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Strengthening career adaptation among school teachers in Pakistan: Test of strengths-based career intervention imparted through emotionalized learning experiences

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Abstract

This study demonstrated that the *Exemplary Teaching* intervention offered to Pakistan's school teachers through the emotionalized learning experiences (ELE) format fared better than that offered through the teacher-centered methodology as regards the development of career adaptability, teaching self-efficacy, and work engagement from Time 1 to Time 2. Analyses to explore the development of career variables from Time 2 to Time 4 revealed that only the teachers who were offered the ELE intervention effectively engaged in step-by-step career construction over the academic year. Theoretical contributions of the results and implications for offering future career interventions amid COVID-19 are also discussed.

Keywords Career adaptability · Teachers' sense of self-efficacy · Work engagement

Résumé

Renforcer l'Adaptation de la Carrière des Enseignant·e·s au Pakistan: Test d'une Intervention de Carrière Basée sur les Forces à travers l'*Emotionalized Learning Experiences* Cette étude a démontré que l'intervention *Exemplary Teaching* proposée aux enseignantes pakistanaises par le biais de *emotionalized learning experiences* (ELE) a donné de meilleurs résultats que celle proposée par la méthodologie centrée sur l'enseignante en ce qui concerne le développement de l'adaptabilité de la carrière, l'auto-efficacité de l'enseignement et l'engagement professionnel du Temps 1 au Temps 2. Les analyses visant à explorer le développement des variables de carrière du Temps 2 au Temps 4 ont révélé que seuls les enseignantes à qui l'on a proposé l'intervention ELE se sont effectivement engagés dans une construction de carrière étape par étape au cours de l'année scolaire. Les contributions théoriques des

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résultats et les implications pour proposer de futures interventions sur la carrière au sein de COVID-19 sont également discutées.

Zusammenfassung

Stärkung der beruflichen Anpassungsfähigkeit von Lehrern in Pakistan: Test einer auf Stärken basierenden Karriereintervention, die durch emotionalisierte Lernerfahrungen vermittelt wird Diese Studie zeigte, dass die Intervention "Beispielhaftes Unterrichten", die pakistanischen Lehrern im Rahmen des Formats "Emotionalisierte Lernerfahrungen" (ELE) angeboten wurde, in Bezug auf die Entwicklung der beruflichen Anpassungsfähigkeit, der Lehrerselbstwirksamkeit und des beruflichen Engagements von Zeitpunkt 1 bis Zeitpunkt 2 besser abschnitt als die Intervention, die im Rahmen der lehrerzentrierten Methodik angeboten wurde. Analysen zur Untersuchung der Entwicklung von Karrierevariablen von Zeitpunkt 2 bis Zeitpunkt 4 ergaben, dass nur die Lehrkräfte, denen die ELE-Intervention angeboten wurde, im Laufe des Schuljahres tatsächlich eine schrittweise Weiterentwicklung ihrer Karriereperspektiven (career construction) erfahren haben. Beiträge Ergebnisse zur Theorie und Implikationen für das Angebot zukünftiger Karriereinterventionen im Rahmen von COVID-19 werden ebenfalls diskutiert.

Resumen

Fortalecimiento de la adaptación profesional entre los maestros de escuela en Pakistán: Prueba de intervención profesional basada en el esfuerzo e impartida a través de experiencias de aprendizaje emocionalizadas Este estudio demostró que la intervención del *Exemplary Teaching* ofrecido a los maestros de escuela de Pakistán a través del formato de experiencias de aprendizaje emocionalizado (ELE) fue mejor que la ofrecida a través de la metodología centrada en el maestro en lo que respecta al desarrollo de la adaptabilidad de la carrera, la autoeficacia de la enseñanza y el compromiso laboral del Tiempo 1 al Tiempo 2. Los análisis para explorar el desarrollo de las variables de carrera del Tiempo 2 al Tiempo 4 revelaron que solo los profesores a los que se les ofreció la intervención del *Exemplary Teaching* (ELE) participaron efectivamente en la construcción de una carrera paso a paso durante el año académico. También se discuten las contribuciones teóricas de los resultados y las implicaciones para ofrecer futuras intervenciones profesionales en medio del COVID-19.

Introduction

Professional development (PD) initiatives for teachers endeavor to bolster their competencies for adapting to the evolving demands of today's classroom (Knight, 2002). Essentially, these initiatives focus on increasing teachers' job commitment and satisfaction (Dede et al., 2009) as well as foster innovation and education reform (Desimone et al., 2002). PD is largely an intellectual, emotional, and personal undertaking requiring teachers to accept and implement novel concepts and ideas, try out new activities, and improve teaching practices (Day & Sachs, 2004; Stoll et al.,

2012). Moreover, PD entails enhancing teachers' self-insight, self-efficacy, motivation, and dedication to advance student learning and achievement (Avalos, 2011; Rashid, 2010). Hence, a modern-day career intervention may help in attaining the aforementioned objectives of PD initiatives and keep their true spirit alive.

At the same time, the significance of a learner-centered framework for nurturing active learning and reflection is well recognized (Green, 2019a, 2021a; Green & Batool, 2018; Clarke & Hollingsworth, 2002; Desimone, 2009, 2011). However, most PD programs predominantly focus on transmitting new ideas through traditional or *teacher-centered approaches*—in which the teacher has significant control over the teaching–learning process and the role of learners is relatively passive—and assume that learning is an individual process that enables teachers to instinctively apply what they have learned to their specific contexts (Bausmith & Barry, 2011; Datnow et al., 2002; Girvan et al., 2016). Research indicates that this is not an effective approach to PD or career enrichment, as learning does not occur in this manner (Green & Batool, 2017; Green et al., 2020a, 2020b; Guskey, 2002; Pickering, 2007). Learning is enhanced when learners' emotions are taken into consideration. Emotions are associated with potentially all aspects of the teaching–learning process (Schutz & Lanehart, 2002). Fundamentally, emotions promote interest and engagement in the content taught, pleasure of learning, and the desire for achieving success (Schutz & Pekrun, 2007), yet researchers have largely dismissed the affective framework that shapes teachers' understanding of PD. This is probably because teachers' emotional experiences during PD initiatives still need to be clearly understood (Gaines et al., 2019) and affective experiences continue to be dismissed in teaching (e.g., Dar, 2015; Green & Batool, 2017; Patel, 2010; Pierre & Oughton, 2007; Shephard, 2008; Stiff-Williams, 2010). It is noteworthy that teachers may experience an array of pleasant or unpleasant emotions during PD initiatives when they are explicitly asked to alter their teaching practices (Darby, 2008). Teachers experiencing pleasant/positive emotions (e.g., hope, excitement, and joy) during such programs are able to find innovative ways to implement what they have learned and reflect on their own teaching to change their instructional approaches as opposed to those overwhelmed with anxiety, fear, or stress (Gaines et al., 2019). There is therefore a need for developing and implementing PD programs that evoke pleasant emotions to motivate teachers to apply what they learn to their distinct teaching contexts.

Objectives and significance of the study

This four-wave longitudinal study is based on three primary objectives. First, this research focuses on the development and implementation of a strengths-based career intervention, *Exemplary Teaching,* to enable school teachers to make effective use of their character strengths (e.g., creativity, love of learning, persistence, vitality, love, fairness, leadership, prudence, self-regulation, gratitude, and hope; Green, 2021a; Peterson & Seligman, 2004) to strengthen their career adaptation over time. As such, the first objective of this research is to develop school teachers' career adaptability, teaching self-efficacy, and work engagement (variables in the CCMA; Rudolph et al., 2017; Savickas & Porfeli, 2012) based on the Exemplary Teaching

intervention as a PD option for school teachers to enrich their teaching careers. The CCMA highlights the process of career construction during an individual's life span based on the relationship among its four components: (1) adaptive readiness, (2) adaptability resources, (3) adapting responses, and (4) adaptation results (Savickas et al., 2018). For a diagrammatic depiction of the model, please refer to Rudolph et al. (2017). To the best of the researcher's knowledge, this is perhaps the first strengths-based career intervention for school teachers. Moreover, this study adds to the relatively sparse research on the constructs of the CCMA from Pakistan (e.g., Green, 2020; Green et al., 2020b).

Second, the intervention seeks to provide positive emotional experiences to teachers based on the ELE format to enable them to apply the lessons learned to their unique teaching contexts. Based on a learner-centered framework, ELE initiatives nurture affective learning by integrating the affective outcomes into the teaching–learning process to make learning more permanent, memorable, and gratifying (Green & Batool, 2017; Patel, 2010). In essence, affective outcomes serve as a portal to learning and therefore help in the attainment of the cognitive and psychomotor outcomes to promote comprehensive learning based on an observable change in learners' behaviors (Green, 2019a, 2020, 2021b; Patel, 2010; Rashid, 2010; Thoen & Robitschek, 2013). Thus, ELE support enhanced learning capabilities by enhancing and sustaining positive emotions (Reschly et al., 2008) as reviewed under the Theoretical Framework. This study also uses a control group, which is imparted the Exemplary Teaching intervention through the teacher-centered methodology (for details, please refer to the last section of the Theoretical Framework). Hence, the second objective of this research is to compare the efficacy of the ELE format with that of the teacher-centered methodology in furthering school teachers' career adaptability, teaching self-efficacy, and work engagement immediately after the intervention as well as four and eight months later. Several researchers have also stressed on the need for studying the long-term effect of career interventions (e.g., Perdrix et al., 2012; Savickas et al., 2009; Verbruggen & Sels, 2008). Previously only a few intervention studies have undertaken to do so (e.g., Green et al., 2020b; Koen et al., 2012). This is perhaps the first four-wave longitudinal study, which analyzes the long-term effect of a career intervention aimed at offering positive emotional experiences to school teachers based on the ELE format.

Third, this research examines how the two interventions influence school teachers' career adaptation within their teaching roles over the academic year. In this regard, the study uses mediation analyses to explore the longitudinal nature of the research design, i.e., to examine whether the two interventions can sustain the effect of career adaptability at Time 2 to influence work engagement at Time 4 via teachers' sense of self-efficacy at Time 3. As such, the relation among the three adaptation dimensions—representing the three components/steps of the CCMA according to this research—is studied in three time points, i.e., career adaptability at Time 2 (first dimension/step 1), teachers' sense of self-efficacy at Time 3 (second dimension/step 2), and work engagement at Time 4 (third dimension/step 3). It is much pertinent to note that CCMA suggests that adapting responses mediate the relationship between career adaptability and adaptation results (Hirschi et al., 2015; Savickas & Porfeli, 2012; Šverko & Babarović, 2018). Hence, the third

objective of the study is to determine whether teachers' sense of self-efficacy at Time 3 mediates between career adaptability at Time 2 and work engagement at Time 4 with regard to the ELE intervention (mediation model 1) and the teacher-centered intervention (mediation model 2). This research uses the global scales of career adaptability, teachers' sense of self-efficacy, and work engagement to provide a simple and clear understanding of the long-term effect of the interventions in terms of how each step in the career construction process—as a whole—may influence each other across time.

The ensuing sections of this research are organized as follows. First, the theoretical framework is presented in terms of the following: (a) Exemplary Teaching as a strengths-based career intervention, (b) components of the CCMA, (c) emotionalized learning experiences, and (d) teacher-centered methodology. Second, the methodology for conducting the intervention is explicated, including the Exemplary Teaching intervention content as well as the experimental and control treatments. Third, results are presented and discussed along with their theoretical contribution and implications for offering future strengths-based career interventions for teachers—especially amid the threat of the COVID-19 pandemic. Lastly, limitations of the study and possibilities for future research are presented.

Theoretical framework

Exemplary teaching as a strengths-based career intervention

Describing what is best in human beings (Peterson & Seligman, 2004), character strengths are positive characteristics manifested through thoughts, emotions, and behaviors to foster optimal functioning among learners to help them achieve valuable life outcomes (Linley & Harrington, 2006), such as career adaptation. Fundamentally, optimal functioning permits people to become the best version of themselves and realize their full potential in the long run (Levesque, 2011). The Exemplary Teaching intervention is based on the Values in Action (VIA) Character Strengths Inventory and Classification Scheme (cf. Green, 2021b for details of the classification) developed by Peterson and Seligman (2004). It has been developed as a positive psychology strengths-based career intervention primarily because positive psychology can enrich various approaches to career development (Robertson, 2017). Moreover, character strengths have been shown to relate to various constructs of the CCMA. For instance: personality traits (Noronha & Campos, 2018), self-esteem (Proctor et al., 2011), career adaptability (Lee & Kim, 2018), personal teaching efficacy (Lim & Kim, 2014), work performance (Littman-Ovadia et al., 2017), and employee engagement (Clifton & Harter, 2003).

Career construction model of adaptation

The CCMA proposes that "adaptive readiness mobilizes adaptability resources that shape adapting responses to produce adaptation results" (Savickas et al., 2018, p. 139). The four components of the model as applied to this study are reviewed in the following paragraphs.

Adaptive readiness is a trait-like psychological component representing the readiness to adapt to career changes to influence the development and use of career adaptability resources (Savickas & Porfeli, 2012). Hence, two sessions of the Exemplary Teaching intervention were based on the following three constructs of adaptive readiness: (1) personality traits (i.e., relatively stable dispositions measuring extraversion, agreeableness, conscientiousness, neuroticism, and openness to experiences; McCrae & Costa, 2004), (2) proactive personality (i.e., a stable tendency in individuals to "scan for opportunities, show initiative, take action, and persevere until they reach closure by bringing about change;" Bateman & Crant, 1993, p. 105), and (3) self-esteem (i.e., an individual's self-evaluation of his or her global self-worth encompassing both positive and negative feelings about the self; Rosenberg, 1965). Please refer to Sessions 4 and 5 in Table 1 in the *Online Supplementary Materials'* file.

Adaptability denotes transactional and malleable competencies enabling people to handle current and anticipated tasks, transitions, and traumas related to their occupational roles as well as to successfully address complex, unfamiliar, and ill-structured problems throughout their careers (Rudolph et al., 2017). *Career adaptability resources* (concern, control, curiosity, and confidence; Savickas & Porfeli, 2012) are self-regulation strengths contributing towards teachers' career self-management and career optimism (McLennan et al., 2017). Employees with higher levels of career adaptability show *concern* about future career-related tasks, take *control* of their career construction, possess the *curiosity* to explore possible selves and career opportunities, and demonstrate *confidence* in addressing career challenges for attaining success in their vocational tasks (Savickas, 2005). Further, these resources aim at instilling a sense of personal control in teachers to enable them to aptly manage complex classroom situations, implement novel teaching strategies, and experience greater self-fulfillment and job satisfaction (Wang et al., 2015). Research by Mcllveen et al. (2016) has demonstrated that career adaptability is strongly related to teachers' self-efficacy for instructional strategies, classroom management, and student engagement (the three dimensions of teachers' sense of self-efficacy explained in the following paragraph). They assert that both career adaptability and teachers' sense of self-efficacy collectively affect teachers' work engagement. Furthermore, career adaptability has been shown to relate to work engagement (Chen et al., 2018).

Adapting responses encompass both beliefs about performance and related behaviors or actions to enact those beliefs to tackle new situations and address changing conditions (Ployhart & Bliese, 2006) within one's *existing* or new occupational roles. With regard to working adults—such as school teachers—a pertinent indicator of adapting responses at work is their occupational self-efficacy, i.e., their level of competence or self-efficacy to perform tasks that bolster effective performance and facilitate goal attainment. However, adapting responses for adolescents

and emerging adults (students) usually entail addressing changing career conditions based on such behaviors as exploring, planning, deciding, and committing (Tokar et al., 2020). Further, most measures for assessing adapting responses have been designed for use by students, such as the Student Career Construction Inventory (SCCI; Savickas et al., 2018). It is relevant to note that adapting responses pertaining to working adults may be appropriately assessed in the context of their occupational roles. As such, this study measures adapting responses in terms of teachers' sense of self-efficacy reflecting their occupational self-efficacy in the teaching environment. Moreover, teachers' sense of self-efficacy holds particular relevance considering that this study is based on their career adaptation in the context of their occupational roles within the school. Teachers' sense of self-efficacy represents their conviction in their ability to successfully handle tasks, obligations, and challenges associated with their professional roles (Caprara et al., 2006). According to Tschannen-Moran and Woolfolk Hoy (2001), a teacher's sense of self-efficacy comprises three dimensions. *Self-efficacy for student engagement* suggests teachers' perceived competence to develop relations with students and support their motivation and engagement in learning. *Self-efficacy for instructional strategies* denotes teachers' perceived ability to use alternate methods in teaching and assessment. *Self-efficacy for classroom management* signifies teachers' capability to establish and maintain order in the classroom. These dimensions reflect teachers' competence to perform tasks to enrich teaching practices. Research has indicated that teachers' self-efficacy is related to job performance and effectiveness (Klassen & Tze, 2014) as well as predicts work engagement (Burić & Macuka, 2018) and may therefore adequately represent occupational self-efficacy as an adapting response (Mcllveen et al., 2016).

Adaptation results represent the outcomes of adapting behaviors. In this study, work engagement represents the adaptation results component of the CCMA. Work engagement is an affective-motivational construct reflecting a positive, confident, gratifying, and enduring work-related attitude characterized by vigor, dedication, and absorption (Schaufeli et al., 2002). *Vigor* refers to a state of mind in which individuals experience high levels of energy and resilience during work. *Dedication* represents individuals' deep engagement in their work enabling them to derive meaning from it. *Absorption* is a heightened state of concentration in work whereby time goes by quickly (Bakker et al., 2008). Relevant to note is that engaged teachers are passionate about what they teach, active and committed to achieving the learning outcomes, persistent while facing challenges, and attentive about their students' needs (Burić & Macuka, 2018).

Emotionalized learning experiences

The four dimensions of ELE comprising the cognitive setting for learning, the social setting for learning, the emotional setting for learning, and teaching and learning resources form the affective learning environment (Egle, 2007; Green, 2019a; Green et al., 2020a), which fosters active learning, reflection, and engagement in the learning process by enhancing and sustaining positive emotions (Reschly et al., 2008). Fundamentally, positive emotions provide substance and meaning to what learners

learn (Green, 2019a; Green & Batool, 2017). In line with the Broaden-and-Build Theory (Frederickson, 2013), positive emotions broaden people's cognitive functioning and encourage them to interact with their surroundings (e.g., affective learning environment composed of the four dimensions of ELE) and actively engage and participate in the activities related to it (Frederickson 2004) to acquire enhanced learning competencies (Reschly et al., 2008). In effect, the affective outcomes embedded in ELE nurture a learning environment of empathetic understanding, trust, acceptance, and genuineness, which according to Rogers (1969) are pertinent for real learning and development to occur. Hence, the affective learning environment triggers and sustains positive emotions to deepen learning (Reschly et al., 2008). Chiefly based on the Adult Teaching and Learning Assumptions by Knowles (1990) and the Theory of Experiential Learning by Rogers (1969), the dimensions of ELE influence learners' attitudes, beliefs, and values to enhance and sustain the learning process. Table 1 presents the theoretical principles related to the dimensions of ELE. These principles help in nurturing a learner-centered environment to make learning more permanent and memorable.

The cognitive setting for learning enables learners to apply their higher-order thinking skills. It also focuses on (a) explaining the relevance of the intervention and its content to participants, (b) helping them to tap into their previous knowledge, and (c) enabling them to learn those things that could help them manage real-life problems. *The emotional setting for learning* secures affective connections with learners by making them feel valued and appreciated, providing them positive and productive feedback, encouraging active participation, and addressing their fears of not doing well in their learning tasks. Additionally, it aims at advancing self-directed learning. *The social setting for learning* fosters collaborative learning and offers a positive learning environment to ensure healthier levels of interaction and the development of quality personal relationships among learners. Finally, the dimension of *teaching and learning resources* aims at integrating the affective outcomes into the teaching–learning process and enables the use of meaningful experiential learning activities and appropriate teaching aids/resources to help in the attainment of the cognitive, affective, and psychomotor outcomes. These dimensions actively engage participants in the learning process to help them identify, share, and adapt strategies for achieving excellence in their personal and professional endeavors (Green, 2019a; Green et al., 2020a). Thus, an ELE intervention focusing on motivating participants to make effective use of their character strengths may be a worthwhile strategy for excelling in their careers.

Teacher-centered methodology

This is based on autocratic teaching styles in which the teacher controls the teaching–learning process with regard to the presentation of the teaching content. As such, the role of the learners is relatively passive requiring them to absorb information or take notes. The lecture method is considered as a teacher-centered approach entailing one-way flow of ideas and concepts and as such involves limited interaction with the learners. Additionally, teachers may use audiovisual aids and/or other media and materials to

Table 1 Theoretical principles related to the dimensions of ELE

Dimension of ELE	Adult teaching and learning assumptions by Knowles (1990)	Principles of significant learning by Rogers (1969)	Theoretical principles
Cognitive Setting for Learning	• Need to know • Previous experience • Readiness to learn • Orientation to learning	• Learners' natural propensity to learn • Relevance of the subject matter to learners' purposes	• *Need to know* represents the curiosity of adult learners to know the importance and utility of the content before they actually undertake to learn it • *Self-directedness* represents learners' desire to be responsible for taking their own decisions in the learning process and as such be treated as capable of self-direction • *Previous experience* suggests that learning experiences must enable adults to tap into their previous knowledge to form the basis of acquiring and assimilating new knowledge (cognitive setting for learning). Additionally, this principal proposes that learning experiences must enable adults to unlearn their negative experiences that take the form of erroneous methods/ideas, myths, negative attitudes/beliefs, and false perceptions (emotional and cognitive settings for learning) • *Readiness to learn* indicates the value that adults attach to learning and as such represents their seriousness about it. Of note is that their learning becomes increasingly relevant to the developmental tasks of their social roles • *Orientation to learning* suggests that adult learners are problem-centered and want to learn those things that have an immediate application to their work so that they can build their competencies to enhance their performance • *Motivation to learn* proposes that adults are more intrinsically motivated towards learning through such internal incentives as self-esteem, curiosity, desire to achieve, need for self-fulfillment, and need for finding meaning in life • *Learners' natural propensity to learn* suggests that human beings are by nature curios as well as desirous of discovering, knowing, and experiencing. Therefore learning experiences should be designed to satisfy their inquisitive nature • *Learners' participating responsibly in the learning process* suggests that learners are able to set their own pace of learning, assess their own learning, have a say in the content, evaluate their personal strengths and shortcomings, and discover their own solutions to problems • *Relevance of subject matter to learners' purposes* signifies that an individual effectively learns only those things that are perceived as entailing the maintenance and enrichment of the self (i.e., one's values, beliefs, and basic attitudes) • *Freedom from threat to the self* implies that a person can learn well in a motivating environment where his or her self-respect or sense of self remains intact • *Learning acquired through doing* implies that learners' experiential involvement with practical, social, personal, and research problems promotes meaningful or significant learning
Emotional Setting for Learning	• Self-directedness (Self-concept) • Motivation to learn • Previous experience	• Learners' participating responsibly in the learning process • Freedom from threat to the self	
Social Setting for Learning	• Motivation to learn	• Freedom from threat to the self	
Teaching and Learning Resources	• Readiness to learn • Orientation to learning • Motivation to learn	• Relevance of the subject matter to learners' purposes • Freedom from threat to the self • Learning acquired through doing	

complement their lectures (Rashid, 2006). Major et al. (2016) have suggested different forms of lectures, such as formal lectures (well-organized and highly polished lectures followed by questions), semi-formal lectures (lecturers that may entertain some student questions during the presentation of the material), lecture-discussions (instructor presents the talk during which questions may be meant for the entire class or an individual student), problem-solving lectures (instructor demonstrates a solution to a problem that serves as the focus in a lecture), point-by-point lectures (instructor presents information about a single concept, question, or issue based on an outline), PowerPoint lectures, and Socratic lectures (lectures structured around a series of carefully sequenced questions related to a reading assignment). In all of these types of lecturers, the teacher exercises considerable control over the teaching–learning process regardless of student participation.

The main purpose of lectures is the development of students' mental abilities (cognitive outcomes). They are less suitable for developing students' attitudes and feelings (affective outcomes) as well as their basic motor skills (psychomotor outcomes; Rashid, 2006). Therefore, lectures may not be appropriate for nurturing whole body learning (learning engaging both teachers and learners mentally, emotionally, and physically through experiential activities), which is pertinent for fostering a learner-centered environment (Green & Batool, 2017; Wisconsin Union, 2013). Lectures are suitable for older, more mature students, as they have a larger attention span (than younger students) to absorb the information transmitted through lengthy one-way presentations (Gill, 2020).

Research hypotheses

To compare the effectiveness of the two interventions, the study hypothesizes that as compared to the teacher-centered methodology (control group), the strengths-based career intervention imparted through ELE (experimental group) will lead to a greater difference in the pretest and posttest scores pertaining to career adaptability, teachers' sense of self-efficacy, and work engagement (Hypothesis 1). Next, to test the long-term efficacy of the interventions, the study hypothesizes that the development of career adaptability, teachers' sense of self-efficacy, and work engagement will be higher in the experimental group than in the control group four and eight months after the intervention (Hypothesis 2). Finally, this study explores the influence of the two interventions on school teachers' career adaptation within their teaching roles over the academic year. Therefore, it hypothesizes that teachers' sense of self-efficacy at Time 3 will mediate the relation between career adaptability at Time 2 and work engagement at Time 4 for both learning interventions (Hypothesis 3).

Method

Participants

Two hundred and six teachers from a renowned chain of private schools operating in Islamabad and Rawalpindi volunteered to participate in the study. Overall, the 126 women (61%) and 80 men (39%) from the school's six campuses were between 24 and 56 years ($M = 33.53$ and $SD = 8.13$) and their teaching experience ranged from 1 to 30 years ($M = 8.95$ and $SD = 7.33$). Further, 147 teachers were married (71%) and 59 single (29%). A research randomizer equally allocated 103 participants to an experimental group and a control group.

The experimental group ($n = 103$) comprised 60 women (58%) and 43 men (42%) between 24 and 56 years ($M = 32.98$ and $SD = 7.74$) with teaching experience ranging from 2 to 30 years ($M = 8.67$ and $SD = 7.08$). This group comprised 77 married (75%) and 26 single (25%) teachers. Additionally, it included 36 senior school (35%), 32 middle school (31%), 19 primary school (18%), and 16 pre-school (16%) teachers.

The control group ($n = 103$) comprised 66 women (64%) and 37 men (36%) between 24 and 55 years ($M = 34.09$ and $SD = 8.51$) with teaching experience ranging from 1 to 30 years ($M = 9.23$ and $SD = 7.60$). This group consisted of 70 married (68%) and 33 single (32%) teachers. Furthermore, it included 32 senior school (31%), 29 middle school (29%), 22 primary school (21%), and 20 pre-school (19%) teachers.

Measures

Career adapt-abilities scale-international form 2.0 (CAAS)

Developed by Savickas and Porfeli (2012), the 24 items 4-factor scale (concern, control, curiosity, and confidence) was used in this study. The scale uses a 5-point Likert-type scale (1 = *not a strength*; 5 = *greatest strength*) for participants to rate its items. Sample items in the scale are "Preparing for the future" (concern), "Counting on myself" (control), "Looking for opportunities to grow as a person" (curiosity), and "Learning new skills" (confidence). The Cronbach's alpha value of the global CAAS-International was .92. The alpha values pertaining to concern, control, curiosity, and confidence were .83, .74, .79, and .85 respectively (Savickas & Porfeli, 2012). In this study, Cronbach's alpha values related to the global scale, concern, control, curiosity, and confidence calculated to .91, .84, .79, .81, and .87 respectively.

Teachers' sense of self-efficacy scale (TSSES)

Encompassing 24 teaching related tasks, the scale was developed by Tschannen-Moran and Woolfolk Hoy (2001). It has three subscales, namely student engagement (e.g., "How much can you do to motivate students who show low interest in

schoolwork?"), instructional strategies (e.g., "To what extent can you craft good questions for your students?"), and classroom management (e.g., "How well can you respond to defiant students?"). The scale uses a 5-point Likert-type scale (1 = *nothing*; 5 = *a great deal*) for rating each item. In a study by Duffin et al. (2012), the Cronbach's alpha values pertaining to student engagement, classroom management, instructional strategies, and the total TSSES were .92, .94, .94, and .97 respectively. Cronbach's alpha values related to this study calculated to .84 (student engagement), .82 (classroom management), .80 (instructional strategies), and .88 (total TSSES).

Utrecht work engagement scale-employee version (UWES-EV)

This scale was developed by Schaufeli et al. (2002). Its 17 items are grouped into 3 factors, namely vigor (e.g., "At my work, I feel bursting with energy"), dedication (e.g., "My job inspires me"), and absorption (e.g., "I am immersed in my work"). All items are scored on a 7-point frequency rating scale (0 = *never*; 6 = *always*). However, this study used a 5-point Likert-type scale (1 = *disagree strongly*; 5 = *agree strongly*) for participants to rate each item of the UWES-EV. According to Schaufeli et al. (2002), the values of Cronbach's alpha relating to vigor, dedication, and absorption were .79, .89, and .72 respectively. Pertaining to this study, Cronbach's alpha values amounted to .87 (total UWES-EV), .71 (vigor), .84 (dedication), and .81 (absorption).

Procedure

The interventions were offered at the school's main campus during summer vacations (June to July 2018). The interventions were conducted after obtaining the necessary approval from the school's management. Teachers at their respective campuses were informed about the intervention and its objectives in the Morning Assembly and through notices/memos posted in the staff rooms before the summer vacations as well as through e-mail. Proper informed consent was also obtained from all the participants who were assured that the collected data would remain confidential. As incentives, they were charged no fee for participating in the intervention and were awarded a course completion certificate. Based on the ELE format, the experimental group ($n = 103$) was offered the Exemplary Teaching intervention in two groups ($n = 51$; $n = 52$) for a total of 30 h (six hours a week for five weeks). The first group was taught on Mondays, Wednesdays, and Fridays from 8:30 AM to 10:30 AM, whereas, the second on the same days from 11:00 AM to 1:00 PM. Based on the teacher-centered methodology, teachers in the control group ($n = 103$) were also offered the Exemplary Teaching intervention in two groups ($n = 51$; $n = 52$) for the same duration. The first group was taught on Tuesdays, Thursdays, and Saturdays from 8:30 AM to 10:30 AM, whereas, the second on the same days from 11:00 AM to 1:00 PM. The same facilitator—who has several years experience in conducting participatory experiential training sessions based on positive, vocational, and educational psychology—taught both groups. The training coordinator and volunteers among the

study participants assisted the facilitator in conducting and processing the experiential learning activities that were only offered to the experimental group. However, both groups were taught the same training content based on the five sessions detailed in the next section.

Research design

A randomized controlled trial, this four-wave longitudinal study used one control group and one experimental group design (see Figure 1).

Training sessions and related contents for the two groups The theory-driven Exemplary Teaching strengths-based career intervention was developed by a team of professionals consisting of a teaching development specialist, a positive psychologist, an instructional design specialist, and a career counsellor. The intervention comprised five sessions as well as an introductory and a closing session. Each class began with a reflection of the previous and ended with a recapitulation. *Session 1 (The Exemplary Teacher)* covered such topics as the teachers' X-Factor, golden attitudes for the classroom, and reflecting on oneself as a teacher. *Session 2 (Character Strengths and Exemplary Teaching)* included such topics as reflecting on personal character strengths, how character strengths contribute to teaching self-efficacy, and obstacles to implementing new teaching approaches. *Session 3 (Role of Character Strengths in Advancing a Successful Teaching Career)* focused on these topics: significance of character strengths in advancing career resources, addressing obstacles to developing a successful teaching career, character strengths required for work engagement, and

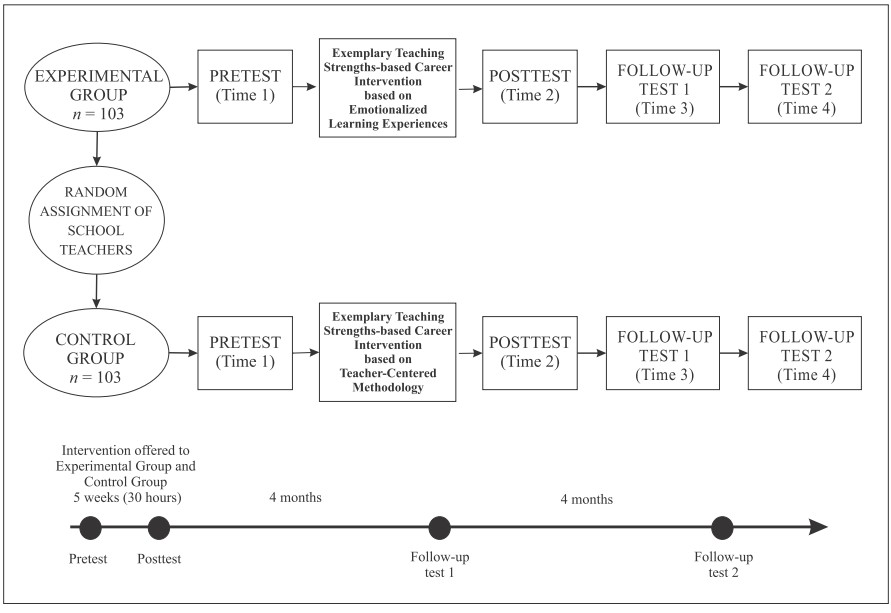

Figure 1 Research design

reflecting on one's teaching career based on personal character strengths. *Sessions 4 (Adaptivity and its Role in Bolstering a Successful Teaching Career)* featured such topics as assessing and reflecting on one's personality in terms of the Big Five model, role of Five Ps of demonstrating proactivity in promoting an exemplary teaching career, and boosting self-esteem to excel in the teaching career. *Session 5 (Significance of Character Strengths in Furthering Adaptivity)* covered such topics as nurturing a proactive personality based on character strengths, crafting a teaching persona based on personal strengths, and character strengths for building self-esteem. Please refer to the *Online Supplementary Materials'* file for detailed contents and associated behavioral outcomes. These may be helpful in replicating the intervention.

Experimental treatment A facilitator's manual/guide was used to address training integrity as recommended by Whiston et al. (2003). The Table 2 in the *Online Supplementary Materials' file* presents how fidelity to the facilitator's manual was ensured. Furthermore, the ELE treatment used an intelligent mix of intervention best practices from educational, positive, and vocational psychology. The dimensions of ELE *facilitated* the implementation of the intervention best practices to enhance career adaptation among school teachers. First, the ELE intervention aimed at promoting behavioral change as recommended by Sin and Lyubomirsky (2009). In this regard, the intervention used a balanced representation of cognitive, affective, and psychomotor behavioral outcomes (*teaching and learning resources*) based on the intervention content (cf. Table 1 in the *Online Supplementary Materials' file*) to ensure comprehensive learning (Patel, 2010). Second, it used a participants' workbook and written exercises (Brown et al., 2003)—such as reflective writing, harvesting, and worksheet completion—to deepen learning (*teaching and learning resources*). Third, the ELE intervention was based on multiple learning activities (shotgun approach; Seligman et al., 2005), such as these active and engaging activities: video feedback, ranking alternative explanations to a scenario, word or term of the day, and reflective circles (cf. Table 3 in the *Online Supplementary Materials' file*). Fourth, the less emotionally engaged participants were motivated to actively participate in the intervention (*emotional setting for learning*), whereas, all participants were encouraged to keep a record of the lessons they learned from a particular session (Sin & Lyubomirsky, 2009) based on the harvesting activity (*cognitive setting for learning* and *teaching and learning resources*). Fifth, the intervention focused on providing individualized feedback to teachers on their participation in the experiential activities, teaching goals, and future plans for attaining positive career outcomes (Brown et al., 2003). This also facilitated in developing affective connections/interpersonal relations with each learner (*emotional setting for learning*)—crucial for learners' to experience positive emotions during the intervention (Green, 2019a; Green et al., 2021). Sixth, homework, identification of self-defeating beliefs, and cognitive priming were implemented as cognitive-behavioral therapy strategies (Salzgeber, 2012). Homework in this study was mainly used to promote cognitive priming and for addressing participants' self-defeating beliefs. Cognitive priming helped participants in conceptualizing optimistic teaching scenarios based on their character strengths. Identification of self-defeating beliefs permitted them to address their fears and shortcomings pertaining to adopting new teaching practices (*cognitive setting for learn-*

ing, emotional setting for learning, and teaching and learning resources). Seventh, the intervention focused on promoting reflection on past achievements (Brown et al., 2003). This enabled the teachers to reflect on their personal set of character strengths that helped them in effectively attaining their teaching goals in the past (*all four dimensions of ELE*). Lastly, self-assessments (Brown et al., 2003) enabled teachers to identify their strengths and limitations related to the career-related concepts taught (*cognitive setting for learning, emotional setting for learning, and teaching and learning resources*).

Control treatment This comprised imparting the Exemplary Teaching content through the teacher-centered methodology. In this regard, different forms of lectures were used. PowerPoint lectures entailed elaborating or paraphrasing the points on each slide. Lecture-discussions were also used to explain different topics by the facilitator during which questions were asked from the participants. Further, point-by-point lectures enabled the facilitator to present information on a pertinent issue based on an outline. Finally yet importantly, Socratic lectures were used by the facilitator based on various reading assignments. The control treatment also made use of note pads for participants to take notes, handouts, and the whiteboard.

Results

Preliminary analyses

Table 2 presents the means and standard deviations of the study variables calculated for each period for the two groups. The graphic representation of the means of career adaptability, teachers' sense of self-efficacy, and work engagement pertaining to the two groups at Time 1, Time 2, Time 3, and Time 4 is presented in Figure 2.

Furthermore, the experimental and control groups were compared before their respective interventions. Results revealed no statistically significant differences between the two groups for gender (χ^2 (1) = .736, p = .39), age (F (1, 204) = .953, p = .33; η_P^2 = .005), marital status (χ^2 (1) = 1.16, p = .28), and teaching experience (F (1, 204) = .303, p = .58; η_P^2 = .001). In addition, no statistically significant differences between the two groups were found for career adaptability (F (1, 204) = .524, p = .470, η_P^2 = .003), teachers' sense of self-efficacy (F (1, 204) = .030, p = .863, η_P^2 = .000), and work engagement (F (1, 204) = 1.681, p = .196, η_P^2 = .008).

Next, prior to testing the two models for mediation, each variable (i.e., career adaptability at Time 2, teachers' sense of self-efficacy at Time 3, and work engagement at Time 4) was tested for skewness and kurtosis. All variables showed appropriate normality for each model, as the skewness values were less than 2 and kurtosis values less than 4. Table 3 shows the relationship among the variables at Time 2, Time 3, and Time 4. In both groups, career adaptability at Time 2 was positively related to teachers' sense of self-efficacy at Time 3 as well as work engagement at Time 4 and teachers' sense of self-efficacy at Time 3 was positively related to work engagement at Time 4. These correlations suggest that the three variables were appropriate for model testing (Tabachnick & Fidell, 2013).

Table 2 Descriptive statistics

No	Variable	Time 1 (Pre-intervention)		Time 2 (Post-intervention)		Time 3 (Follow-up 1)		Time 4 (Follow-up 2)	
		M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Experimental group									
1	Career adaptability	2.98	.61	3.92	.47	4.54	.26	4.95	.10
2	Teachers' sense of self-efficacy	2.82	.33	3.79	.38	4.36	.27	4.88	.17
3	Work engagement	3.14	.38	3.87	.44	4.42	.31	4.93	.13
Control group									
1	Career adaptability	3.05	.64	3.72	.49	4.07	.43	4.23	.40
2	Teachers' sense of self-efficacy	2.83	.74	3.53	.51	3.87	.47	4.13	.39
3	Work engagement	3.21	.42	3.69	.34	4.03	.35	4.24	.33

Effectiveness of the ELE intervention

Analysis of variance (ANOVA) with repeated-measures determined the interaction effects of group (as the between-subjects variable) and time (as the within-subjects variable) in relation to career adaptability, teachers' sense of self-efficacy, and work engagement. This demonstrated the effectiveness of the experimental intervention based on the difference between the two groups with regard to the development of the career variables from pretest to posttest. Results indicated that the interaction of group x time was statistically significant for career adaptability (F (1, 204) = 17.07, $p < .001$; $\eta_P^2 = .08$), teachers' sense of self-efficacy (F (1, 204) = 43.87, $p < .001$; $\eta_P^2 = .18$), and work engagement (F (1, 204) = 65.41, $p < .001$; $\eta_P^2 = .24$). Please refer to Figure 2 to visualize the effects of the two treatments from pretest to posttest.

Further, to assess the differences in the development of scores in more detail, contrast analyses were undertaken. Tests of Within-Subjects Contrasts indicated that the experimental group's career adaptability at posttest was significantly higher than at pretest (F (1, 102) = 645.99, $p < .001$; $\eta_P^2 = .86$). The same held true for the control group (F (1, 102) = 265.07, $p < .001$; $\eta_P^2 = .72$). Furthermore, contrast analyses showed that in the experimental group, there was a significant increase in teachers' sense of self-efficacy from pretest to posttest (F (1, 102) = 1480.29, $p < .001$; $\eta_P^2 = .96$). In the control group, there was also a significant increase in teachers' sense of self-efficacy from pretest to posttest (F (1, 102) = 364.69, $p < .001$; $\eta_P^2 = .78$). Contrast analyses also indicated that there was a significant increase in work engagement from pretest to posttest in the experimental group (F (1, 102) = 1273.48, $p < .001$; $\eta_P^2 = .93$) as well as in the control group (F (1, 102) = 521.53, $p < .001$; $\eta_P^2 = .84$). Based on the contrast analyses, comparison of the two groups' effect sizes (η_P^2) indicated that the development of career adaptability, teachers' sense of self-efficacy, and work engagement from pretest to posttest was greater in the experimental group than in the control group.

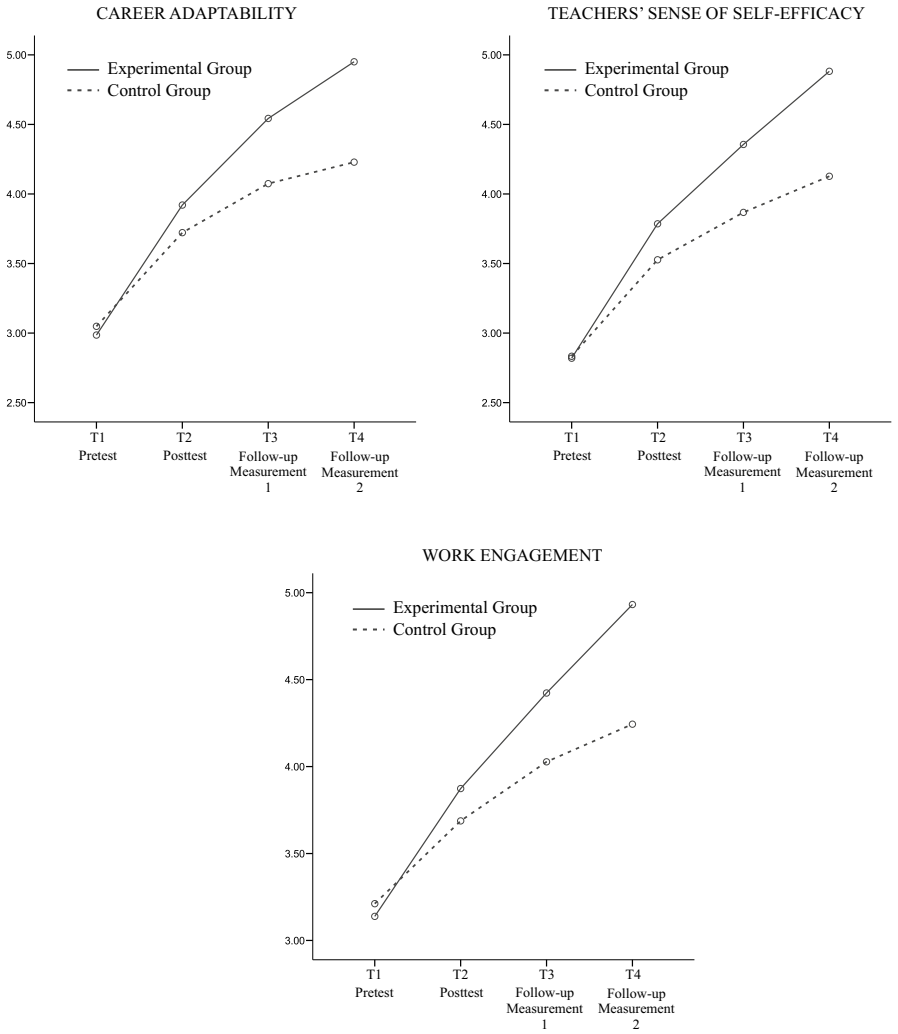

Figure 2 Graphic representation of career adaptability, teachers' sense of self-efficacy, and work engagement at Time 1, Time 2, Time 3, and Time 4

Next, the differences between the two groups' η_P^2 (resulting from the contrast analyses) were determined. In this regard, the difference between two correlation coefficients was calculated. As η_P^2 can be viewed as r^2, therefore, the square root of η_P^2 was determined to obtain the value of the correlation coefficient r. The online calculator, Psychometrica (Lenhard & Lenhard, 2014), was used to test the difference between the correlation coefficient of the experimental group and that of the control group. Using the Fisher r-to-z transformation, the online calculator calculated the value of z to assess the difference between the two correlation coefficients. Results indicated a significant difference between the two groups' correlation

Table 3 Correlations at Time 2, Time 3, and Time 4

Experimental group ($n = 103$)										
No	Variable	1	2	3	4	5	6	7	8	9
1	CAAS (T2)	—								
2	TSSES (T2)	.64	—							
3	UWES-EV (T2)	.61	.60	—						
4	CAAS (T3)	.74	.63	.61	—					
5	TSSES (T3)	.65	.79	.64	.66	—				
6	UWES-EV (T3)	.68	.66	.72	.64	.73	—			
7	CAAS (T4)	.79	.70	.69	.75	.70	.69	—		
8	TSSES (T4)	.63	.84	.68	.71	.74	.70	.67	—	
9	UWES-EV (T4)	.56	.68	.77	.74	.79	.79	.74	.78	—
Control group ($n = 103$)										
No	Variable	1	2	3	4	5	6	7	8	9
1	CAAS (T2)	—								
2	TSSES (T2)	.61	—							
3	UWES-EV (T2)	.63	.55	—						
4	CAAS (T3)	.65	.58	.58	—					
5	TSSES (T3)	.52	.64	.54	.69	—				
6	UWES-EV (T3)	.57	.59	.66	.59	.64	—			
7	CAAS (T4)	.67	.61	.65	.68	.67	.57	—		
8	TSSES (T4)	.58	.66	.51	.66	.76	.62	.69	—	
9	UWES-EV (T4)	.43	.59	.54	.60	.65	.67	.65	.63	—

All correlations are significant at $p < .001$

coefficients for career adaptability ($z = 2.84$, $p = .002$), teachers' sense of self-efficacy ($z = 6.52$, $p < .001$), and work engagement ($z = 2.52$, $p = .006$). This indicated the difference in the effect sizes of the two groups with regard to the development of the career variables during Time 1 and Time 2.

Results support Hypothesis 1, as there was a greater difference in the pretest and posttest scores of the three career variables in the experimental group than in the control group.

Development of variables in the two groups from Time 2 to Time 4

ANOVA with repeated-measures determined the interaction effects of condition (as the between-subjects variable) and time (as the within-subjects variable) in relation to career adaptability, teachers' sense of self-efficacy, and work engagement. This indicated whether the development of the study variables was significant over time; i.e., from Time 2 to Time 4 and could be credited to the intervention (Fitzmaurice et al., 2004).

The assumption of sphericity was violated as shown by the Mauchly's test; therefore, the degrees of freedom were adjusted using the Greenhouse–Geisser estimates of sphericity (epsilon values less than.75), i.e., career adaptability ($\varepsilon = .64$), teachers' sense of self-efficacy ($\varepsilon = .73$), and work engagement ($\varepsilon = .61$). Results indicated that the interaction of group x time was statistically significant for career adaptability (F (1.29, 262.75) = 94.15, $p < .001$; $\eta_P^2 = .32$), teachers' sense of self-efficacy (F (1.52, 310.04) = 88.32, $p < .001$; $\eta_P^2 = .30$), and work engagement (F (1.23, 249.80) = 116.56, $p < .001$; $\eta_P^2 = .36$). Please refer to Figure 2 to visualize the effects of the two treatments from posttest to follow-up measurement 1 and from follow-up measurement 1 to follow-up measurement 2.

Further, with regard to the experimental group, contrast analyses showed that there was an increase in career adaptability from posttest to follow-up measurement 1 (F (1, 102) = 398.02, $p < .001$; $\eta_P^2 = .80$) and from follow-up measurement 1 to follow-up measurement 2 (F (1, 102) = 342.67, $p < .001$; $\eta_P^2 = .77$). The same held true for the control group from posttest to follow-up measurement 1 (F (1, 102) = 380.61, $p < .001$; $\eta_P^2 = .79$) and from follow-up measurement 1 to follow-up measurement 2 (F (1, 102) = 237.08, $p < .001$; $\eta_P^2 = .69$). Similarly, pertaining to the experimental group, contrast analyses indicated that there was a significant increase in teachers' sense of self-efficacy from posttest to follow-up measurement 1 (F (1, 102) = 411.05, $p < .001$; $\eta_P^2 = .80$) and from follow-up measurement 1to follow-up measurement 2 (F (1, 102) = 403.79, $p < .001$; $\eta_P^2 = .79$). In the control group, there was also a significant increase in the scores from posttest to follow-up measurement 1 (F (1, 102) = 375.89, $p < .001$; $\eta_P^2 = .79$) and from follow-up measurement 1 to follow-up measurement 2 (F (1, 102) = 299.95, $p < .001$; $\eta_P^2 = .75$). Also, in the experimental group, there was a significant increase in work engagement from posttest to follow-up measurement 1 (F (1, 102) = 1228.46, $p < .001$; $\eta_P^2 = .92$) and from follow-up measurement 1 to follow-up measurement 2 (F (1, 102) = 449.75, $p < .001$; $\eta_P^2 = .82$). Work engagement also increased in the control group from posttest to follow-up measurement 1 (F (1, 102) = 376.67, $p < .001$; $\eta_P^2 = .79$) and from follow-up measurement 1 to follow-up measurement 2 (F (1, 102) = 153.58, $p < .001$; $\eta_P^2 = .60$). Based on the contrast analyses, comparison of the two groups' effect sizes (η_P^2) indicated that the development of career adaptability, teachers' sense of self-efficacy, and work engagement from posttest to follow-up measurement 2 was greater in the experimental group than in the control group.

Next, the differences between the two groups' η_P^2 (resulting from the contrast analyses) were determined, as these were quite small. In this context, the difference between the correlation coefficients of the two groups was calculated as explained earlier. Results relating to the second period (Time 2 to Time 3) indicated that there was no significant difference between the two groups' correlation coefficients for career adaptability ($z = 0$, $p = .5$) and teachers' sense of self-efficacy ($z = 0$, $p = .5$). This suggested that there was no significant difference in the effect sizes of the two groups regarding the development of career adaptability and teachers' sense of self-efficacy during Time 2 and Time 3. However, results showed a significant difference between the two groups' correlation coefficients for work engagement ($z = 3.71$, $p < .001$). This indicated a difference in the effect sizes of the two groups relating to the development of work engagement during Time 2 and Time 3.

Further, results pertaining to the third period (Time 3 to Time 4) indicated that there was no significant difference between the two groups' correlation coefficients for career adaptability ($z = 1.32$, $p = .092$) and teachers' sense of self-efficacy ($z = .63$, $p = .265$). This indicated that there was no significant difference in the effect sizes of the two groups regarding the development of career adaptability and teachers' sense of self-efficacy during Time 3 and Time 4. However, results demonstrated a significant difference between the two groups' correlation coefficients for work engagement ($z = 3.59$, $p < .001$). This suggested a significant difference in the effect sizes of the two groups concerning the development of work engagement during Time 3 and Time 4.

As per Figure 2 as well as the results of ANOVA with repeated measures and contrast analyses, the development of career adaptability, teachers' sense of self-efficacy, and work engagement was higher in the experimental group than in the control group four and eight months after the intervention. However, a comparison of the two groups' correlation coefficients revealed that four and eight months after the intervention, the development of work engagement was higher in the experimental group than in the control group, whereas, the development of career adaptability and teachers' sense of self-efficacy was almost similar in the two groups. Thus, results partially support Hypothesis 2.

Influence of the two interventions on teachers' career adaptation

With regard to the mediation model 1 (experimental group), career adaptability at Time 2 was related to teachers' sense of self-efficacy (a = .67; $p < .001$) at Time 3, which was related to work engagement (b = .32; $p < .001$) at Time 4 (cf. Figure 3). A 95% bias-corrected confidence interval based on 10,000 bootstrap samples indicated that the indirect effect through the mediator did not contain any zero value in its confidence interval range, i.e., teachers' sense of self-efficacy (mean indirect [unstandardized] effect = .22; $SE = .062$, 95% CI [.098,.337], ß = .21) mediated the career adaptability → work engagement link. Additionally, the variables in the model accounted for 46.42% of the variance in the scores related to the TSSES.

Regarding the mediation model 2 (control group), career adaptability at Time 2 was related to teachers' sense of self-efficacy (a = .33; $p = .003$) at Time 3, which was not related to work engagement (b = − .06; $p = .129$) at Time 4 (cf. Figure 3). A 95% bias-corrected confidence interval based on 10,000 bootstrap samples indicated no mediation effect for teachers' sense of self-efficacy (mean indirect [unstandardized] effect = − .02; $SE = .016$, 95% CI [− .061,.010], ß = − .02) between career adaptability → work engagement link. In addition, the variables in the model accounted for 68.05% of the variance in the scores related to the TSSES.

Results demonstrated that CCMA worked for the ELE-focused intervention and not for the one imparted through the teacher-centered methodology. Therefore, results do not support Hypothesis 3.

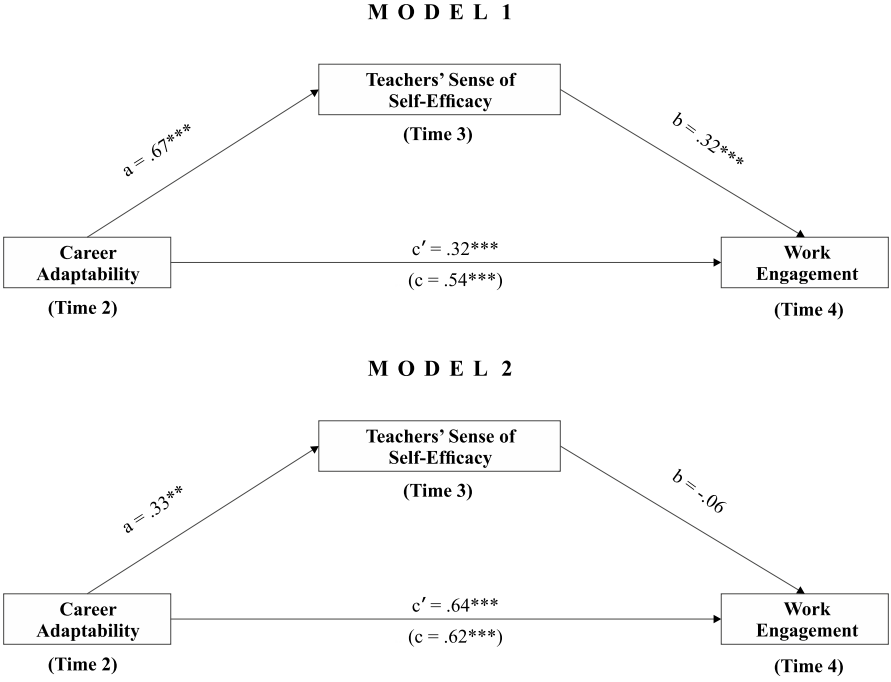

Figure 3 Mediation models *Note* $^{**}p < .01$; $^{***}p < .001$

Discussion

The Exemplary Teaching intervention is developed as a modern-day career intervention for school teachers in Pakistan. The intervention provides a meaningful PD option for teachers to learn how to use their character strengths to enrich their teaching careers within the school over the academic year. In this four-wave longitudinal study, the experimental group was imparted the intervention based on the ELE format, whereas, the control group based on the teacher-centered methodology. Results show that the ELE intervention fared better than the teacher-centered intervention based on the development of career adaptability, teachers' sense of self-efficacy, and work engagement immediately after the intervention—as indicated by the significant interaction effect of group x time, contrast analyses, and significant difference between the two groups' correlation coefficients. With regard to the development of career variables from Time 2 to Time 4, a comparison of the two groups' correlation coefficients reveals that four and eight months after the intervention, the development of work engagement was higher in the experimental group than in the control group, whereas, the development of career adaptability and teachers' sense of self-efficacy was more or less the same in the two groups. Furthermore, this contribution examines how the two interventions influence school teachers' career construction over the academic year based on two mediation models—the first based on the experimental intervention and the second on the control intervention. By following the school teachers in the two groups for a period of eight months after their respective interventions, the relation among the three

components of the CCMA (or the three steps of the career construction process) was studied in three time points. i.e., career adaptability at Time 2 (step 1), teachers' sense of self-efficacy at Time 3 (step 2), and work engagement at Time 4 (step 3). Mediation results indicate that in model 1, career adaptability at Time 2 was indirectly related to work engagement at Time 4 via teachers' sense of self-efficacy at Time 3. However, in model 2, no mediation effect was found. Results of the study have pertinent theoretical and practical implications.

Theoretical implications

Development of career variables during intervention implementation

Results suggest that during intervention implementation, i.e., during Time 1 and Time 2, the development of career adaptability, teachers' sense of self-efficacy, and work engagement was higher in the experimental group than in the control group. This is likely because the ELE intervention provided a learner-centered framework to nurture and sustain positive emotions (Green et al., 2020a, 2021), which in line with the Broaden-and-Build Theory (Frederickson, 2013) may have expanded participants' cognitive functioning to motivate them to interact with the four dimensions of ELE and actively participate in its activities to acquire greater learning competencies (Reschly et al., 2008) for career adaptation. The dimensions of ELE in all likelihood facilitated active learning, exploration, reflection, collective participation, and constructive feedback. Literature suggests that these are the major features of high-quality PD initiatives (Clarke & Hollingsworth, 2002; Desimone, 2009, 2011; Green & Batool, 2018), which are highly valued by teachers, as they give meaning to what they learn (Bautista & Ortega-Ruíz, 2015).

Also, the adult teaching and learning assumptions (Knowles, 1990) and principles of significant learning (Rogers, 1969)—embodied in the dimensions of ELE—likely fostered a learner-centered, positive environment to enhance and sustain the process of learning and sharing, which the teacher-centered intervention could not. For example, the cognitive setting for learning—based on *need to know* and *learners' natural propensity to learn*—likely permitted the participants to understand the overall importance and benefits of the intervention and its content. Research suggests that the perceived utility and importance of a career-related training is a crucial factor contributing to its effectiveness (Aguinis & Kraiger, 2009; Green et al., 2020b; Mathieu & Martineau, 1997). In addition, the emotional setting for learning—based on *motivation to learn* and *freedom from threat to the self*—likely permitted the participants to learn in an environment that made them feel valued and appreciated. This may have enabled the facilitator to develop affective connections with school teachers to gain their cooperation towards learning (Green, 2019a). Research suggests that making learners feel valued, accepted, and appreciated (teacher/facilitator confirmation behaviors) is indispensable for forging interpersonal relationships with students (Sieburg, 1985) to positively influence their (a) interest in the learning process (Campbell et al., 2009), (b) willingness to participate in class (Sidelinger & Booth-Butterfield, 2010), and (c) interpersonal and participatory

motives to interact with the teacher/facilitator (Goodboy & Myers, 2008). Furthermore, the social setting for learning—representing *motivation to learn* and *freedom from threat to the self*—perhaps enhanced participants' learning through collaborative learning options. According to Johnson and Johnson (2013), collaborative learning promotes a sense of belonging and face-to-face promotive interaction to encourage each member's efforts through discussions and explanations. Moreover, the dimension of teaching and learning resources—embodying these four principles: *orientation to learn, motivation to learn, freedom from threat to the self,* and *learning acquired through doing*—in all likelihood promoted comprehensive learning through the use of cognitive, affective, and psychomotor behavioral outcomes based on the intervention content. Moreover, participants' active engagement in the experiential learning activities likely helped in the attainment of those outcomes. Previous research has also indicated the same (Green, 2019a, 2021b; Green & Batool, 2017, 2018; Green et al., 2020b). Hence, the learning assumptions and principles from educational psychology embodied in the ELE format may be considered as career intervention success factors enabling participants to develop a solid foundation for embarking on their career construction journey.

Development of career variables four and eight months after the intervention

Results suggest that the strengths-based career intervention imparted through ELE fared better than the one imparted through the teacher-centered methodology with regard to the final stage of career construction, i.e., adaptation results or goodness of fit—resulting from the sequential consequences of adaptivity, adaptability, and responses (Tokar et al., 2020). Comparison of the two groups' correlation coefficients indicates that the development of work engagement (adaptation results) was greater in the experimental group than in the control group four and eight months after the intervention. This could be a possible reason why the experimental intervention was more suitable for teachers' career construction over the academic year than the control intervention. However, results related to the third hypothesis (discussed in the next paragraph) provide conclusive evidence in this regard. The intervention best practices embodied in the ELE intervention most likely helped the experimental group in achieving better adaptation results than the control group. First, *reflection on past teaching achievements* (Brown et al., 2003) may have permitted participants to examine their personal set of character strengths, which may have led to those achievements and which could possibly be practiced in the future to enrich their teaching careers to strengthen their teaching commitment. Second, the use of multiple positive activities (Sin & Lyubomirsky, 2009) or the shotgun approach (Seligman et al., 2005) may have helped participants in their career adaptation over time. Activities such as circle of trust, detectives, and ranking alternative explanations to a scenario may have enabled school teachers to enhance their work engagement. Also, activities enabling participants to identify their character strengths (e.g., worksheet completion and homework), observe them in others (e.g., video feedback), and discuss their role in enhancing teaching practice (e.g., circle of trust) may have furthered their work engagement as well as their career adaptability and teachers' sense of self-efficacy for effective career adaptation over time.

Previous intervention studies have also demonstrated the significance of experiential learning activities in developing career variables over time (e.g., Green, 2021b; Green et al., 2020b). Third, *self-report inventories/self-assessments* (Brown et al., 2003) may have enabled participants to assess their strengths and limitations with regard to their teaching enthusiasm, teaching commitment, and teaching involvement as well as reflect on overcoming their limitations based on their personal set of character strengths. Fourth, the use of *workbook and written exercises* (Brown et al., 2003) and encouraging participants to *keep a record of the lessons learned from the intervention* (Sin & Lyubomirsky, 2009) may have deepened their learning enabling them to apply the lessons learned to their teaching contexts. This most likely increased their work engagement over the academic year. Fifth, the intervention component—*attention to decreasing barriers* (Brown et al., 2003)—possibly increased participants' confidence in their ability to address their obstacles to work engagement. Lastly, *individualized feedback* (e.g., feedback received on teaching SWOT analysis as well as how to make effective use of personal strengths to address everyday teaching dilemmas, enhance teaching enthusiasm, and seek meaning in work) as a career intervention component (Brown et al., 2003) may have also helped school teachers in improving their work engagement. Previous intervention studies have also suggested the importance of this career component (e.g., Green et al., 2020b; Koen et al., 2012). All in all, results suggest the importance of drawing upon intervention best practices from vocational and positive psychology to attain superior adaptation results over time.

Mediation models 1 and 2

Results suggest that the CCMA is not universal, as the mediation effect was confirmed in model 1 and not in model 2. However, comparing the mediation model 1 with the mediation model 2 provides insights into how the ELE intervention may have fared better than the teacher-centered intervention in terms of its long-term effect based on the development of career adaptability during Time 1 and Time 2. According to model 1, the ELE intervention sustained the effect of career adaptability at Time 2 to influence teachers' sense of self-efficacy at Time 3. During Time 2 and Time 3, teachers' career adaptability probably helped them in enriching their teaching careers (e.g., addressing teaching obstacles, making effective use of teaching skills, and practicing new skills) and as such strengthened their teaching self-efficacy beliefs. Next, the effect of their strengthened teaching self-efficacy beliefs at Time 3 may have persisted to influence their work engagement at Time 4. In line with the Social Cognitive Career Theory (Lent et al., 1994), during Time 3 and Time 4, teachers in the experimental group may have experienced more meaningful episodes of success related to their teaching practices (e.g., implementing new teaching techniques and classroom management strategies) than those in the control group, as they were offered positive emotional experiences—an important strategy for motivating teachers to apply the lessons learned from the intervention to their unique teaching contexts (Gaines et al., 2019). These recurring episodes of success or positive teaching experiences may have then boosted their teaching self-efficacy

beliefs to positively influence their performance and work engagement at Time 4 (Brown et al., 2008; Mcllveen et al., 2016).

With regard to model 2, career adaptability at Time 2 did not influence work engagement at Time 4 via teachers' sense of self-efficacy at Time 3. This is possibly because teachers in the control group were not exposed to experiential learning, which promotes significant learning based on active involvement in real life, practical teaching scenarios (Rogers, 1969). Fundamentally, experiential activities provide important insights into applying the concepts learned during the intervention to real-life situations. Research has indicated that PD initiatives imparted through teacher-centered approaches fail to inspire teachers to implement what was learned (Girvan et al., 2016). Experiential learning incorporated into PD initiatives—as in the ELE-focused intervention—for each participant (teacher) is unique, as he or she may draw upon his or her previous experience to engage with the new (previous experience; Knowles, 1990). This learner-centered approach to PD motivates teachers to try out new teaching practices (Darling-Hammond & McLaughlin, 2011). Furthermore, in the teacher-centered intervention, the facilitator exercised significant control over the teaching–learning process. As such, this intervention format may not have catered to participants' attitudes, concerns, feelings, and points of view (i.e., their emotional experiences) pertinent for bolstering and shaping their understanding of career enrichment. Relevant to note here is that teachers' emotional experiences during PD may support or limit their career growth (Hunt, 2016). According to Gaines et al. (2019), when teachers' concerns or fears (negative emotional experiences) related to adopting new teaching methodologies are not properly addressed during PD, then they are unable to make connections to their teaching practices to modify/improve them in the future. The same may have held true for school teachers in the control group.

Further, career adaptability at Time 2 directly influenced work engagement at Time 4 in the mediation model 2. This finding is interesting, as it shows that the teacher-centered intervention based on various forms of lectures helped in developing a satisfactory level of career adaptability among participants. The effect of participants' career adaptability at Time 2 persisted to influence their work engagement at Time 4. This finding suggests that career adaptability can also be learned through interventions based on teacher-centered approaches, which may also sustain its development over the long-run to strengthen their teaching self-efficacy beliefs four months later as well as augment their work engagement eight months later. Thus, this finding provides additional evidence that career adaptability is a dynamic and thus a malleable construct (Savickas & Porfeli, 2012). As a central construct of the Career Construction Theory, career adaptability can therefore be trained through different approaches (e.g., Coolen, 2014; Green et al., 2020b; Koen et al., 2012), which also shed light on its malleable nature. As discussed earlier, altering and shaping participants' beliefs may not be possible through teacher-centered approaches. ELE-focused approaches may be more suitable in this regard, as they cater to the emotions experienced by teachers during PD initiatives.

Overall, results of the mediation model 2 indicate that a teacher-centered strengths-based career intervention is possibly not suitable for enabling teachers to engage in career construction over the academic year. It may help them in building their career adaptability to influence their teaching self-efficacy at Time 3 and work engagement at Time 4, but may not be effective at enabling them to engage in step-by-step career construction, i.e., career adaptability (step 1) to work engagement (step 3). Of note is that the results of the second hypothesis also imply the same.

Findings of the study are generalizable to Pakistan's private school teachers between 24 and 56 years with teaching experience ranging from 1 to 30 years. Though developed for Pakistani school teachers, the Exemplary Teaching strengths-based career intervention imparted through ELE may be equally beneficial for school teachers in other countries. This is probably because the CCMA and the character strengths have a global significance and application. Moreover, it is well-recognized that emotions are critical for learning to occur.

Practice implications

Findings of the study imply offering the ELE-focused Exemplary Teaching intervention to school teachers in other institutions across Pakistan as well as abroad. However, due to the threat of the coronavirus pandemic and the necessity of maintaining social distancing, the ELE format may be applied to facilitate technology mediated instruction—i.e., a subtle blend of online sessions and offline personal and collaborative learning—as explained in the following paragraphs.

First, the participants' workbook may be designed as a self-instructional resource and dispatched to the teachers by the school before the intervention (*teaching and learning resources*). Teaching development professionals in collaboration with instructional design specialists may help in developing this workbook to support self-directed learning (*emotional setting for learning*). The workbook may act as a ready reference during online teaching sessions as well as for writing the lessons learned and the answers to questions related to the various intervention activities. Please see Green et al. (2015a, b, c, d) for some examples of self-instructional workbooks.

Second, online lecturettes using slide presentations and supported with experiential activities may be useful for engaging participants (*teaching and learning resources*). Well-designed slide presentation may enhance learning and retention of the content taught (cf. Green, 2016, 2019b as examples). In addition, a short-duration video clip supporting the topic may make learning more fulfilling and memorable. Further, a worksheet completion task requiring participants to answer short questions (of an implied nature) related to the characters or situation portrayed in the clip may incite self-reflection as well as enable participants to use their higher-order thinking skills (*cognitive setting for learning*). Around 10 min may be allocated for effectively processing the video activity after the worksheet completion task. Similarly, a self-assessment task may be incorporated into the lecturette session. Then, volunteers may share a strength and a limitation identified from the self-assessment.

Third, collaborative learning activities may be used pertaining to which the facilitator may make different groups of participants for each to work on a short-duration task (cf. Table 3 in the *Online Supplementary Materials' file*). For offline pair or small group activities tasked as homework, the participants may use WhatsApp, Skype, Microsoft Teams, or Zoom to discuss and complete the activities. Groups may share their findings in an online session/class scheduled for this purpose (*social setting for learning*).

Fourth, the facilitator may schedule regular Q&A sessions (*teaching and learning resources*) to address participants' queries about a particular topic. Similarly, sessions for handling career-related barriers may also be scheduled as group guidance sessions. For individualized feedback/guidance and participants' personal queries regarding a topic, WhatsApp or Skype may be used (*emotional setting for learning*).

Fifth, the different online sessions may permit the facilitator to build affective connections with the participants based on (a) feedback on homework tasks, (b) confirmation behaviors (e.g., appreciating participants' inputs and making them feel valued and accepted), (c) effectively answering participants' questions and addressing their queries, and (d) motivating them to use their character strengths to excel in the teaching profession (*emotional setting for learning*).

Lastly, pre-recorded sessions may be used to communicate important information related to the intervention, such as the objectives of the intervention, relevance of the intervention and benefits of the content taught, online session norms, instructions for effectively participating in the online sessions, and offline personal and collaborative learning tips (*cognitive setting for learning*).

Furthermore, to sustain the effect of the ELE-focused career intervention over the long run, school principals may need to (a) motivate teachers and give them the freedom to implement new teaching approaches to enrich their online classes (cf. Green, 2019c), (b) hold monthly online meetings to reflect on the lessons applied to the online classes, (c) liaise with teaching development professionals to conduct online reflection sessions four months after the intervention to avoid an unwanted decrease in the career variables over time, and (d) request volunteer teachers to regularly conduct 30- to 40-minute online sessions for promoting exemplary teaching.

Limitations and future research

The study used three scales, which may have introduced self-report biases due to social desirability. Additional research is required to validate the current findings. The use of a mixed-method design may present a meaningful option for future research to provide greater explanatory power to the quantitative results. In the future, the Exemplary Teaching intervention may also be tested on a sample of public school teachers. It would then be interesting to compare the results of the two studies. Fundamentally, this would provide solid evidence regarding the broad scope and utility of the ELE intervention and at the same time improve its generalizability. Further, to increase the application of the intervention, future research may also focus on samples of pre-service, higher secondary school, and university teachers.

Overall, findings provide encouraging evidence that a 30-h strengths-based career intervention imparted through the ELE format—embodying learning principles and intervention best practices—to offer positive emotional experiences may be a worthwhile PD option for strengthening school teachers' career adaptation over the academic year.

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Declarations

Competing interests The author states that he has no conflict of interest.

Ethical approval The research protocol was submitted for consideration, comment, guidance, and approval to the university's research ethics committee. All procedures performed in the study were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent Informed consent was obtained from all individual participants included in the study.

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