

Self-leadership, Self-efficacy, and Students Adaptive Online Learning Performance during the COVID-19 Crises

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The primary motive behind this study is to examine the relationship among students' practices of self-leadership strategies, self-efficacy, and performance outcomes levels in the online learning environment. Two hundred and seventeen students, enrolled at a university level in different degree courses at the graduate and postgraduate level, participated in this study. We follow a two-step structural equation modelling approach to assess the relationship between the proposed variables of the model. Results reveal that students with a high level of self-efficacy tend to have more effective performance in uncertain or unpredictable situations. Also, when students show a high level of self-leadership in their online learning, their level of self-efficacy and performance satisfaction has increased. This study contributes to the informal self-leadership emerging research especially in developing young countries. This study also carefully observes and spots the evidence for future research that fosters changes in the academic life of students and how student's learning performance can be enhanced by self-leadership in this unique situation.

Key words: *Self-leadership, Performance, Online Learning, Covid-19, Structural Equation Modelling*

Introduction

So far social distancing is the only successful strategy against the novel coronavirus so-called COVID-19. While as a result of the foremost efforts, the large-scale transition to online learning has been noticed. However, educational institutions' main focus is to maintain services during the pandemic outbreak, and also encourage social distancing while engaging in



“emergency remote training” (ERT), which is a shift to an alternate mode of delivery aimed to provide instructional support and access during the shutdown period. Although it looks like a temporary shift, Hodges, Moore, Lockee, Trust, and Bond (2020), state that there is growing concern among interested parties regarding perceived barriers to student success such as technical support, a manageable workload, and enrolments in online sessions, while the faculty in very short order and with a little formal training had to adapt their courses. Never in entire known history, have student’s lives been changed in such a way, including dislocations from campuses, practical learning, internship loss, and most importantly the need to learn and use new advanced technologies (Govindarajan & Srivastava, 2020).

On the other hand, the landscape of education is already changing (Eom, Wen, & Ashill, 2006). As more schools, and colleges, and universities are offering and have already adopted the online teaching approach through online portals and learning management systems. These changing aspects also concern the faculty, for instance, in course structure, instructor presence, interaction with learners, and the use of a learning management system (Allen & Seaman, 2015). A meta-analysis conducted by Means, Toyama, Murphy, and Baki (2013) indicates that students in online learning environments perform better than those students who learn in traditional classroom environments. However, things are still distrustful regarding the efficacy of an online learning environment. Furthermore, the most important is the student participation and performance, while students may not feel obligated or pressured to participate in online communication when they do not see each other (Bloom, 1984; D. W. Fleming, Cochi, Hightower, & Broome, 1987; J. G. Fleming, 1987; Palloff & Pratt, 1999).

Following the event of the Great Recession 2008–2013, the environment for business organisations became volatile, and full of unpredictable events that challenged professionals to perform in a reality (Baard, Rench, & Kozlowski, 2014; Jimeno, 2015). However, there is a high probability for those being exposed to the organisational crisis, that they will experience stress, and anxiety (Pearson & Clair, 1998; Pulakos et al., 2002). This is a result of reactions to perceived risk or to deliver a response (Staw, Sandelands, & Dutton, 1981). According to Pearson and Clair (1998), successful performance in organisational crisis time can be achieved if individuals engage greater their self-regulation (Bandura, 1991; Bell & Kozlowski, 2002). Furthermore, a study conducted by Jimmieson, Terry, and Callan (2004) suggested that high self-efficacy leads individuals to cope better and more satisfied with their jobs when compared to individuals with a low level of self-efficacy when an organisational change is in progress.

Previous researches suggest self-leadership as an essential component for individuals in academia as well as in working contexts to perform effectively (Mahembe & Engelbrecht, 2013). In this dynamic, competitive, and ever-changing environment, this concept has potential for individuals. Self-leadership in literature is described as a process through which individuals influence themselves successfully to achieve the self-motivation and self-direction necessary to perform concerning their tasks (Manz, 1986; Manz & Sims, 2001). However, performance in adoption regards individuals’ behaviour, responsive towards changes affecting tasks of their

own appraisals for individuals' satisfaction (Jundt, Shoss, & Huang, 2015). Thus, in this changing, dynamic, unpredictable, and uncertain environment, individuals need to enhance their self-regulatory capacity to improve their performance (Breevaart, Bakker, Demerouti, & Derks, 2016; A. Lee, Willis, & Tian, 2018; Manz, 1986, 2015). However, the psychological construct for an individual's self-regulatory strategies' development which offers promising ground is individual self-leadership, which is the strength of intrinsic motivation of individuals to influence performance positively of pursuit work or academic-related tasks (Breevaart et al., 2016; Manz, 1986; H. Stewart, Blisard, Bhuyan, & Nayga Jr, 2004).

Previous researches suggest that self-leadership is positively related to performance level (Cural & Marques-Quinteiro, 2009; Konradt, Andreßen, & Ellwart, 2009; Lucke & Furtner, 2015; Panagopoulos & Ogilvie, 2015; Prussia, Anderson, & Manz, 1998; Roberts & Foti, 1998), and increased satisfaction (Neck & Manz, 1996; Politis, 2006). However, in these changing conditions, if professionals cannot self-regulate, they are more likely to be less satisfied with their task or obligations, and they are less likely to adopt when confronted with events that turn unexpected, and less likely to perform well (Baard et al., 2014; Grandey, 2000; Griffin, Neal, & Parker, 2007; Pulakos, Arad, Donovan, & Plamondon, 2000).

Literature review

Self-leadership

Perhaps it would not be wrong to say that leadership is one of the most cherished and explored topics in scholarly circles. However, not only have leadership theories grown significantly in the last few decades, but leadership perspectives themselves vary as well (Neck, Neck, Manz, & Godwin, 1999; Waitley, 1995). Although the leadership investigation concept dates back to "The Republic" written by Plato's in 400 B.C. and plenty of books, studies, documentaries, and movies exist due to the importance of the topic, which is designed to relate to a good leader, and leadership, there are still uncovered areas about the concept (Lunenburg & Ornstein, 2013). Some researchers perceived it as a complex process with many dimensions, mainly focused on influencing others (Northouse, 2018). However, the literature describes self-leadership as a self-influencing process for individuals, through which self-direction and self-motivation stand necessary through which performance can be achieved (Manz, 1986, 2015; Neck & Manz, 2010). While this can be successfully achieved by utilisation of the main three components of self-leadership which are; strategies focused on behaviour, constructive thought, and natural reward (Manz, 1986; Neck & Houghton, 2006).

According to Neck and Manz (1996), effective designed behaviour strategies aimed to enhance desirable positive behaviour that results in successful outcomes, while in contrast, it reduces undesirable negative behaviour that may result in unsuccessful outcomes (M. J. Mahoney, 1978; Neck et al., 1999). The behaviour strategic approach focusses on identifying and replacing undesired behaviour with more effective desirable behaviour through a self-setting

goal process, self-correcting, self-observation, self-cueing, and self-reward (M. J. Mahoney, 1978; W. C. Mahoney & Hermodson, 1979; Manz & Sims Jr, 1980; Neck & Houghton, 2006).

Plenty of research work favours and suggests that specific, realistic, and challenging goal setting impacts significantly performance regarding task achievement (Locke & Latham, 1990). This process consists of certain goals' adoption while accepting that challenging goals can affect individual motivation to perform (Locke & Latham, 1990), while through self-assessment, an individual can set their own goals effectively that may lead to improved performance (Manz & Sims Jr, 1980; Neck et al., 1999). Constructive self-examination of unproductive behaviour can reshape into a more positive desirable direction (Marques-Quinteiro & Curren, 2012; Politis, 2006).

The next step is to link self-reward to goal achievement. This self-reward varies with the level of goal achievement, while individuals need reward contingencies to energise direct necessary behaviour towards better performance (M. J. Mahoney, 1978; W. C. Mahoney & Hermodson, 1979; Manz & Sims Jr, 1980). Similarly, self-feedback can also be used to shape desirable behaviour effectively (Manz & Sims, 2001). However, more importantly, is the practice of desired behaviour which helps an individual in correction if needed, which may avoid costly miscues. Winding up, behaviour strategies encourage and motivate desirable positive behaviour by suppressing negative undesirable behaviour, which could lead to successful outcomes (Manz, 1992; Manz & Sims Jr, 1980; Neck et al., 1999).

Constructive focus strategies in contrast, to behaviour aimed strategies, is the formation of positive constructive patterns of thought in habitual ways that may impact on improved performance (Neck & Houghton, 2006). Alves and Wood (2006) state that constructive positive thinking reduces dysfunctional beliefs, negative assumptions, while increasing and building a positive self-image. To align cognition with positive behaviour, individuals may apply constructive focus strategies at the time when they engage in visualising performance (Neck & Manz, 1996). However, these strategies involve the habitual functional pattern of thinking to create and maintain constructive thought. The self-analysis process may enable individuals to identify and replace negative assumptions with more positive and rational ones (Manz, 1992; J. Marques, 2014).

Individuals can identify, and replace dysfunctional beliefs through constructive thought strategies, by assessment of beliefs and values with self-imagining and self-talk. Moreover, it helps individuals to prepare for different imagined scenarios (Manz, 1992; M. R. Marques, Fontanari, Pimenta, Soares-Freitas, & Arêas, 2015). Constructive thought pattern strategies are regarding questioning assumptions, self-dialogue, and visualising successful performance. Individuals who in advance visualising the successful performance of a task are likely to experience better performance compared to those who fail to visualise outcomes (Finke, 1989). This assertion is further supported by empirical research. For example, Driskell, Copper, and



Moran (1994), conducted a meta-analysis of thirty-five empirical studies and reported a positive significant effect of mental imagery on the performance of individuals.

Natural reward strategies increase intrinsic motivation, an essential key component for successful performance (Neck, Mitchell, Manz, & Thompson, 2004). However, task enjoyable features enhanced self-determination and could result in increased subjective competence experience (Alves & Wood, 2006). People primarily opt for two types of natural reward strategies, by adding more enjoyable or pleasant aspects of the activity or task, such that it becomes naturally rewarding itself. This can be achieved by focusing and directing one's perception away from undesirable aspects to diverting it on the rewarding pleasant aspect of the task (Neck & Houghton, 2006; Neck et al., 2004). This could lead to increased feelings of competence, self-control, and a sense of purpose (Deci & Ryan, 1985). While enjoyable feature- building into an activity or task becomes itself gratifying by the task's intrinsically rewarding aspects (Neck & Houghton, 2006). Hence, previous research, for instance, Gomes, Curral, Caetano, and Quinteiro (2015) shows that for innovative behaviour, natural reward strategies are necessary, and pleasant experiences during goal-striving activities are experienced.

Self-leadership and adaptive performance

In the 21st century, adaptability is fundamental for individuals to flourish in rapid and uncertain changing conditions (Baard et al., 2014; Jundt et al., 2015; Pulakos et al., 2002). Adaptability refers to the extent to which individuals cope, respond, or encourage changes that affect their goals (Griffin et al., 2007). However, the dynamic nature and unpredictability of conditions offer a deeper understanding of the research on the individual's adaptive performance (Pulakos et al., 2000). Many researchers admire the importance. Shoss, Witt, and Vera (2012), and documented the detailed drivers of performance adaptability (Hans & Williams, 2008), however, very little is available or known about self-leadership and the adaptive performance relationship (Jundt et al., 2015).

Pulakos et al. (2000) argued that performance adaptability is a multi-dimensional construct that includes behaviour dimension, problem-solving techniques, new tasks learning, procedure and technologies, and work stress to cope in an unpredictable and uncertain work environment. This represents individuals' related characteristics such as personality, self-efficacy, and attitude. However, a positive relationship can also be found in research among learning and adoptive performance (Han and Williams 2008), and the case of transformational leadership (Charbonnier-Voirin, El Akremi, & Vandenberghe, 2010). Some researchers for instance Chen, Thomas, and Wallace (2005), further suggested that performance adaptability can be enhanced through training. Self-leadership, regardless of the conditions, improves the awareness of individuals and increases motivation in decision-making in the situational assessment, accumulating empirical and theoretical contributions in favour of a positive relationship of employee's adaptation in the workplace and self-leadership. Individuals can

learn and become more competent by using strategies to perform adaptively especially in uncertain and unexpected events (Bailey, Barber, & Justice, 2018; Marques-Quinteiro & Curral, 2012; M. R. Marques et al., 2015; Neck & Houghton, 2006; G. L. Stewart, Courtright, & Manz, 2011).

Self-Efficacy and adoptive performance

Albert Bandura “psychologist” who proposed originally the concept, describes self-efficacy as “how effective one executes courses of action are necessary to respond to the prospective situation. It is the extent to which an individual believes capable of successfully performing a specific behavior” (Bandura, 1977, 1986, 1991, 1997). Several studies describe the influence of self-leadership in a variety of task domains of self-efficacy. However, studies on the influence of external leadership on self-efficacy focus generally on to what extent feedback provision (Schmitter and Karl 1993) or training technique effectiveness influence specific perceptions (Gist, 1989). Limited studies can be found in the literature that investigates how a general combination of behaviours of self-leadership influences self-efficacy. Past researches favour individual empowerment to possess greater control over their acts (Staples, 1990). This refers to the extent to which individuals experience confidence through increased self-control, which enhances efficacy perceptions (Manz, Sims, & Schermerhorn, 1996).

Many studies investigate self-leadership individual components and their varying influence on self-efficacy. For example, in a study, Bandura and Cervone (1986) observed that after standard goal-setting, individuals high in self-efficacy meet the standard, while those with a low level of self-efficacy did not. Further, Gist (1989) found that training sessions including cognitive modelling resulted in higher self-efficacy levels of the trainee as compared to those exposed only to lecture training. Winding up, no known research directly investigates whether self-leadership behaviours influence self-efficacy; however, we conclude from the above discussion that self-leadership strategies influence perceptions of self-efficacy for the task specified.

Empirical research indicates a consistent and strong linkage between subsequent outcomes and self-efficacy. That positive self-efficacy influences performance is documented well in literature with empirical support. For instance, (Kanfer & Hulin, 1985; Rife & Kilty, 1990), linked job search success to self-efficacy, (Frayne & Latham, 1987; Latham & Frayne, 1989), linked to improved attendance behaviour (Barling & Beattie, 1983; C. Lee & Gillen, 1989), linked to increasing in task-related performance, and (Multon, Brown, & Lent, 1991; Relich, Debus, & Walker, 1986), linked to academic achievements. This study builds on the self-leadership theory to test the assumption that self-leadership enhances the level of self-efficacy of student’s adoptive online learning and performance over time, and the change related to the level of change in self-leadership (Lucke & Furtner, 2015; Neck & Manz, 2010).

On the grounds of the above discussion, we developed the following hypotheses:

H1: Self-leadership has a direct positive effect on student's online adaptive learning performance.

H2: Self-leadership strategies have a direct, positive effect on the level of self-efficacy.

H3: Self-efficacy has a positive relationship with student's online adaptive learning performance.

H4: Self-efficacy mediates the relationship between self-leadership and learning performance levels of the students.

Figure 1: Conceptual framework



Methodology

Research Design

This study employed the structural equation modeling (SEM) approach, and the developed model represent the three main variables of the study, i.e. self-leadership, self-efficacy, and student's adoptive online learning performance, to investigate the relationship in the present pandemic outbreak crisis scenario. We opted for a survey method and collected data through self-measured and administered online survey questionnaires consisting of demographic and multiple items for each of the three-research variables of the study.

The study constructs internal consistency have been tested in terms of reliability and found for self-leadership 0.918, self-efficacy 0.862, and adoptive performance 0.876, by using SPSS. The frequency and percentage of the data were calculated, and KMO and Bartlett tests were performed. $p < 0.05$ was accepted as a significant level in statistical analysis. Through AMOS confirmatory factor analysis was applied to assess the fitness of the research measurement model.

Sampling and Participants

Sample of the study

According to H. W. Lee (2011), for SEM (structural equation modelling) analysis, the recommended sample size was 150 to 400. Using random sampling technique, self-reported

questionnaires data were collected from a total of 217 respondents through an online survey, which was conducted via the internet. Students of the university level received an invitation link and invitation to fill the survey questionnaire. Participants of the survey were already enrolled in various graduate and post-graduate level degree programs for the spring semester online session 2020. This helped the researchers in posting the online link of self-administrated questionnaires on universities' learning management systems and portals.

Instrument

Self-administered survey questionnaires were designed with the 5 points Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) used to gather data from the respondents. The main structure of the questionnaires was divided into two sections. The first section consisted of demographic information like; age, gender, education level, job status, and enrolment of online learning courses. The second part of the questionnaire consisted of multiple items to measure all three latent constructs of the study.

The self-leadership questionnaire consisted of 21 items taken from the work of Houghton and Neck (2002), adapted and validated by Marques et al. (2012), to measure self-leadership. A 5-point Likert scale was used to record individual responses 1 (Strongly Disagree), 2 (Disagree), 3 (Somewhat Agree), 4 (Agree), and 5 (Strongly Agree).

The numerical scale that one could use to measure efficacy strength was proposed by Bandura, (1977). This study follows the same structure to self-efficacy for the assessment over a range of performance levels. This scale was also used by Davy, Williams, and Anderson (2000) previously. A total of six items measured the respondent's responses of self-efficacy such as: class contribution, meeting assignment deadlines, and online test/quiz capability. Responses were obtained on a 5-point Likert scale ranging from 1 (Strongly Disagree), 2 (Disagree), 3 (Somewhat Agree), 4 (Agree), and 5 (Strongly Agree).). All items began 'How would you rate your ...' and ended with either assignment abilities, note-taking abilities, the ability to concentrate in-class lectures, and the ability to understand concepts presented in online lectures. The coefficient alpha for the scale was noted as 0.86.

Student's online learning adaptive performance assessed with 7 items by using the work of M. R. Marques et al. (2015); each respondent responded using a 5-point Likert scale, 1 (Strongly Disagree), 2 (Disagree), 3 (Somewhat Agree), 4 (Agree), and 5 (Strongly Agree).

Data analysis procedure

The collected data were analysed by using SPSS for descriptive statistics to depict study characteristics such as percentage, frequencies of occurrence, mean, and standard deviation. Bartlett's test of sphericity should be statistically significant at $p < .05$ and the Kaiser-Meyer-Olkin value should be .6 or above. These values are presented as part of the output from factor

analysis. In our case, the observed Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) is .836, and Bartlett's Test of Sphericity is Chi-Square = 3802.472, $df = 253$; this shows the sample adequacy.

Internal reliability was successfully achieved as the Cronbach α coefficient value of 0.918 for the self-leadership construct, 0.862 for the self-efficacy construct, and 0.876 for the performance construct (see table 2); all the values are greater than 0.7, which is the recommended value as per literature, and furthermore, supported by the composite reliability (CR), which was also greater than the 0.6 required level (see table 2).

A structural equation modeling (SEM) analysis has been conducted with AMOS, to assess the research model fitness and relationship between the study's main three latent constructs. SEM, also helps the researcher to employ the combination of quantitative data and the causal or correlational assumptions in the specified model.

Empirical findings

The sample, comprised of 142 Male (65.4%), and 75 females (34.6%), a total 217 respondents from various demographic backgrounds, and were enrolled online for the spring semester 2020, participated in the online survey of this study. The student's ages ranged from 20 minimum and 30 years maximum, with a mean age of 25.5 years for the sample. While 67.3 percent of students are enrolled in 14 years of schooling, and 32.7 percent of the respondents are enrolled in 16 years of schooling at the time of survey (see table 1).

Table 1. Respondent profile

	Frequency	Percent
Gender		
Male	142	65.4
Female	75	34.6
Education qualification		
14 years of schooling	146	67.3
16 years of schooling	71	32.7

The measurement model of the latent construct

We applied the two-step approach recommended by Anderson and Gerbing (1988), to structural equation modeling (SEM). In the first step, we conducted CFA, to assess how well the survey items (observed items), and measured the latent (unobserved) constructs of the study. In the second step of SEM (structural part) we estimated the relationship among the endogenous and exogenous variables of the study. We applied pooled CFA instead of running every construct individually because it is more preferred in literature. It can be achieved by the

acceptable factor loading value for every item measuring the latent construct. For already established items, it should be a minimum of 0.6 or above. Therefore, we removed those items one by one which were below the recommended value till the required values were successfully achieved, with the factor loading for every three latent constructs of the study, as shown in table 2; all the items are above the recommended 0.6 value (see table 2).

Table 2: Factor loadings

Construct	Items	Factor loading	AVE	Cronbach α'	CR
Self-leadership	PST2	.820	0.736	.918	0.932
	PSC6	.956			
	PST6	.960			
	PST3	.789			
	PST4	.740			
Self-efficacy	PE1	.756	0.684	.862	0.866
	PUF	.809			
	PU3	.909			
	PSC1	.917			
Performance	PSC3	1.013	0.742	.876	0.892
	PUC	.601			

The reliability of each latent variable (self-leadership, self-efficacy, and performance) is greater than .70 (.93 for self-leadership, .86 for self-efficacy, and .89 for performance), about the convergent validity of the research constructs. Besides, the average variance extracted of each latent variable is .73 for self-leadership, .68 for self-efficacy, and .74 for performance.

The discriminant validity between each research construct has been assessed, as all the values are significant, and the correlations between the constructs are under .85 as shown in Figure 2. According to Cortina (1993), Cronbach's alpha (α) should not be less than 0.7. In this study the value of Cronbach's alpha for construct self-leadership is $\alpha = 0.918$, self-efficacy $\alpha = 0.866$, and for performance $\alpha = 0.892$ (see table 1), whereas the factor loading standardised value for all the observed items for the three constructs are above the recommended value 0.6 recommended by Bagozzi and Yi (1988) (see table 2), while composite reliability (CR) values are also greater than the recommended benchmark value 0.7 suggested by, Hair, Ringle, and Sarstedt (2011). This was further supported by the AVEs value, which is above 0.5 the cut-off point suggested by Hair et al. (2011). This shows the convergent validity of the measurement model.

To test the model fit, within the structure equation modelling, several indices are used (Kline, 2010). In addition to χ^2 , the ratio of χ^2/df with a value of less than 3 indicating fit acceptable has been applied. Hu and Bentler (1999) suggested that CFI and TLI statistics are greater than .95 as a good model fit. For SRMR (standard root means square residual) and RMSEA (root mean square error of approximation) values with less than .06 and .08 are a good model fit. The measurement test revealed that the sample data has a good fit ($\chi^2=66.526$; $\chi^2/df=1.623$; CFI=.970; TLI=.967; SRMR=.051; RMSEA= .05); this shows the construct validity of the measurement model is also successfully achieved (see table 3).

Table 3: category index values and level of acceptance

Category	Measure	Estimate	Threshold	Literature
Absolute fit	RMSEA	0.05	<0.008	Brown and Cudeck (1993)
	GFI	0.970	>0.90	Joreskog and Sorbom (1984)
	AGFI	0.975	>0.90	Tanaka and Huba (1985)
Incremental fit	CFI	0.970	>0.90	Peter M Bentler (1990)
	TLI	0.967	>0.90	Peter M Bentler and Bonett (1980)
	NFI	0.965	>0.90	Bollen (1989)
Parsimonious fit	Chisq/df	0.1.623	<5.0	Marsh and Hocevar (1985)

This validity is achieved when the measurement model is free from redundant items (Hair et al., 2011). The measurement model fit indices as per recommended values have been achieved accordingly as $\chi^2/df = 1.623$ (Wheaton et al. (1977), CFI = .97 (comparative fit index) which should be more than .95 (Peter M Bentler (1990), RMSEA = .05 (root mean square error of approximation), should be less than .08 (Browne, Cudeck, Bollen, and Long 1993). SRMR = 0.051 should be <0.08 (Joreskog & Sorbom, 1984). Referring to table 4, the discriminant validity for all three constructs has been achieved successfully.

Table 4: Discernment validity

	Self-leadership	Efficacy	Performance
Self-leadership	0.858		
Efficacy	0.179*	0.827	
Performance	0.132	0.256	0.862

* $p < 0.050$

Hypotheses testing

Table 3 shows the structural model of fitness indexes. The model fit is statistically examined first. Factor loading values, indirect effects, direct effects among the constructs are assessed. About fitness of model, chi-square value 66.526 ($p < .001$), degree of freedom 41, absolute fit; CMIN/df= 1.623, GFI= 0.986, while supported by an incremental fit; CFI= 0.986, TLI= 0.982, and NFI= 0.965. This illustrated the model fitness (table 5).

Table 5: Structural model fitness indexes

Category	Index	Value	Comments
Absolute fit	RMSEA	0.054	The required level achieved
Absolute fit	GFI	0.951	The required level achieved
Incremental fit	CFI	0.986	The required level achieved
Parsimonious fit	Chisq/df	1.623	The required level achieved

Table 6: Standardised Path Coefficients between Variables in structure mode

Construct	Path	Construct	Estimate	S.E	C.R.	P-value	Result
Performance	<---	Self-Leadership	.055	.042	1.312	.190	Not-Supported
Efficacy	<---	Self-Leadership	.146	.060	2.437	.000	Supported
Performance	<---	Efficacy	.180	.057	3.187	.001	Supported

Figure 2 shows the standardised regression weights between the latent construct of the study. Table 6 illustrates the direct effects, the standardised regression weight of .146 ($p < .001$) from self-leadership to self-efficacy is observed, while the standardised factor loading value between self-efficacy and performance is .180 ($p < .001$). However, the value of the standardised factor loading between self-leadership and performance is not significant. This indicates the mediating role of self-efficacy between performance and self-leadership.

Table 7: Direct, Indirect, and Total Effects

Constructs				
Dependent	Independent	Direct effects	Indirect effects	Total effects
Self-leadership	Performance	.089	.043	.132
	Efficacy	.179	.000	.179
Efficacy	Performance	.240	.000	.240

Table 7 illustrates that there is one indirect effect in this research model: a standardised value of .179 is observed from self-leadership to self-efficacy, and a value of .240 is observed from efficacy to performance. This shows that the mediating factor of each indirect effect path is self-efficacy. While total indirect effects among performance and efficacy are the same, as there is no indirect effect observed among efficacy and performance (see table 5), since the direct effect between self-leadership and performance is not statistically significant (see table 4). The results show that self-leadership indirectly affects performance through self-efficacy in the model is tested. This is because the correlation between performance and self-leadership is not statistically significant (see table 4).

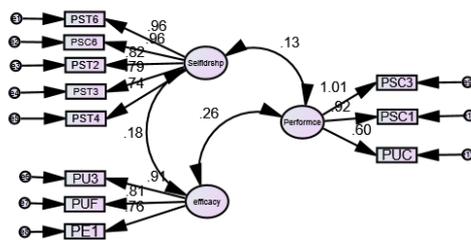


Figure 2; CFA for measurement model

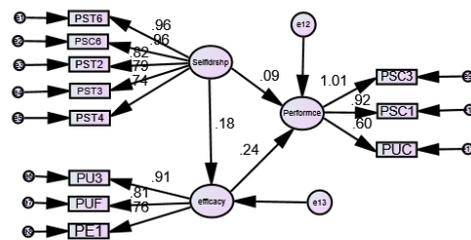


Figure 3: a structural model

Discussion and Conclusion

The previous literature shows that self-leadership skills can enhance individuals to perform better (Neck & Manz, 1996). The findings of this conclude that self-leadership plays an important role in increasing the self-efficacy level of students, especially in innovative behaviour conditions. Hence, educational institutions need to invest more effort in developing the self-leader behaviour of the students to improve the overall performance as well as the functioning of the institutions. One of the prominent contributions of this is that till now the majority of the researches conducted on self-leadership about the training provided or by comparing data at different periods. This study is unique in this regard due to the biggest pandemic outbreak and crisis through which loss is already predicted in millions by the financial experts. To perform in this unpredictable, uncertain, and rapid technological driven world, transformation rhythm is often overwhelming. We might tentatively say through this study findings that under such circumstances self-leadership is not only a key to survive but to thrive in full potential, although some researchers, for instance, Hodges et al. (2020), claim this online learning as a temporary shift. However, universities do face financial pressures, especially in developing economies; as a consequence this change has to be achieved. Small private institutions will be most hit and several might face calamitous consequences including closure. While the higher education sector will have to face multi-dimensional impacts, business schools are affected in one other significant way. There are significant numbers of private universities, colleges, and schools in Pakistan. In this uncertain and unpredictable environment, enrollments for coming terms are unpredictable and very much depend on the study discipline. While stock volatility market, the returns from university endowments are likely to be less than expected, thus creating further pressure and financial uncertainty for the educational institutions to adopt the changes as quickly as possible.

This study focuses on the self-leadership skills that affect positively students' adoptive innovative online learning performance. We are positive to contribute this way to the informal self-leadership emerging research. This is so far a novel phenomenon for research, especially in the context of developing economies. This study focuses on the self-efficacy that an individual can enhance with self-leadership; we also consider the importance of training new technologies before implementation (Mumford & Gustafson, 1988). Students that are planning careers in these fields might expect long waits or the need to pivot in other directions. This crisis as predicted by many financial experts such as Kowalewski and Śpiewanowski (2020), state that the world is facing an economic as well as health pandemic, impacting revenues of trillions of dollars. Without governmental assistance, many organisations will end in bankruptcy. However, businesses that are digitally transformed have done exceptionally well during this time (e.g., Amazon, Alibaba). At the same time, the faculty also needs to update their digital skills with effective training sessions before the commencement of online sessions, as many new online platforms have already been active to facilitate online gathering for



example Zoom, Google meets, and many more with bundles of confusing features; reliability, security issues are the next concern for the researchers.

Theoretical and Practical Implications

Self-leadership practitioners and scholars have focused until now, mainly on individual heading teams and their relationship with the followers. This approach represents a single individual leader who controls and manages subordinates through vertical influence. This paradigm in the leadership field is spread over decades, however, an emergent approach elaborates that leadership consists of an activity that can be distributed or mutually shared among groups or organisation members (Pearce & Conger, 2003). This opens new thinking and new lines for informal leadership (Fletcher, 2003). The first theoretical contribution of the study is that it replicates current research and extends previous studies on the relationship among self-leadership, self-efficacy, and adoptive performance (Neck & Manz, 1996). Hence, this study extends previous research work that helps to build scientific information that is reliable and helpful in solving real-world problems (Gomes et al., 2015). This research study merits the fact that although others had reported the benefits of self-leadership training on specific dimensions (Neck and Manz, 1996), or strategies (Furtner, Baldegger, & Rauthmann, 2013; Lucke & Furtner, 2015), however, none had been implemented in the adoption of online learning mechanisms under such unpredictable and uncertain situations. Therefore, the findings can be used to support Manz's (1986), arguments that self-leadership is the key to achieve better performance in the 21st century. The self-leadership emergence pretty much occurs around the context (Houghton & Yoho, 2005; G. L. Stewart et al., 2011). This study contributes further to the theory and practice which suggests that self-leadership has a positive relationship with self-efficacy in uncertain and unpredictable circumstances. The current research is not without limitations. Future research, if exploring the benefits of training, if provided before the start of the online session, will help understand the relationship between self-leadership and the performance level of students. The same training is used as a moderator will also elaborate the phenomena.



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