FEATURE

WILEY

The effect of resilience on performance and job satisfaction among construction managers in Saudi Arabia

Deepanjana Varshney | Nirbhay K. Varshney

To compete in an often turbulent business environment, organizations seek the stability that comes from a resilient workforce. Resilient employees are able to adapt when confronted with change and to devise solutions to even the most challenging problems. They bounce back from disappointment and move steadily forward. Moreover, they tend to be satisfied with their jobs, demonstrate effective team- and capacity-building skills, and can maintain their energy despite stressful situations. To assess the relationship between resiliency and job satisfaction and the impact of resiliency on three keys aspects employee performance, researchers polled 126 managers in Saudi Arabia's construction industry. Their findings show that resilience mediates the relationship between job satisfaction and both adaptive performance and contextual performance, but does not, however, affect task performance.

1 | INTRODUCTION

Globalization, stiff competition, and ever-changing developments in technology have made the nature of work unpredictable, dynamic, and market-focused (Allvin, Aronsson, Hagström, Johansson, & Lundberg, 2011). To survive, many firms have been compelled to necessitate massive restructuring through downsizing, mergers, and acquisitions, often within a short period of time (De Meuse, Marks, & Dai, 2011). In some instances, firms have had to simultaneously grapple with the effects of environmental disasters, which presented additional challenges requiring adaptability in strategic planning (Lee, Vargo, & Seville, 2013; Reser & Swim, 2011). To deal with such upheavals in the business environment, organizations must be flexible and agile, yet judicious (Lengnick-Hall, Beck, & Lengnick-Hall, 2011).

Not surprisingly, the concept of resilience has been widely discussed in the business sector during these challenging times. While resilience has aptly been described as the ability to recover from adversity (Wagnild, 2009), it is also perceived as a positive personality trait that improves individual capacity to bounce back from adversity and moderate the adverse effects of stress (Wagnild & Young, 1993). Other researchers have found that resilient individuals experience positive emotions even in high-stress environments (Tugade & Fredrickson, 2004).

Over the last 10 years, the government of Saudi Arabia has sought to improve the nation's resiliency by reducing its dependence on oil revenues, which fluctuate with price and worldwide demand. In seeking to make rapid economic progress, the country faces various sociocultural challenges. Orthodox Islamic principles, a tribal family system, and the authority-oriented Ottoman system of government have clashed with rapid socioeconomic changes brought on by industrial development, technological progress, and Western influence (Varshney, 2014). In this scenario, the government of Saudi Arabia has embarked on a Saudization program that gradually seeks to replace foreign workers with local ones. At the same time, however, there is a skill shortage among both young Saudi graduates and the senior segment of the population (Varshney, 2015).

Saudi Arabia has launched aggressive measures to revamp its economy while developing the human capital within its borders. The nation has firmly set its sights on transitioning to a knowledge-based economy, as reflected in the spending patterns of the Ninth Five-Year Development Plan. The future vision of the Saudi economy (up to 2024) focuses on continuous long-term socioeconomic development and emphasizes the strategic dimensions adopted by the government (Ramady, 2013). For instance, there have been ongoing initiatives to establish university technological innovation centers, research centers, and technological incubators besides

academic universities (Ministry of Economy and Planning of Saudi Arabia, 2010).

THE CHALLENGE OF DEFINING RESILIENCE

To date there is no standard definition of human resilience (Herrman, Stewart, Diaz-Granados, Berger, Jackson, & Yuen, 2011; Luthar, Cicchetti, & Becker, 2000). Although the numerous descriptions that have been proposed over the years differ widely across specializations, they serve to enhance overall understanding of this characteristic (Rossi, Meurs, & Perrewé, 2013).

An early conceptualization of resilience was developed during clinical studies of children and adolescents in the 1970s and 1980s (Anthony, 1974; Garmezy, 1974, 1981; Rutter, 1979; Werner & Smith, 1982). Wagnild and Young (1993) defined resilience as "a personality characteristic that moderates the negative effects of stress and promotes adaption" (p. 165). In their study of 74 works associated with resilience, Bhamra, Danie, and Burnard (2012) concluded that individual, organizational, communal, and ecological aspects of resilience have dominated research over the past 40 years. Researchers have primarily analyzed it as a behavior.

Resilience has been defined as the capacity to not only recover after an adverse experience, but also to sustain a stable psychological position amid evolving situations (Seery, 2011). It has also been pointed out that individuals with low resilience have been found to experience greater psychological affliction following a setback than those having a high degree of resilience (Faircloth, 2017). Resilience has also been viewed as an attitude, a dynamic, and a result (Olivos, 2014). According to Cyrulnik (2011), individual resilience is a process—refined through various life cycle experiences, especially negative ones—anchored in a motive and hope. Motive refers to the positive way in which the individual perceives adversity; hope signals a belief in success at the end of the struggle. Other researchers have explained resilience as employees' ability to successfully perform their jobs with available organizational resources and support despite adverse circumstances (Näswall, Kuntz, & Malinen, 2015).

Numerous studies have focused on dispositional resilience (Block & Kremen, 1996; Connor & Davidson, 2003), including the traits of self-efficacy, optimism, hopefulness, and hardiness (Malik, 2013). Since it has been argued that resilience can be developed or demonstrated when an individual faces difficulties, some maintain that resilience cannot be an inherent trait (Rutter, 2007). Previous research has highlighted the contributions to resilience of external protective factors, such as family, culture, and community (Bonanno & Mancini, 2008; Werner & Smith, 1982), which can help alleviate the strain of hardship (Masten & Garmezy, 1985).

Lengnick-Hall et al. (2011) emphasize the development of new skills and capabilities that can be effectively used by individuals to succeed during difficult times. Waite and Richardson (2004) show how an individual experiences difficulties and (after some deliberation) gains the determination to grow and emerge practically unscathed from the ordeal. In some instances, adversity can lead individuals to scale new heights and foster their development (Hodliffe, 2014).

Youssef and Luthans (2007) described resilience as a "proactive element," while other researchers have stressed that it can be developed through the use of strategies that make individuals more flexible and mentally strong when presented with change (Avey, Luthans, & Jensen, 2009; Tugade & Fredrickson, 2004; Tugade, Fredrickson, & Feldman Barrett, 2004). Similarly, Howard and Irving (2013) found that the development of leadership is molded by a focused approach to adversity. They posit that a person effectively builds competency by facing challenges and finding the means to overcome them. According to Reivich and Shatte (2002), resilience enables individuals to overcome the obstacles of childhood, handle common adversities, bounce back from a major setback, and reach out to others to maximize the potential of all concerned. Resiliency is of critical importance to the career of anyone in a leadership role, for it is essential to ongoing development and success.

According to Reivich and Shatte (2002), resilient individuals have a task-oriented coping style, a deeply held belief in their ability to control the outcomes of their own life, and the capacity to use connections to others as a way to cope with adversity. The characteristics that can help individuals adjust to hardship include positive self-esteem, hardiness, strong coping skills, a sense of coherence, self-efficacy, optimism, strong social resources, adaptability, risk-taking, low fear of failure, determination, perseverance, and a high tolerance of uncertainty (O'Leary, 1998; Patterson et al., 2002).

Resiliency is of critical importance to the career of anyone in a leadership role, for it is essential to ongoing development and success.

Resilient leaders foster an effective professional work environment, excellent communication, and acceptance at all levels of the institution (Hoffman, 2004). By nurturing resilient employees, organizations create future resilient leaders capable of assuming challenging decision-making positions. Ideally, these leaders will carve out a bright future for their organization in the face of any crisis. Organizations ultimately can be characterized as resilient if they manage to get back to the status quo after experiencing adversity, or get ahead through consistent improvement or high performance



(Patterson, Patterson, & Collins, 2002). As with resilience in individuals, the concept reflects an ability to survive, bounce back, and even prosper in both good times and bad.

By nurturing resilient employees, organizations create future resilient leaders capable of assuming challenging decision-making positions.

Given the nonlinear nature of the concept of resilience and the use of both subjective and objective factors to assess it, it is difficult to determine the relationship between resilience outcomes and processes (Graber, Pichon, & Carabine, 2015). It can be argued that resilience represents the capacity to adapt to certain conditions.

2.1 Work performance and resilience

Employees' performance on the job determines their career development and success. Not surprisingly, research has shown that high performers are more readily promoted within an organization and have better career opportunities available to them than low performers do (Van Scooter, Motowidlo, & Cross, 2000). Described as "actions and behaviors that are under the control of the individual that contribute to the goals of the organization" (Rotundo & Sackett, 2002, p. 66), work performance is multidimensional (Campbell, 1990) and can be categorized into:

- Task performance, which entails job-related behaviors and activities that provide support for the company's technical aspects or the maintenance of processes and coordination functions (Borman & Motowidlo, 1993; Motowidlo, Borman, & Schmit, 1997).
- Contextual performance, which includes the behavior that sustains the wider psychological and social settings in which task performance occurs (Borman & Motowidlo, 1993).
- Adaptive performance, which is the extent to which an
 individual adapts to changes in work systems or work
 roles (Griffin, Neal, & Parker, 2007). It includes solving
 problems creatively; dealing with uncertain or unpredictable work situations; learning new tasks, technologies,
 and procedures; and adapting to other individuals, cultures, or physical surroundings (Koopmans et al., 2011).

Organizations require high-performing employees to achieve their objectives (Sonnentag & Frese, 2005), and employees' capacity for resilience can significantly enhance their performance. Research has revealed a positive correlation

between resilience and job performance (Kumari & Sangwan, 2015). Moreover, resilience has been found to decrease the negative impact of perceived job insecurity on organizational commitment and job satisfaction, which are associated with job performance (Rus & Baban, 2013). Additionally, research has also shown that highly resilient employees have the ability to confront an aggressive environment (Luthans, Avolio, Avey, & Norman, 2007). It has also been demonstrated that resilience, along with related variables, can improve performance and productivity and an individual's cognitive flexibility to adapt to change with composure, accomplishment, and accountability (Spreitzer & Cameron, 2011).

Research has indicated a positive relationship between employee resilience and performance, while highlighting the significance of developing resilient employees (Luthans, Avolio, Walumbwa, & Li, 2005). Corroborating a positive relationship between resilience and organizational results, additional research found that resilience was related to enhanced profitability, increased job satisfaction, and commitment to the firm (Luthans, Youssef, & Avolio, 2007).

2.2 | Job satisfaction and resilience

Job satisfaction, which can be defined as a positive feeling about one's job (Robbins, Ford, & Tetrick, 2012), has been linked to increased productivity (McKenna, 2006). Research has also shown there to be a significant correlation between resilience and job satisfaction (Murphy, 2014). Facing difficulties with resiliency enables individuals to effectively handle challenges while achieving their goals (Masten, 2001; Masten, Long, Kuo, McCormick, & Desjardins, 2009). The resulting sense of accomplishment leads, in turn, to job satisfaction (Badran & Youssef-Morgan, 2015). In addition, recent research has found that an employee's intent to remain—a construct in which job satisfaction and expected turnover overlap—has a statistically significant relationship with resilience (Hudgins, 2016).

3 | ANALYZING THE ROLE OF RESILIENCE AS A MEDIATOR

The extent to which employee resilience is related to outcomes such as job satisfaction and performance can be identified by examining the potential results of employee resilience. Resilient employees show improvement more quickly and efficiently than employees with low levels of resilience and are more accommodating and receptive to organizational changes (Shin, Taylor, & Seo, 2012). By perceiving change as an opportunity for growth and development, resilient employees demonstrate more engagement with their work than employees with low levels of resilience do (Hodliffe, 2014). When employees experience a high

level of achievement and feel involved and appreciated, their degree of job satisfaction increases (Hagedorn, 2000). This leads to a virtuous cycle, as highly satisfied employees tend to be more engaged in their job.

Additional research supports the assertion that employee resilience adds value to key performance drivers (Näswall, Kuntz, & Malinen, 2015). Furthermore, there has also been research on the impact of job engagement, job satisfaction, and turnover intentions on organizational success and productivity (Baumruk, 2004; Loke, 2001). Various studies demonstrate the mediating effect of resilience on different attitudes and outcomes. Lees (2009) found that resilience fully mediated the relationship between task-focused coping and engagement. Hodliffe (2014) noted that employee resilience has a significant association with learning culture, empowering leadership, job engagement, job satisfaction, and turnover intention. In addition, the results demonstrated that employee resilience has a mediating effect on the relationships between learning culture and job engagement and job satisfaction, between empowering leadership and job engagement, and between job satisfaction and turnover intentions.

The research on resilience and job performance raises the following questions:

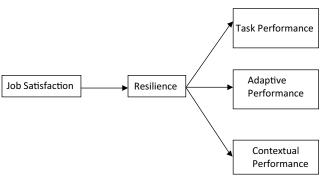
- Does job satisfaction have a positive relationship with resilience?
- How does resilience mediate the dimensions of individual work performance (task, adaptive, and contextual performance) and job satisfaction?

The following hypotheses are illustrated in the research model shown in **Exhibit 1**:

Hypothesis 1 *Job satisfaction has a positive relationship with resilience.*

Hypothesis 2 Resilience mediates the relationship between job satisfaction and task performance.

EXHIBIT 1 Research model



Hypothesis 3 Resilience mediates the relationship between job satisfaction and adaptive performance.

Hypothesis 4 Resilience mediates the relationship between job satisfaction and contextual performance.

To test these hypotheses, researchers administered a structured questionnaire to 300 construction industry managers in Saudi Arabia. Of these, 126 usable responses were received, for a response rate of 42%. As outlined in **Exhibit 2**, all the respondents were male; 60.3% had graduate degrees and 31.7% had taken on postgraduate studies. Almost half the respondents were 46 to 55 years of age and had 11 to 15 years of experience (47.6% and 46.8%, respectively). Most of the managers (32.5%) were from Gulf nations. Asians accounted for 28.6% of respondents; Saudis, for 25.4%.

Survey participants were asked about three main dimensions of individual work performance:

- task performance—the things they do that directly or indirectly contribute to the organization's technical core,
- adaptive performance—the ability to adjust to changes in environment, circumstances, culture, context, and personnel on the job.
- contextual performance—actions that support the organizational, social, and psychological environment in which the technical core must function, such as helping, following rules, cooperating, and volunteering.

The task performance questionnaire (adopted from Koopmans et al., 2013, 2014) included the relevant task performance

EXHIBIT 2 Respondent characteristics

Characteristics	Description	Frequency	%
Education level	Only undergraduate degree	10	7.9
	Graduate degree	76	60.3
	Postgraduate studies	40	31.7
Age	Below 35 years	15	11.9
	36–45 years	37	29.4
	46–55 years	60	47.6
	56 years and above	14	11.1
Experience	0-5 years	20	15.9
	6–10 years	23	18.3
	11-15 years	59	46.8
	15 years and above	24	19
Nationality	Asians	36	28.6
	Saudis	32	25.4
	Gulf Nationals	41	32.5
	Others	17	13.5

indicators of work quality, planning and organizing work, being results-oriented, prioritizing, and working efficiently. All the items were measured on a 5-point Likert scale (1 = seldom; 5 = always). The reliability α value was .756.

For the adaptive performance questionnaire (adopted from Koopmans et al., 2013, 2014), six key adaptive performance dimensions were chosen: showing resiliency (coping with stress, difficult situations, and adversities), coming up with creative solutions to novel difficult problems, keeping job knowledge upto date, keeping job skills upto date, dealing with uncertain and unpredictable work situations, and adjusting work goals when necessary. The dimensions were measured on a 5-point Likert scale (1 = seldom; 5 = always). The reliability α value was .78.

The contextual performance scale was divided into two subdimensions: interpersonal and organizational (Koopmans et al., 2014). At the interpersonal level, four indicators were selected: taking the initiative, accepting and learning from feedback, cooperating with others, and communicating effectively. Four relevant indicators at the organizational level were also identified: showing responsibility, being customeroriented, being creative, and taking on challenging work tasks. All the items were measured on a 5-point Likert scale (1 = seldom; 5 = always). The reliability α value was .723.

Job satisfaction was taken as a predictor variable that measured individual performance indicators. The 20-factor Minnesota Satisfaction Questionnaire was adapted to measure job satisfaction. One of the outputs from the Work Adjustment Project at the University of Minnesota, this questionnaire is based on the assumption that work fit is dependent on the relationship between individual skills and reinforcements in the work environment (Weiss, Dawis, England, & Lofquist, 1967). The Minnesota Satisfaction Questionnaire items were rated on a 5-point Likert scale: 1 = "very dissatisfied with this aspect of my job," 2="dissatisfied with this aspect of my job," 3 = "cannot decide if I am satisfied or dissatisfied with this aspect of my job," 4="satisfied with this aspect of my job," and 5 = "very satisfied with this aspect of my job." The reliability α value was .85.

Resilience was taken as a mediating variable to evaluate its impact on job satisfaction and individual performance

indicators. The 25-item ResilienceScale (RS) was taken from Wagnild and Young (1993). The respondents were asked to indicate the degree to which they agreed (or disagreed) with each item on a seven-point Likert scale (1=strongly disagree; 7 = strongly agree). The RS-14, a shortened version of the RS, consists of 14 items selected from the original RS (Losoi et al., 2013). This version included these items: "I am able to manage myself more than anyone else," "I usually take things in stride," "My belief in myself gets me through hard times," and "In an emergency, I am someone people generally can rely on." The reliability α value was .823. The same set of variables was used in the regression analysis. The data were screened for missing cases and multicollinearity. Although there were moderate associations between some variables, multicollinearity was found to be inconsequential.

Statistical results support previous 3.1 research

The means, standard deviations, and correlations for all the variables in this study are shown in **Exhibit 3**. Resilience was found to have a significant positive correlation with job satisfaction (.656**), adaptive performance (.402**), contextual performance (.610**), and task performance (.639**). Moreover, job satisfaction was found to have a significant positive correlation with adaptive performance (.272**), contextual performance (.446**), and task performance (.883**). Finally, adaptive performance was found to have a significant positive correlation with contextual performance (.604**) and task performance (.281**), whereas contextual performance was shown to have a significant correlation with task performance (.509**).

To analyze the mediation effect of resilience, the researchers used Baron and Kenny's (1986) four-step method with linear multiple regression. The statistical significance of the mediation path was further examined using an SPSS macro developed by Preacher and Hayes (2008).

In the first step, task performance was entered as a dependent variable, and its relationship with job satisfaction was significant with a β value of .863**. Thus, the relationship between task performance and job satisfaction was very

EXHIBIT 3 Means, standard deviations, reliabilities, and correlations among key variables

	Mean	SD	Resilience Leadership	Job Satisfaction	Adaptive Performance	Contextual Performance	Task Performance
Resilience Leadership	2.58	.90	(.823)				
Job Satisfaction	2.66	.72	.656**	(.85)			
Adaptive Performance	2.62	.90	.402**	.272**	(.781)		
Contextual Performance	2.71	.79	.610**	.446**	.604**	(.723)	
Task Performance	2.70	1.04	.639**	.883**	.281**	.509**	(.756)

Note: Significance at **p<.001.

strong. In the second step, resilience was entered. As **Exhibit 4** shows, resilience (with a β value of .052) did not have an impact on the relationship between task performance and job satisfaction (β value = .831**). Thus, the hypothesis that resilience mediates the relationship between job satisfaction and task performance was rejected.

The mediating effect of resilience on the relationship between job satisfaction and contextual performance also was measured. The findings revealed that the relationship between job satisfaction and contextual performance was significant (β value of .390**). In addition, the analysis showed that resilience (with β value of .741, p<.001) completely mediated the relationship between contextual performance and job satisfaction. Therefore, the hypothesis that resilience mediates the relationship between job satisfaction and contextual performance was accepted.

The mediating effect of resilience on job satisfaction and adaptive performance was analyzed through linear multiple regression analysis. The relationship between job satisfaction and adaptive performance was found to be significant (β value of .314**). As shown in Exhibit 4, resilience leadership (with a β value of .598, p<.001) mediates the relationship of adaptive performance and job satisfaction. Therefore, the hypothesis that resilience leadership mediates the relationship between job satisfaction and adaptive performance was confirmed.

Finally, the mediation effect of resilience on the relationships between job satisfaction with adaptive performance, contextual performance, and task performance was tested using Preacher and Hayes (2008) indirect effect SPSS macro. The numbers of bootstrap samples for bias-corrected bootstrap confidence interval were taken as 10,000 and data were analyzed at confidence intervals of 95% (see **Exhibit 5**).

The indirect effect of resilience on adaptive performance, contextual performance, and task performance was also analyzed. The results confirmed that resilience mediates the relationship between job satisfaction and adaptive performance and between job satisfaction and contextual performance, and that resilience does not mediate the relationship between job satisfaction and task performance.

4 | STUDY RESULTS: THE IMPACT OF RESILIENCE

The findings of this study of the impact of resilience on the relationship between job satisfaction and individual work performance perspectives show that even though resilience fully mediated adaptive and contextual performance, it did not affect task performance. Adaptive performance, contextual performance, and job satisfaction were shown to have a significant relationship, but when resilience was factored in, the relationship among them became nonsignificant. This finding implies that resilience plays a vital role in job satisfaction, which makes individual adaptive and contextual performance insignificant in affecting job satisfaction. These findings support previous research that highlighted how resilient individuals have the practical acumen to understand certain contexts and situations in which they can influence others while maintaining a strong vision of the future (Caverley, 2005; Coutu, 2002; Everall, Altrows, & Paulson, 2006) and that the more resilient workers are, the higher their level of job satisfaction (Lee & Cha, 2015).

Organizational research has indicated a positive correlation between employee resilience and performance, thus highlighting the importance of developing resilience in the

EXHIBIT 4 Linear multiple regression

	Task Perform	Task Performance		Contextual Performance		erformance
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
	β	β	β	β	β	β
Job Satisfaction	.863**	.831**	.390**	059	.314**	048
Resilience Leadership		.052		.741**		.598**

Note: Significance at **p<.001.

EXHIBIT 5 Mediation analysis (Preacher and Hayes bootstrap method)

	Dependent Variables									
	Adaptive Performance		Contextual Performance			Task Performance				
	Coff.	LLCI	ULCI	Coff.	LLCI	ULCI	Coff.	LLCI	ULCI	
Indirect Effect	.455	.277	.667	.493	.349	.665	.046	087	.179	
	Coff.	Sig.		Coff.	Sig.		Coff.	Sig.		
Sobel Test	5.09**	<.001		6.23**	<.001		.904	>.001		

Notes: Independent variable: job satisfaction. Mediating variable: resilience. Coff. = regression coefficient. Sig. = Significance at **p<.001. LLCI = lower level confidence interval. ULCI = upper level confidence interval.

workforce. Although the research specifically examining the application of resilience to the workplace has been limited, preliminary studies have returned some positive results. A study of Chinese workers found that resilience was positively related to performance (Luthans, Avolio, Walumbwa, & Li, 2005). While supporting the finding of a positive relationship between resilience and organizational outcomes, a subsequent study suggested that resilience is related to increased organizational profitability, gains in job satisfaction, and increases in commitment to the organization (Luthans, Youssef, & Avolio, 2007). These findings are reinforced in the results of the present study.

Adaptive performance, contextual performance, and job satisfaction were shown to have a significant relationship, but when resilience was factored in, the relationship among them became nonsignificant.

An investigation of the relationship between collective positive emotions at work and team resilience found that team resilience mediated the relationship between collective positive emotions and team performance. It also concluded that individual job satisfaction fully mediates the relationship between collective perceptions of social context and individual job performance and the relationship between individual work resilience and individual job performance (Meneghel, Salanova, & Martinez, 2016). Kumari & Sangwan (2015) had also shown that there was a positive correlation between resilience capacity and job performance, and previous research had also demonstrated that resilience reduced the negative impact of perceived job insecurity on organizational commitment and job satisfaction (Rus & Baban, 2013). The present study demonstrates resilience as a significant mediator as well.

4.1 | Study limitations point to the need for additional research

Although the objective of this cross-sectional study was to comprehensively assess all the individual work performance dimensions of resilience and job satisfaction, some variables may have been missed. Longitudinal studies should be conducted to address any gaps.

Future studies can include other job attitudes and contexts and examine them through various mediation and moderation models. The sample size in the present study was a constraint, for it consisted entirely of male managers in a single region. In addition, the study's reliance on self-reported feedback from the respondents raises the possibility of bias. Future studies should aim to collect data from both genders in a variety of positions and in other industries.

An investigation of the relationship between collective positive emotions at work and team resilience found that team resilience mediated the relationship between collective positive emotions and team performance.

5 | IMPLICATIONS FOR MANAGERS

Ultimately, managers are responsible for creating a work environment that fosters resilience. Excessive pressure on employees can lead to burnout, which will eventually have detrimental effects on the overall organization (Hiebert, 2006). It is up to managers to ensure that workloads are reasonable and facilitate effective performance.

Cultivating a sense of community and cohesion also will help establish positive work associations that can increase job satisfaction and resiliency among employees, particularly those working in stressful environments.

The research presented here can provide some direction for practitioners in helping to engender resilience among workers, so they will be better equipped to handle the challenges they encounter. A proactive initiative to create a culture of trust, responsibility, increased performance, and satisfaction can do much to enhance resiliency. Policies and practices that address the successful management of stress can help ensure that employees' emotions are directed to job performance and efficiency.

A framework for developing resiliency requires the genuine understanding and commitment of top management. Therefore, efforts should be made to develop resilient leaders through regular leadership programs at the junior levels. This would help ensure a virtuous cycle of resilient leaders culled from a resilient labor pool. Cultivating a sense of community and cohesion also will help establish positive work associations that can increase job satisfaction and resiliency among employees, particularly those working in stressful environments.

WILEY $^{\perp 43}$

The implications of resiliency are essential to organizational leaders across the globe. The task of determining which external variables and which aspects of organizational support and commitment contribute to building resilient employees can no longer be overlooked.

REFERENCES

- Allvin, M., Aronsson, G., Hagström, T., Johansson, G., & Lundberg, U. (2011). Work without boundaries: Psychological perspectives on the new working life. Oxford: Wiley-Blackwell.
- Anthony, E. J. (1974). The syndrome of the psychologically vulnerable child. In E. J. Anthony & C. Koupernik (Eds.), The child in his family: Children at psychiatric risk (pp. 3-10). New York: Wiley.
- Avey, J. B., Luthans, F., & Jensen, S. M. (2009). Psychological capital: A positiveresource for combating employee stress and turnover. Human Resource Management, 48(5), 677-693.
- Badran, M. A., & Youssef-Morgan, C. M. (2015). Psychological capital and job satisfaction in Egypt. Journal of Managerial Psychology, *30*(3), 354–370.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. Journal of Personality and Social Psychology, 51(6), 1173-1182.
- Baumruk, R. (2004). The missing link: The role of employee engagement in business success. Workspan, 47(11), 48-52.
- Bhamra, R., Dani, S., & Burnard, K. (2012). Resilience: The concept, a literature review and future directions. International Journal of Production Research, 49(18), 5375–5393.
- Block, J., & Kremen, A. M. (1996). IQ and ego-resiliency: Conceptual and empirical connections and separateness. Journal of Personality and Social Psychology, 70(2), 349-361.
- Bonanno, G. A., & Mancini, A. D. (2008). The human capacity to thrive in the face of potential trauma. Pediatrics, 121(2), 369-375.
- Borman, W. C., & Motowidlo, S. J. (1993). Expanding the criterion domain to include elements of contextual performance. In N. Schmitt & W. C. Borman (Eds.), Personnel selection in organizations (pp. 71–98). San Francisco: Jossey-Bass.
- Campbell, J. P. (1990). Modeling the performance prediction problem in industrial and organizational psychology. In M. D. Dunnette and L. M. Hough (Eds.), Handbook of industrial and organizational psychology (Vol. 1, pp. 687–732). Palo Alto, CA: Consulting Psychologists Press.
- Caverley, N. (2005). Civil service resiliency and coping. Journal of Public Sector Management, 18(5), 401–148.
- Connor, K., & Davidson, J. (2003). Development of a new resilience scale: The Connor- Davidson resilience scale (CD-RISC). Depression and Anxiety, 18, 76-82.
- Coutu, D. (2002). How resilience works. Harvard Business Review, May, 46-55.
- Cyrulnik, B. (2011). Resilience: How your inner strength can set you free from the past. London: Penguin.
- De Meuse, K. P., Marks, M. L., & Dai, G. (2011). Organizational downsizing, mergers and acquisitions, and strategic alliances: Using theory and research to enhance practice. In S. Zedeck (Ed.), APA handbook of industrial and organizational psychology (pp. 729-768). Washington, DC: American Psychological Association.
- Everall, R., Altrows, J., & Paulson, B. (2006). Creating a future: A study of resilience in suicidal female adolescents. Journal of Counselling and Development, 84(4), 461-470.

- Faircloth, A. L. (2017). Resilience as a mediator of the relationship between negative life events and psychological well-being. Electronic Theses & Dissertations, 1373. http://digitalcommons.georgiasouthern.edu/etd/1373.
- Garmezy, N. (1974). The study of competence in children at risk for severe psychopathology. In E. J. Anthony & C. Koupernik (Eds.), The child in his family: Children at psychiatric risk (Vol.3, pp. 547). New York: Wiley.
- Garmezy, N. (1981). Children under stress: Perspectives on antecedents and correlates of vulnerability and resistance to psychopathology. In A. I. Rabin, J. Aronoff, A. M. Barclay, & R. A. Zucker (Eds.), Further explorations in personality (pp. 196–269). New York: Wiley Interscience.
- Graber, R., Pichon, F., & Carabine, E. (2015). Psychological resilience: State of knowledge and future research agendas. Working paper 425, Climate and Environment Programme. Overseas Development Institute. Retrieved from https://www.odi.org/sites/odi.org.uk/files/ odi-assets/publications-opinion-files/9872.pdf.
- Griffin, M. A., Neal, A., & Parker, S. K. (2007). A new model of work role performance: Positive behavior in uncertain and interdependent contexts. Academy of Management Journal, 50(2), 327-347.
- Hagedorn, L. S. (2000). Conceptualizing faculty job satisfaction: Components, theories, and outcomes. New Directions for Instrumental Research, 2000(105), 5-20. Doi: 10.1002/ir.10501
- Herrman, H., Stewart, D. E., Diaz-Granados, N., Berger, E. L., Jackson, B., & Yuen, T. (2011). What is resilience? Canadian Journal of Psychiatry. Revue Canadienne de Psychiatrie, 56(5), 258-265.
- Hiebert, B. (2006). A contemporary look at stress and burnout: Clarifying the nuances. The Alberta Counsellor, 29(1), 16-25.
- Hodliffe, M. (2014). The development and validation of the employee resilience scale (empres): The conceptualisation of a new model (Master's dissertation). University of Canterbury. Retrieved from https://ir.canterbury.ac.nz/bitstream/handle/10092/9184/thesis_fulltext.pdf;sequence=1.
- Hoffman, J. N. (2004). Building resilient leaders. Leadership, 3(1),
- Howard, C. S., & Irving, J. A. (2013). The impact of obstacles and developmental experiences on resilience in leadership formation. Proceedings of the American Society for Business and Behavioral Sciences, 20(1), 679-687. Retrieved from http://asbbs.org/files/ ASBBS2013V1/PDF/H/Howard_Irving(679-687).pdf.
- Hudgins T. A. (2016). Resilience, job satisfaction and anticipated turnover in nurse leaders. Journal of Nursing Management, 24(1), E62-E69.
- Koopmans, L., Bernaards, C. M., Hildebrandt, V. H., Schaufeli, W. B., De Vet, H. C. W., Van der Beek, A. J.(2011). Conceptual frameworks of individual work performance: A systematic review. Journal of Occupational and Environmental Medicine, 53(8), 856-866.
- Koopmans, L., Bernaards, C. M., Hildebrandt, V. H., Van Buuren, S., Van der Beek, A. J., & De Vet, H.C. W. (2013). Development of an individual work performance questionnaire. International Journal of Productivity and Performance Management, 62(1), 6-28.
- Koopmans, L., Bernaards, C. M., Hildebrandt, V. H., Van Buuren, S., Van der Beek, A. J., & De Vet, H. C. W. (2014). Improving the individual work performance questionnaire using Rasch analysis. Journal of Applied Measurement, 15(2), 160-175.
- Kumari, P. & Sangwan, V. (2015). A study on impact of resilience capacity on job performance of executives in the pharmaceutical industry. International Journal of Management and Social Sciences Research, 4(4), 2319-4421.

- Lee, A. V., Vargo, J., & Seville, E. (2013). Developing a tool to measure and compare organizations' resilience. *Natural Hazards Review*, 14(1), 29–41.
- Lee, E. J., & Cha, P. (2015). Effects of work environment and resilience on job satisfaction and organizational commitment of social workers in juvenile reformatory schools. *Indian Journal of Science and Technology*, 8(S1), 360–366.
- Lees, N. F. (2009). The ability to bounce back: The relationship between resilience, coping, and positive outcomes (Master's dissertation). Massey University, Auckland. Retrieved from http://mro.massey.ac.nz/bitstream/handle/10179/1173/Thesis%20Full.pdf?sequence= 1.
- Lengnick-Hall, C. A., Beck, T. E., & Lengnick-Hall, M. L. (2011). Developing a capacity for organizational resilience through strategic human resource management. *Human Resource Management Review*, 21(3), 243–255.
- Loke, J. C. F. (2001). Leadership behaviors: Effects on job satisfaction, productivity and organizational commitment. *Journal of Nursing Management*, 9(4), 191–204. Doi: 10.106/j.1365-2834.2001.00231.x.
- Losoi, H., Turunen, S., Wäljas, M., Helminen, M., Öhman, J., Julkunen, J., & Rosti-Otajärvi, E. (2013). Psychometric properties of the Finnish version of the resilience scale and its short sersion. *Psychology, Community & Health*, 2(1), 1–10.
- Luthans, F., Avolio, B, Walumbwa, F., & Li, W. (2005). The psychological capital of Chinese workers: Exploring the relationship with performance. *Management and Organization Review*, 1(2), 247–269.
- Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction, *Leadership Institute Faculty Publications*. Paper 11. Retrieved from http://digitalcommons.unl.edu/leadershipfacpub/11.
- Luthans, F., Youssef, C., & Avolio, B. (2007). Psychological capital: Developing the human competitive edge. New York: Oxford University Press.
- Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development*, 71(3), 543–562.
- Malik, A. (2013). Efficacy, hope, optimism and resilience at workplace Positive organizational behavior. *International Journal of Scientific and Research Publications*, 3(10), 1–4.
- Masten, A. S. (2001). Ordinary magic: Resilience processes in development. American Psychologist, 56(3), 227–238.
- Masten, A. S., Long, J. D., Kuo, S. I.-C., McCormick, C. M., & Desjardins, C. D. (2009). Developmental models of strategic intervention. European Journal of Developmental Science, 3(3), 282–291.
- Masten, A. S., & Garmezy, N. (1985). Risk, vulnerability, and protective factors in the developmental psychopathology. In B. B. Lahey & A. E. Kazdin (Eds.), Advances in clinical child psychology (Vol.8, pp. 1–51). New York: Plenum
- McKenna, E. (2006). Business psychology and organizational behavior. New York: Psychology Press.
- Meneghel, I., Salanova, M., & Martinez, I. M. (2016). Feeling good makes us stronger: How team resilience mediates the effect of positive emotions on team performance. *Journal of Happiness Studies*, 17(1), 239–255.
- Ministry of Economy and Planning of Saudi Arabia. (2010). Long-term strategy of the Saudi economy (Chapter 3, pp. 43-60). Ninth Development Plan: 2010-2014.
- Motowidlo, S. J., Borman, W. C., & Schmit, M. J. (1997). A theory of individual differences in task and contextual performance. *Performance*, 10(2), 71–83.

- Murphy, Y. (2014). The role of job satisfaction, resilience, optimism and emotional intelligence in the prediction of burnout. Bachelors final year project. Dublin Business School. Retrieved from http://esource.dbs.ie/handle/10788/2276?show=full#sthash.1p2DSbQY.dpuf.
- Näswall, K., Kuntz, J., & Malinen, S. (2015). Employee resilience scale (EmpRes): Technical report. Resilient organisations research report, 2015/04.
- New Zealand: Resilient Organisations. Retrieved from https://www.researchgate.net/profile/Joana_Kuntz2/publication/281593901_Employee_Resilience_Scale_EmpRes_Measurement_Properties/links/55f0a97a08ae199d47c21daa/Employee-Resilience-Scale-EmpRes-Measurement-Properties.pdf.
- O'Leary, V. E. (1998). Strength in the face of adversity: Individual and social thriving. *Journal of Social Issues*, 54(2), 425–446.
- Olivos, A. M. (2014). From individual to organizational resilience: A case study review (Master of Science in Organizational Dynamics Theses). Retrieved from http://repository.upenn.edu/cgi/viewcontent.cgi?article=1073&context=od_theses_msod
- Patterson, J. L., Patterson, J., & Collins, L. (2002). Bouncing back: How your school can succeed in the face of adversity. Larchmont, NY: Eye on Education.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879.
- Ramady, M. (2013). Gulf unemployment and government policies: Prospects for the Saudi labour quota or nitaqat system. *International Journal Economics and Business Research*, 5(4), 476–498.
- Reivich, K., &Shatte, A. (2002). The resilience factor: 7 essential skills for overcoming life's obstacles. New York: Broadway Books.
- Reser, J. P., & Swim, J. K. (2011). Adapting to and coping with the threat and impacts of climate change. *American Psychologist*, 66(4), 277–289.
- Robbins, J. M., Ford, M. T., & Tetrick, L. E. (2012). Perceived unfairness and employee health: A meta-analytic integration. *Journal of Applied Psychology*, 97(2), 235–272.
- Rossi, A. M., Meurs, J. A., & Perrewé, P. L. (2013). Improving Employee Health and Well Being. Charlotte, NC: Information Age Publishing Inc.
- Rotundo, M., & Sackett, P. R. (2002). The relative importance of task, citizenship, and counterproductive performance to global ratings of job performance: A policy capturing approach. *Journal of Applied Psychology*, 87(1), 66–80.
- Rus, C. L., & Baban, A. (2013). Correlates of positive psychological capital: A synthesis of the empirical research published between January 2000 and January 2010. Cognition, Brain, Behaviour: An Interdisciplinary Journal, 17(2), 109–133.
- Rutter M. (1979). Protective factors in children's responses to stress and disadvantage. In M. W. Kent and J. E. Rolf (Eds.), Primary Prevention in Psychopathology: Social Competence in Children (Vol.8, pp. 49–74). Hanover, NH: University Press of New England.
- Rutter, M. (2007). Proceeding from observed correlation to causal inference: The use of natural experiments. *Perspectives on Psychological Science*, 2, 377–395
- Seery, M. D. (2011). Resilience: A silver lining to experiencing adverse life events. Current Directions in Psychological Science, 20, 390–394.
- Shin, J., Taylor, M. S., & Seo, M. G. (2012). Resources for change: The relationships of organizational inducements and psychological

- resilience to employees' attitudes and behaviors toward organizational change. Academy of Management journal, 55(3), 727-748.
- Sonnentag, S., & Frese, M. (2005). Performance concepts and performance theory. In S. Sonnentag (Ed.), Psychological management of individual performance. Chichester, UK: Wiley. Doi: 10.1002/0470013419.ch1
- Spreitzer, G. M., & Cameron, K. S. (2011). A path forward: Assessing progress and exploring core questions for the future of positive organizational scholarship. The Oxford handbook of positive organizational scholarship. New York: Oxford University Press. Retrieved from http://webuser.bus.umich.edu/spreitze/Pdfs/APathForward.pdf
- Tugade, M. M., & Fredericsson, B. L. (2004). Resilient individuals user positive emotions to bounce back from negative emotional experiences. Journal of Personality and Social Psychology, 86(2), 320-333.
- Tugade, M. M., Fredrickson, B. L., & Feldman Barrett, L. (2004). Psychological resilience and positive emotional granularity: Examining the benefits of positive emotions on coping and health. Journal of Personality, 72(6), 1161-1190.
- Van Scooter, J. R., Motowidlo, S. J., & Cross, T. C. (2000). Effects of task performance and contextual performance on systemic rewards. Journal of Applied Psychology, 85, 526-535.
- Varshney, D. (2014). King Abdullah, a leader towering above constraints in Saudi Arabia. Journal of Business Management & Social Sciences Research, 3(2), 49-55.
- Varshney, D. (2015). A leadership assessment center for graduate students: Case of Saudi Arabia. International Journal of Business and Management, 10(4), 249-258.
- Wagnild, G. M. (2009). The Resilience Scale User's Guide for the US English version of The Resilience Scale and The 14-Item Resilience Scale (RS-14). Worden, MT: The Resilience Center.
- Wagnild, G. M., & Young, H. M. (1993). Development and psychometric evaluation of the Resilience Scale. Journal of Nursing Measure, 1, 165-178.
- Waite, P. J., & Richardson, G. E. (2004). Determining the efficacy of resiliency training in the work site. Journal of Allied Health, 33(3), 178-183.
- Weiss, D. J., Dawis, R. V., England, G. W., & Lofquist, L. H. (1967). Manual for the Minnesota satisfaction questionnaire. Minnesota Studies in Vocational Rehabilitation (pp. 22). Minneapolis: University of Minnesota, Industrial Relations Center.

- Werner, E. E., & Smith, R. S. (1982). Vulnerable but invincible: A study of resilient children. New York: McGraw-Hill.
- Youssef, C. M., & Luthans, F. (2007). Positive organizational behavior in the workplace: The impact of hope, optimism, and resilience. Journal of Management, 33, 774-800.

AUTHOR BIOGRAPHY

DEEPANJANA VARSHNEY, PhD, is an associate professor of human resource management in the Department of Business Administration at King Abdulaziz University in Jeddah, Saudi Arabia. In 15 years of academic experience, she has focused her research on organizational psychology, human resource development, and organizational development. She has contributed chapters to books on her areas of research and has served as a reviewer for various international journals. Dr. Varshney earned her doctoral degree in human resources management from University of Lucknow, India. She can be reached at facultydv@gmail.com.

NIRBHAY K. VARSHNEY, PhD, is a senior manager and academic researcher at a leading multinational corporation in Saudi Arabia. He has 13 years of experience in product, team, strategic, inventory, and channel management with a various companies in India and the Persian Gulf region. Dr. Varshney earned his doctoral degree in management from JJT University, India. He can be reached at kvnirbhay@gmail.com.

How to cite this article: Varshney D, Varshney NK. The effect of resilience on performance and job satisfaction among construction managers in Saudi Arabia. Global Business and Organizational Excellence. 2017;36(5):36–45. https://doi.org/10.1002/joe.21799