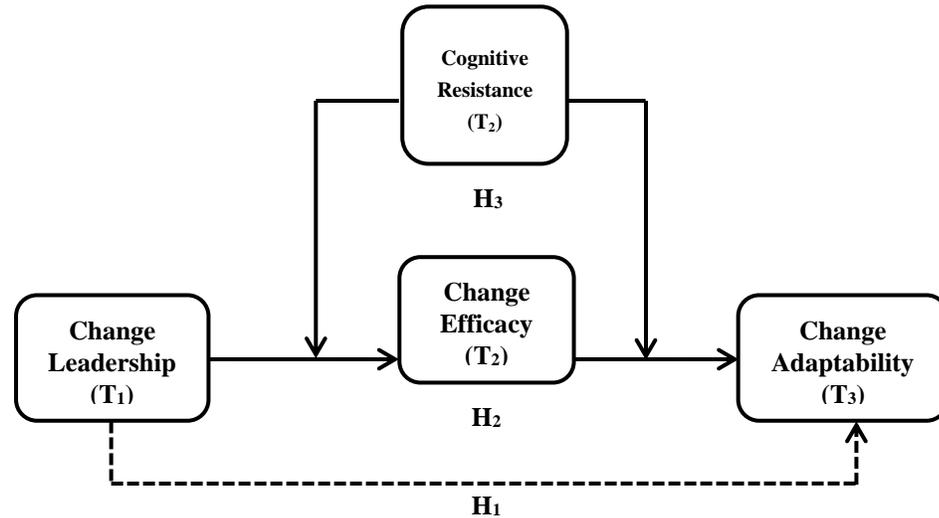


Figure 1: Proposed Research Framework

### 3. Research Methodology

#### 3.1 Research Context, Population, and Sample Selection

According to the Economic Survey of Pakistan 2019-20, three main sectors contribute to the overall Gross Domestic Product (GDP) of the country; e.g., agriculture, industrial, and services sectors. Among these sectors, services sectors report the fastest growing sector of the economy that includes distributor, producer, personal and social services. Further, the producer services side is increasing its share in the overall services sector performance. The producer services side of the services sector includes financial institutions including insurance companies. Previously, Ahmed and Ahsan (2011) also highlighted the importance of the services sector in the performance of the country. Further, due to stiff competition and increasing pressure for introducing new products and services, organizations operating in this sector are advancing organizational changes to meet the consumers, market, and industry demands. These changes are technological, strategic, and structural. Therefore, services sector organizations working in the province of Punjab, Pakistan are the context of the study.

In order to get the representative sample, a multi-stage sampling technique was applied. At the first stage, stratified random sampling was used to select companies concerning the proportion of financial institutions and insurance companies. In the second stage, the purposive sampling technique was used to select companies that were in the planning phase of any organizational change. In the third stage, human resource departments of the selected companies were organizations were contacted to get information about several employees. A total of 18572 employees working in financial institutions and insurance companies became the targeted population of this study. Further, using Krejcie and Morgan (1970) formula, a sample of 390 employees has been selected at random from the sampling frame of 18572 employees. This count is also following the guidelines of sample representation defined by Hair, Anderson, Babin, and Black (2010) and Kline (2012); e.g., having five respondents for each item in the survey questionnaire.

The current study followed a quantitative research design with a deductive reasoning approach (Cresswell, 2014). Further, a temporal longitudinal research design was opted to obtain data from the targeted respondents (Ancona, Okhuysen, & Perlow, 2001; Ployhart & Vandenberg, 2010). A three-wave data collection process was adopted in which at Time-1 ( $T_1$ ) data about demographic information and change leadership was gathered. Further, at time-2 ( $T_2$ ) information related to change-efficacy and cognitive resistance was obtained. Finally, responses about change adaptability were collected at time-3 ( $T_3$ ). These timings were according to the stages of organizational change as discussed by Lewin (1951) in his planned organizational change model (e.g., pre-change, during-change, and after-change; unfreezing, changing, refreezing). The gap between stages was set as 8-10 weeks by using the criteria defined by (Jimmieson et al., 2004; Ployhart & Vandenberg, 2010). In order to maintain a record of the respondents at each level and to ease in maintaining the pairs of the parts of the questionnaire, every respondent has been assigned a unique identity code.

### *3.2 Instrument Development and Measurement Scales*

Based on the temporal research design, three survey questionnaires were developed to get responses at  $T_1$ ,  $T_2$ , and  $T_3$ . The first questionnaire ( $Q_1$ ) consists of items to investigate the demographic profile of the respondents and information about change leadership. In the second questionnaire ( $Q_2$ ), items about change efficacy and cognitive resistance were placed. Further, in the third questionnaire ( $Q_3$ ), information about change adaptability has been sought. All the items of variables under investigation were evaluated at five points Likert scale (1 for strongly disagree to 5 for strongly agree). The items were adapted from the existing studies and little bit amendments in the wording of items keeping in view the respondents and context of the study. The change leadership was examined using the 7-items scale developed by Herold, Fedor, Caldwell, and Liu (2008). The sample items are “My leader develops a clear vision for what was going to be achieved by our work unit” and “My leader builds a broad coalition upfront to support the change. Further, change efficacy was evaluated by adapting the 6-items scale from Shea et al. (2014). The examples of the items are “I can keep the momentum going in implementing this change” and “I can keep track of progress in implementing this change”. Cognitive resistance to change was

measured through a 4-items scale validated by Oreg (2003). The respective items are “I don’t think the change was necessary” and “I think it is bad that we are going through this change”. Furthermore, change adaptability was examined with the help of a 3-items scale established by Griffin, Neal, and Parker (2007). The sample questions are “I adapted well to changes in core tasks” and “I learned new skills to help you adapt to changes in your core tasks”. A pair of three questionnaires received at different time interval was considered as valid response that has been used for analysis purpose.

### *3.3 Control Measures*

The demographic variables that might have an impact on the change-related processes were taken as control variables for this study, such as age, experience, and employment status. These controlled variables were selected based on the previous studies that had investigated the relationship between leadership and organizational change (Herold et al., 2008; Jaroensutiyotin et al., 2019; Lakomski, 2001). The age and experience were examined using mock values with time intervals as mentioned in Table 1. Further, employment status was studied based on dummy values (1 for regular and 2 for contractual).

## **4. Research Analysis and Results**

### *4.1 Response Rate and Demographic Characteristics*

As per the guidelines of longitudinal research design, a total of 390 Q<sub>1</sub> were circulated among the employees selected at random at T<sub>1</sub>. Out of which 292 returned received which has been critically analyzed for missing values screening. After ten weeks’ time lag, the respondents of the Q<sub>1</sub> were again contacted at T<sub>2</sub> with Q<sub>2</sub>. In this phase, 258 respondents send their feedback within the stipulated period. Further, after right eight weeks, at T<sub>3</sub>, the respondents of both T<sub>1</sub> & T<sub>2</sub> were once again requested to please submit their response for Q<sub>3</sub>. In the end, 246 complete responses having pairs of Q<sub>1</sub>, Q<sub>2</sub> & Q<sub>3</sub> were combined to perform the analysis having an aggregate response rate of 63%. The demographic profile of the respondents is placed in table 1. The majority of the respondents are male (e.g., 69%) which is also showing the dominance of males in employment in the province of Punjab. Further, the maximum response received from the young (e.g., 76% from age up to 35years) and experience (e.g., 75% from experience up to 15years). Moreover, 62% regular and 38% contractual employees responded to the questionnaires having an education level of graduation (e.g., 23%), masters (e.g., 66%), and above (e.g., 11%).

**Table 1: Demographic Characteristics**

<b>Particular</b>	<b>Count</b>	<b>Percentage</b>
<b>(N=246)</b>		
<b>Gender</b>		
Male	169	69
Female	77	31
<b>Age</b>		
up to 25	45	18
26-30	87	35
31-35	54	22
36-40	23	9
41-45	18	7
45-50	15	6
51 and above Years	4	2
<b>Experience</b>		
up to 5	52	21
06-10	84	34
11-15	49	20
16-20	34	14
21-25	17	7
26 and above Years	10	4
<b>Employment Status</b>		
Regular	152	62
Contractual	94	38
<b>Qualification</b>		
Graduation	57	23
Master	162	66
MS / M. Phil and above	27	11

#### *4.2 Confirmatory Factor Analysis and Validity Measures*

In order to confirm the discriminant validity and model fit statistics of the constructs, confirmatory factor analysis was executed with the help of guidelines provided (Marsh et al., 1998). Four independent factor analyses were conducted to find out the model fit statistics (see table 2 for detailed statistics). The findings of the results revealed that the 4-

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factors model generates the best fit statistics and also ensures the validity of the instrument with CFI=0.97, SRMR=0.07, RMSEA=0.06, and Chi-Square/df= 1.49 which are exceeded the standards defined by Hair et al. (2010). This way, the four-factor model guaranteed the presence of discriminant validity of the data and also showing a model fit to perform the core hypotheses.

**Table 2: Confirmatory Factor Analysis and Scale Validity**

<b>Models / Construct</b>	<b>Chi-Square/df</b>	<b>RMSEA</b>	<b>CFI</b>	<b>SRMR</b>	<b>CR</b>	<b>AVE</b>
4-Factors Model (CL, CE, CR, CA)	1.49	0.06	0.97	0.07		
3-Factors Model (CL, CE Merged, CR, CA)	4.21	0.19	0.76	0.16		
2-Factors Model (CL, CE, CR Combined, CA)	6.92	0.23	0.58	0.21		
1-Factor Model	9.09	0.27	0.42	0.23		
Change Leadership (CL)					0.89	0.63
Change Efficacy (CE)					0.89	0.61
Cognitive Resistance (CR)					0.91	0.59
Change Adaptability (CA)					0.84	0.56
Notes: Acceptable range of indices Chi-square/df <3.0, CFI>0.90, RMSEA <0.08, CR= Composite Reliability, AVE= Average Variance Extracted						

### *4.3 Reliability and Correlation Statistics*

The Cronbach (1951) alpha statistics were calculated to investigate the reliability of the constructs. All values are above 0.7 which is ensuring that the scales were reliable to investigate what they are intended to investigate. Further, in table 3, descriptive statistics (mean and standard deviation) and correlation coefficient are reported. The results directed that change leadership is positively correlated with change efficacy ( $r=0.73$ ,  $p<0.01$ ) and change adaptability ( $r=0.72$ ,  $p<0.01$ ) and negatively correlated with cognitive resistance ( $r=-0.39$ ,  $p<0.05$ ). Further, a moderate negative correlation exists between change efficacy and cognitive resistance ( $r=-0.57$ ,  $p<0.01$ ), and moderate to high between change adaptability and change efficacy ( $r=0.69$ ,  $p<0.01$ ). All the values are reflecting an adequate level of correlation among studied variables.

**Table 3: Reliability, Descriptive and Correlation Coefficient**

Constructs	Alpha	Mean	SD	A	E	ES	CL	CE	CR	CA
Age (A)	--	3.09	0.69	1						
Experience (E)	--	1.79	0.58	0.09	1					
Employment Status (ES)	--	1.38	0.39	0.14	0.17	1				
Change Leadership (CL)	0.78	3.46	0.78	0.19*	0.21*	0.19*	1			
Change Efficacy (CE)	0.84	3.37	0.82	0.22*	0.14	0.09	0.73**	1		
Cognitive Resistance (CR)	0.73	2.32	0.56	0.14	0.09	-0.13*	-0.39*	-0.57**	1	
Change Adaptability (CA)	0.89	3.53	0.84	0.09	-0.11	0.28*	0.72**	0.69**	-0.46*	1

\*  $\rho < 0.05$ , \*\*  $\rho < 0.01$

*4.4 Hypotheses Testing*

Before moving to main hypotheses testing, it is mandatory to check the authenticity of the data (Hair et al., 2010). The normality analysis was performed using the skewness and kurtosis test and results come up with values between -1 and +1 and plotted data shaped a normal curve. Further, the linear line formed with the help of regression residuals and homoscedasticity of the data as all the standard residuals were zero. On the other side, values of the tolerance and variance inflation factor guaranteed that data is free from multicollinearity (e.g., tolerance=0.43, VIF=2.18). In addition to this, the non-existence of autocorrelation was ensured using the Durbin-Watson test. The results of the preliminary tests gave confidence to authors for executing hypotheses testing will full assurance. The linear regression analysis was conducted to investigate direct relationships among variables. Further, the mediating analysis (H<sub>2</sub>) was conducted using MacKinnon (2008) four-step procedure which is further cross-validated through Hayes (2017) process macros. In the first stage, to fulfill the criteria defined by MacKinnon (2008), four steps procedure was adopted to test (a) a direct positive effect of change leadership on change efficacy; (b) a direct significant effect of change efficacy on change adaptability; (c) a direct effect of change leadership on change adaptability; and (d) a significant indirect effect of change leadership on change adaptability through change efficacy. The outcomes demonstrated that change leadership has a direct positive effect on change efficacy ( $\beta=0.64$ ,  $t=15.43$ ,  $p<0.05$ ) and change adaptability ( $\beta=0.76$ ,  $t=21.91$ ,  $p<0.01$ ). Moreover, change efficacy also has a significant positive impact on change adaptability ( $\beta=0.63$ ,  $t=16.58$ ,  $p<0.05$ ). These effects also set the basis for the execution of mediation analysis (see complete findings of H<sub>1</sub> in Table 4). In the final step, the indirect effect of change leadership on change adaptability via change efficacy was tested and results evidenced partial mediation effect ( $\beta=0.70$ ,  $t=18.85$ ,  $p<0.01$ ). At the second stage, using Hayes (2017) process macros, bias-correlated percentile resample method using the bootstrapping method, the indirect effect of change leadership on change adaptability through change efficacy was significant

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( $ab=0.55$ ,  $SE=0.04$ , 95% CI with -1SD and +1SD as 0.003, 0.015). The total mediation effect accounted for 72.36% which is indicating that a partial mediation effect of change efficacy on the relationship between change leadership and change adaptability. The main aspect that change leaders have to perform is to work on the individual-level characteristics of the employees in order to mold them towards the adoption of change. Further, existing research also highlights some notable characteristics of change leaders that help them to motivate employees for proposed or ongoing change initiatives (Issah, 2018; Ling et al., 2018). This way, the findings of this study also confirmed the supposition of contemporary literature that change leadership is helpful to increase the success chances of an organizational change move. Further, empirical investigation was called by By et al. (2016) regarding the statistical results of change leadership on organizational change processes. Similarly, results are consistent with the findings of Canterino et al. (2020) that leadership is one of the key triggers to embrace organizational change.

**Table 4: Direct and Mediation Effects**

Predictors	Model 1		Model 2		Model 3	
	(Change Adaptability)		(Change Efficacy)		(Change Adaptability)	
	$\beta$	t	B	t	B	t
Change Leadership	0.76	21.91**	0.64	15.43*	0.70	18.85**
Change Efficacy	0.63	16.58*				
R <sup>2</sup>	0.55		0.49		0.53	
F	490.33**		441.29**		446.76**	
<p>*<math>p&lt;0.05</math>, **<math>p&lt;0.01</math>, N= 246 with resampling at 5000 using bootstrapping method                      The beta values are standardized coefficients, thus they can be compared to determine the relative strength of different variables in the model.</p>						

In H<sub>3</sub>, it was proposed that cognitive resistance moderates the mediated relationship between change leadership and change adaptability via change efficacy. In order to test the aforementioned moderated mediation relationship, Model 58 of the Hayes (2017) process macros was followed. Further, the interaction was applied as defined by Aiken, West, and Reno (1991). There were two moderating relationships were presented in the model; (a) cognitive resistance moderates the relationship between change leadership and change efficacy and, (b) cognitive resistance moderates the relationship between change efficacy and change adaptability. As per guidelines presented by Hayes (2017) for this model, if one moderation proves significant then the model can be considered as moderated mediation model. The findings highlighted that cognitive resistance has a significant high moderating effect on the relationship between change leadership and change efficacy ( $\beta=0.53$ ,  $t=12.56$ ,  $p<0.01$ ) but has a negligible interactive role on the relationship between change efficacy and change adaptability ( $\beta=0.38$ ,  $t=8.15$ ,  $p<0.05$ ). With this essence, we can say that when an employee achieved the necessary level of change efficacy with the help of change leadership then cognitive resistance could slightly reduce the stated positive

relationship. Based on these statistics, it can be presumed that cognitive resistance weakens the indirect relationship between change leadership and change adaptability through change efficacy (see detailed results in table 5). In this respect, the posits of social cognitive theory (Wood & Bandura, 1989) argued that social cognition effect employees' behavior towards the particular output. Based on this supposition, cognitive resistance has been introduced as a moderator on the positive mediated relationship between change leadership and change adaptability through change efficacy. The results illuminated that cognitive resistance if persists weakens the relationship between change leadership and change efficacy and between change efficacy and change adaptability. These results provided support to existing studies that leadership affects cognitive aspects of employees that ultimately develop efficacy level which leads to better adaptability (Bayraktar, & Jiménez, 2020). The effect of cognitive resistance is higher on the first aspect of the mediated relationship as compared to the later part. It means that when an employee attained the self-efficacy for change, then cognitive resistance effects will be reduced (Issah, 2018; Ling et al., 2018). The results are providing support to previous research conducted by Stryja and Satzger (2019).

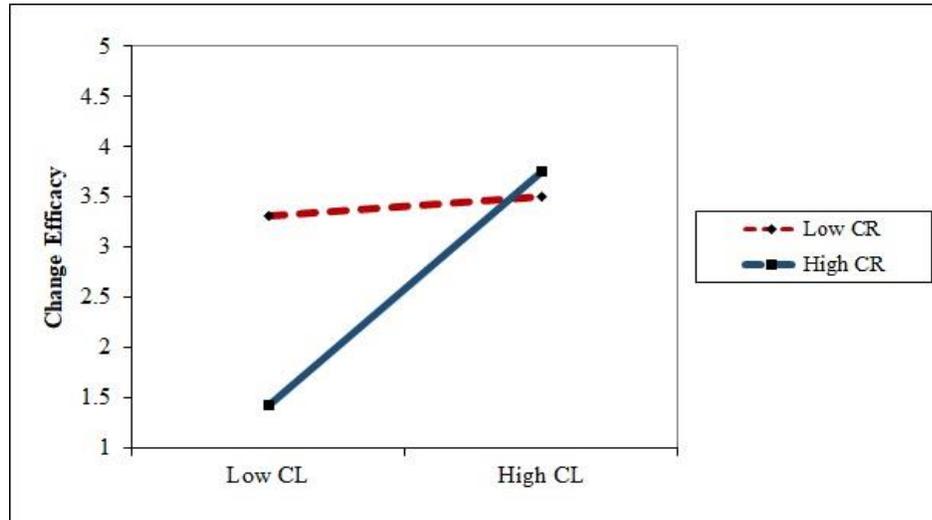
**Table 5: Moderated Mediation Effect of Cognitive Resistance and Change Efficacy**

Predictors	Model 1		Model 2	
	(Change Efficacy)		(Change Adaptability)	
	B	t	B	t
Change Leadership (CL)	0.63	15.64**	0.72	17.11*
Change Efficacy (CE)			0.59	12.47**
Cognitive Resistance (CR)	-0.41	-9.65*	-0.47	-11.60*
CL*CR	0.53	12.56**		
CE*CR			0.38	8.15*
R2	0.42		0.34	
F	223.78**		194.31*	
*p<0.05, **p<0.01, N= 246 with resampling at 5000 using bootstrapping method The beta values are standardized coefficients, thus they can be compared to determine the relative strength of different variables in the model.				

**5. Discussion**

The current study investigated the relationship between change leadership and change adaptability with mediating effect of change efficacy and moderating role of cognitive resistance to change. There were three key hypotheses to examine the exposition of this study; (1) change leadership can increase organizational change adaptability, (2) change efficacy mediates the relationship between change leadership and change adaptability, and (3) cognitive resistance to change moderates the mediated relationship between change

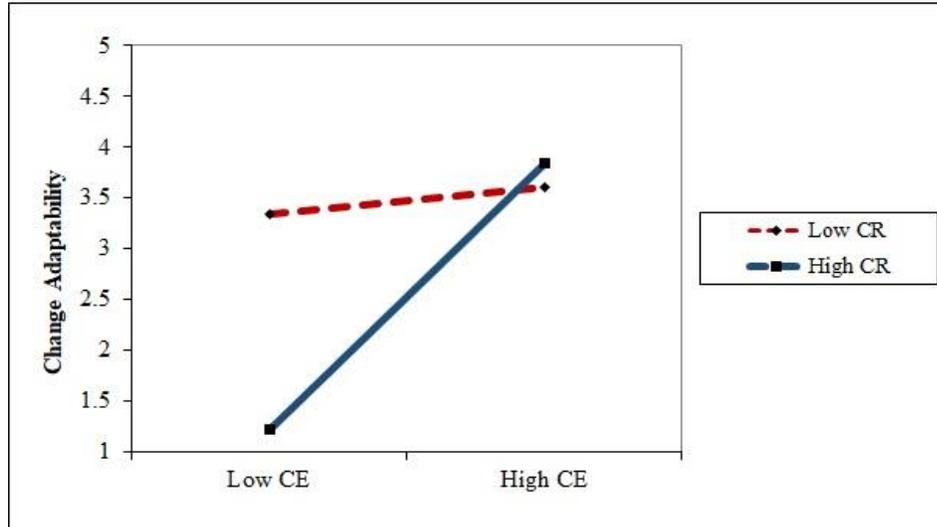
leadership and change adaptability through change efficacy. The mainstream idea of this research is to provide an innovative solution to practice side for initiating and implementing organizational change initiatives smoothly as contemporary literature has been claiming that more than seventy percent of the change attempts failed due to poor management either of improper change readiness or resistance factors. This research highlights the importance of individual-level change efficacy preparation and addressing cognitive resistance to change with the help of change leadership that result in increased change adaptability.



**Figure 2: Interacting Effect of Cognitive Resistance on the Relationship between Change Leadership and Change Adaptability**

The results of this study exposed that a specialized branch of leadership that is particularly involved in initiating and implementing organizational changes (e.g., change leadership) has a significant positive effect on employees' behaviors towards adaptability of organizational changes. The key target for change leaders is to work on the individual-level characteristics of the employees in order to mold them towards the adoption of change. Further, existing research also highlights some notable characteristics of change leaders that help them to motivate employees for proposed or ongoing change initiatives (Issah, 2018; Ling et al., 2018). This way, the findings of this study also confirmed the supposition of contemporary literature that change leadership is helpful to increase the success chances of an organizational change move. Further, empirical investigation was called by By et al. (2016) regarding the statistical results of change leadership on organizational change processes. This research answered their directions as H<sub>1</sub> is supported which is conveying that change leadership has a real and significant impact on the effectiveness of organizational change processes. On the other side, current empirical inquiry introduced change-related self-efficacy (change efficacy) of employees as the mediating mechanism on the relationship between change leadership and change adaptability. The findings proved that change efficacy has a partial mediation effect on the relationship between

change leadership and change adaptability. Change leaders develop change efficacy in employees by providing support, proper communication about change, pre, and post-change dynamics, showing ethical behavior, and motivational tools. Thereby, employees who have change efficacy are more prone to adapt to changes. The results of this mediating mechanism are a unique contribution of this study and also fulfill the gap that earlier research discussed in future calls that employee-related readiness factors are helpful to improve the achievement likelihood of organizational changes (Choi & Ruona, 2011; Vakola, 2014). With these findings, the H<sub>2</sub> of this empirical investigation is supported.



**Figure 3: Interacting Effect of Cognitive Resistance on the Relationship between Change Efficacy and Change Adaptability**

The statistical figures of the final hypothesis reflected that cognitive resistance to change moderated the mediating relationship between change leadership and change adaptability via change efficacy. It is a unique attempt to examine the moderating effect of cognitive resistance for which contemporary literature is silent. Further, the posits of social cognitive theory (Wood & Bandura, 1989) argued that social cognition effect employees' behavior towards the particular output. Based on this supposition, cognitive resistance has been introduced as a moderator on the positive mediated relationship between change leadership and change adaptability through change efficacy. The results illuminated that cognitive resistance if persists weakens the relationship between change leadership and change efficacy and between change efficacy and change adaptability. The effect of cognitive resistance is higher on the first aspect of the mediated relationship as compared to the later part. It means that when an employee attained the self-efficacy for change, then cognitive resistance effects will be reduced. In Figure-II, a graphical representation of moderating effect was depicted that is showing that high cognitive resistance to change weakened the

positive relationship between change leadership and change efficacy. Similarly, Figure-III highlights that a high level of cognitive resistance to change results in weakening the existing significant positive relationship between change efficacy and change adaptability. Thereby, the final hypothesis was also supported. The results of this hypothesis are consistent with the previous studies that elaborate that resistance to change is the critical element that becomes a cause for failure of change attempts.

#### **6. Theoretical and Practical Implications**

This empirical investigation adds contemporary literature on leadership, change management, organizational behavior, and organizational psychology in various ways. First, it develops the relationship between change-oriented leadership with change adaptability that has not been empirically investigated previously. In contemporary literature, Issah (2018) conducted an exploratory study to determine the association between change leadership and emotional intelligence. Further, Burnes et al. (2018) also gave future direction to study change leadership through empirical investigation. This way, this empirical study contributes to existing research of leadership and organizational change with quite a new perspective of change leadership. Second, this research highlighted the importance of organizational behavior construct during the change process, i.e., change-related self-efficacy which is referred to as change efficacy. This inquiry interlinked three important disciplines of management (i.e., leadership, organizational change, and organizational behavior) to proposed a mediating mechanism for implementing organizational change with the help of change leadership by developing change efficacy of employees towards change. Third, the results of the current investigation provided support to the posits of cognitive learning theory that individual cognition matters during critical organizational tasks (i.e., organizational change). Last, the current study also illuminates the importance of organizational psychology factors like cognitive resistance to change during any organizational change process. This way, it also underwrites the literature of organizational psychology and its links with leadership and organizational change.

The current research also offers many implications for the practice side as well. First, it gives broad guidelines for organizations to depute the services of change leaders in order to deal with different affairs of an organizational change process from initiation to post-implementation. Second, the management needs to assign employee-level change-related tasks to change leaders, i.e., development of change efficacy in employees. The change leaders should induce change efficacy in employees to reap the required level of change adaptability. Third, change leaders have to initiate managing mechanisms to deal with cognitive resistance to change for better change efficacy and adaptability. This way, this research presents a compact form of guidelines for the practice side to implement any change initiative successfully.

#### **7. Limitations and Future Calls**

Despite the notable implications of the current inquiry, its findings should not be inferred without considering the probable limitations. First, data has been collected from individuals (single-source) that may possess common method variance but current research adopted a

comprehensive longitudinal time-lagged data collection procedure that may reduce the potential effects of common method bias (Podsakoff, MacKenzie, & Podsakoff, 2012). However, in future calls, it is strongly recommended to consider multiple sources at different time intervals to reach error data, i.e., individual level, group level, and organizational level. Second, this research uses a descriptive research method to study the exposition that may not generate the true picture of causal relationships. In the next studies, it is advised to adopt an experimental research design to investigate the causal effect of change leadership on various other aspects of organizational change. Third, current empirical inquiry considered cognitive resistance to change as a moderator on the mediated relationship between change leadership and change adaptability through change efficacy. In further research, the other factors of change resistance may be simultaneously considered to reach generalized solutions about the management of change resistance, i.e., affective & behavioral resistance (Oreg, 2003) and dispositional resistance (Oreg, 2018). Fourth, this study has taken into consideration various controlled variables that have a potential impact on the change adoption processes, such as status of employment, experience, and age. It could be considered in the future as possible predictors as well or maybe considered as probable moderators on the relationship between change leadership and organizational change implementation. Finally, researchers based on time and cost availability, delimit this research to the extent of services sector organizations operating in the province of Punjab, Pakistan. In further, similar type of studies can be conducted with broader geographical context to increase the generalizability of the results.

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