

Trait resilience and resilient behavior at work: The mediating role of the learning climate

Marjolein C.J. Caniëls^{a,*}, Isabella Hatak^b, Koen J.C. Kuijpers^e, Petra C. de Weerd-Nederhof^{c,d}

^a Faculty of Management, Open Universiteit, P.O. box 2960, NL-6401 DL Heerlen, the Netherlands

^b University of St. Gallen, Swiss Institute of Small Business and Entrepreneurship (KMU-HSG), Dufourstrasse 40a, 9000 St. Gallen, Switzerland

^c Faculty of Science, Open Universiteit (The Netherlands), Heerlen, The Netherlands

^d University of Twente, Faculty of Behavioural, Management & Social Sciences, University of Twente, Department High-Tech Business & Entrepreneurship, section ETM, PO Box 217, 7500 AE Enschede, the Netherlands

^e Research Group Digital Intelligence & Business, Saxion University of Applied Sciences, PO Box 7513 AB, 70000, Enschede, the Netherlands

ARTICLE INFO

Keywords:

Trait resilience
Resilient behaviors
Learning climate
Person-environment fit
Trait activation

ABSTRACT

Although the positive effects of resilience at work are well documented, the mechanisms that explain the translation of trait resilience into resilient behavior at work remain unclear. Drawing on person-environment fit theory in conjunction with trait-activation theory and utilizing two-wave data of Dutch employees, we investigated whether and which learning-supportive environment (i.e., a perception of learning climate) mediates the effects of trait resilience as a personal characteristic on behavioral resilience at work. Our results indicate that an appreciation learning climate as well as a facilitating learning climate mediate the relationship between trait resilience and resilient behavior at work. Taken together, this study suggests that managers should be cautious encouraging perceptions of error avoidance within their organizations.

1. Introduction

Employee resilience refers to the extent in which employees successfully adapt to change and setbacks at work and bounce back after adversity to come back better than before (Caniëls & Hatak, 2019; Näswall et al., 2015). Various studies show that resilient employees excel in job performance and organizational commitment (Meneghel et al., 2016; Wang et al., 2017; Youssef & Luthans, 2007). Similarly, resilience has been shown to drive individual innovativeness by providing the strength to deal with setbacks and adversity inherent to innovative work projects (Moenkemeyer et al., 2012).

Employee resilience has been described as having two components: a trait component (a relatively stable personality characteristic; Caniëls & Baaten, 2019; Xanthopoulou et al., 2009; Luthans, 2002a) and a state component (a behavior that varies over time and across situations; Kuntz, Connell, & Näswall, 2017; Kuntz, Malinen, & Näswall, 2017; Britt et al., 2016). It reflects “not only the ability to recover from adversity but also the capacity to utilize and proactively develop personal and workplace resources” (Kuntz, Malinen, & Näswall, 2017, p. 225). Studies about resilience typically focus on either trait resilience (e.g., Connor & Davidson, 2003; Smith et al., 2008; Wagnild & Young, 1993)

or behavioral resilience (e.g., Kuntz, Malinen, & Näswall, 2017).

In this study, we establish the resilience trait-state relation by examining the mechanisms that translate trait resilience into resilient behavior at work. When studying resilience in a work setting, it is important to take into account the perceptions that employees have about the extent to which their work setting facilitates or hinders their personal development and growth, because these perceptions may determine the degree in which employees feel supported at work. Drawing on person-environment fit theory (Kristof-Brown et al., 2005) in conjunction with the principle of trait activation (Tett & Burnett, 2003), we argue that trait resilience fosters resilient behavior at work through the organizations’ learning climate. By learning climate we understand “employees’ perception of organizational policies and practices aimed at supporting employees’ learning behaviors” (Nikolova et al., 2014, p. 66). Specifically, trait resilience induces employees to perceive the organization’s policies and practices as learning-supportive, i.e., as appreciative, facilitating, and not oriented at error-avoidance. This subjective person-environment fit, in turn, induces employees to behave resiliently.

In the current study, we seek to enrich the resilience literature by complementing the dominant focus on resilience as a personality

* Corresponding author.

E-mail address: Marjolein.Caniels@ou.nl (M.C.J. Caniëls).

characteristic (e.g., Avey et al., 2009; Smith et al., 2008) with the behavioral side of its potential effect at the individual level. Specifically, this study empirically tests the mechanism underlying the relationship between trait resilience and resilience at work, underscoring the distinctiveness of the two constructs and showing that resilience as a trait is activated when confronted with specific situational cues at the organizational level ensuring person-environment fit that makes resilient employees more likely to actually deal with change and setbacks at work. Second, this study contributes to the rising literature on learning climate (e.g., Crans et al., 2021; Van der Heijde et al., 2018) by elaborating on the functioning of perceptions of organization's practices and policies aimed at supporting employees' learning behaviors. Exploring whether approach-oriented and avoidance learning climates have a direct or indirect effect on employees' dealing with change and setbacks at work is important for further understanding the way in which learning climates can unfold their organizational benefits. Hence, we also raise importance for going beyond the general acknowledgement that approach-oriented learning climates are a remedy by themselves.

Furthermore, this study offers implications for practice. An increased understanding of the relationship between resilience as a trait and resilient behavior at work can help managers to predict which employees will behave resiliently during adverse work situations and which employees may need personal support to ensure compatibility with the work environment. In this regard, building on our findings, managers are well advised to ensure that perceptions of error avoidance are refuted within the organization, while recognition of appreciation and facilitation are promoted. Furthermore, we stress among others the importance of interventions that construe social identity, as these could positively affect employees' trait resilience.

2. Theoretical background and hypotheses

2.1. Resilience as inherent trait and as adaptive behavior

Extant studies in the field of organizational behavior have focussed on resilience as a personality trait, inherent to the individual (e.g., Luthans, 2002b; Luthans, Avey, et al., 2006; Luthans, Vogelgesang, & Lester, 2006) or a process through which individuals may adapt to adversity and thrive (Britt et al., 2016; Kossek & Perrigino, 2016; Luthar et al., 2000). Other studies have focused on how resilience can be developed as a behavioral capability (Kuntz, Malinen, & Näswall, 2017; Caniëls & Hatak, 2019; for an overview of recent resilience research see Hartmann et al., 2020).

As a personality trait, resilience is conceptualised as "the ability to bounce back, resist illness, adapt to stress, or thrive in the face of adversity" (Smith et al., 2008, p. 195). Resilient individuals quickly recover from stressful events. Resilience helps individuals to live through hard times with little trouble, and swiftly get over set-backs (Smith et al., 2008). As such, resilience can be seen as a personal resource, an inherent trait that enables individuals to cope with obstacles and adversity at work (Hystad et al., 2011; Salmela-Aro & Upadaya, 2018). In turn, there is a growing amount of studies posing that personal resources can grow and develop over time (Demerouti et al., 2011; Xanthopoulou et al., 2009). Building on these studies resilience is conceptualised as a behavioral capability (Kuntz et al., 2016; Kuntz, Malinen, & Näswall, 2017), i.e., a skill that can be trained and supported by organizational practices (Demerouti et al., 2011; Wang et al., 2014) and that may be stimulated by an enabling organizational context (Näswall et al., 2019). This conceptualization of resilience focuses on the continuous development, ongoing adaptation and growth of employees at work (Kuntz et al., 2016; Näswall et al., 2019). Behaving resiliently at work encompasses the "ability to adapt to challenges and seek out opportunities for continuous improvement" (Näswall et al., 2019, p. 354).

Various psychological studies have demonstrated that traits lead to behavior (Fleeson & Gallagher, 2009). For example, Wu and Clark (2003) show that people who are characterized by the trait of aggression

often display physical aggressive behavior. Similarly, self-consciousness induces individuals to behave self-consciously, for instance by spending a large amount of time adjusting their appearance before they leave the house (Fenigstein et al., 1975). As traits are expected to translate in behavior, the question arises whether and how trait resilience is related to resilient behavior at work.

2.2. Learning climate as the mechanism translating trait resilience into resilient behavior at work

Organizational context matters for the emergence of organizational phenomena and climate represents a critical aspect of that context (Kuenzi & Schminke, 2009). Against the increasing levels of challenges and associated change within and outside organizations, a learning-supportive organizational climate becomes particularly salient (Nikolova et al., 2014, 2016). In this study we employ person-environment fit theory (Kristof-Brown et al., 2005) in conjunction with the principle of trait activation (e.g., Tett & Burnett, 2003) to argue for the mediating role of the learning climate in the relationship between trait resilience and state resilience. Person-environment fit theory understands fit as the compatibility between an individual and the (perceived) work environment that arises when their characteristics are well matched (Kristof-Brown et al., 2005). Such a match between person and environment lead to positive behaviors and outcomes at work (Kristof-Brown et al., 2005). We thus expect that individuals with high trait resilience behave more resilient at work because of their perception of a learning-supportive work environment, and thereby because of a high subjective person-environment fit.

Specifically, we argue that trait resilience motivates employees to perceive the work environment in terms of organizational practices and policies as increasingly learning supportive, i.e., as appreciative (i.e., the degree in which the organization rewards learning behavior) or facilitating (i.e., the degree in which the organization supports, provides, and facilitates learning opportunities), and less so as error avoiding (i.e., the degree in which an organization focuses on avoiding mistakes; Osagie et al., 2018). First, this is because resilience is directly associated with optimistic thinking (Kumpfer, 1999), positive emotions in challenging situations (Fredrickson et al., 2003) and positive cognition in terms of job satisfaction (Meneghel et al., 2016). Moreover, resilient employees derive meaning and value from their work (Coutu, 2002; Luthans et al., 2007; Youssef & Luthans, 2007). Thus, employees with a high level of trait resilience are likely to perceive more material and immaterial incentives for learning at work as indicative of an appreciation climate (Nikolova et al., 2014) than will employees with a low level of trait resilience.

Second, employees with high trait resilience are likely to perceive more resources in their environment. Resilient employees develop deeper relationships with others and are able to pursue new ideas, combining new and existing knowledge and experiences (Luthans et al., 2007). Consequently, employees with a high level of trait resilience are likely to perceive more organizational policies and practices aimed at providing access to learning resources as indicative of a facilitation climate (Nikolova et al., 2014), more so than employees with a low levels of trait resilience, who may feel threatened in their current tasks.

Finally, resilient individuals are characterized by high levels of self-efficacy (Lee et al., 2013). Negative feedback, social criticism, and even repeated failure, which can be devastating for people with low self-efficacy, have little impact on highly efficacious individuals (Bandura & Locke, 2003; Niessen et al., 2016). Rather, resilient employees use failure as an opportunity to "bounce back". Therefore, employees with high levels of resilience are less likely to perceive a lack of psychological safety when errors in the work process are made as indicative of an error avoidance (i.e., climate that sustains a working atmosphere dominated by fear or anxiety of making errors during work; Nikolova et al., 2014; Van Dyck et al., 2005) climate than employees with lower levels of trait resilience.

Hypothesis 1a. Resilience as a trait will be positively related to an appreciation climate.

Hypothesis 2a. Resilience as a trait will be positively related to a facilitation climate.

Hypothesis 3a. Resilience as a trait will be negatively related to an error avoidance climate.

The learning climate in an organization has been linked to outcomes that can be beneficial or costly to the employee. In fact, research has suggested that learning climates relate to cognitive, emotional or behavioral outcomes including competence development, knowledge sharing and job performance (see e.g., Cortini et al., 2016; Gara Bach Ouerdian et al., 2019; Nikolova et al., 2014; Osagie et al., 2018). A learning supportive climate in particular offers the environmental conditions necessary for fostering positive behavior at work (Caniëls & Baaten, 2019; Grohnert et al., 2019; Nikolova et al., 2014). We thus argue that perceiving the organizational climate as appreciative or facilitating increases resilient behavior at work. First, this is because perceiving more material and immaterial incentives for learning at work, as indicative of an appreciation climate, can increase organizational commitment that leads to an implicit obligation to reciprocate by way of dealing with change and setbacks at work (Caniëls & Hatak, 2019). Moreover, employees that perceive the organizational practices and policies as more learning-appreciative are more likely to feel stimulated to engage in learning opportunities (Osagie et al., 2018), trusted and empowered (Robbins, 2019; Spurk et al., 2021), increasing their willingness and means to behave resiliently at work (Kao et al., 2014).

Perceiving the organizational practices and policies as facilitating is expected to benefit resilient behavior at work through the availability of learning opportunities and resources that improve professional skills. Because of the perceived support and provision of sufficient resources, employees are also more likely to be able to meet organizational expectations including dealing with change and setbacks at work (Caniëls & Hatak, 2019; Osagie et al., 2018; Putz et al., 2012; Spurk et al., 2021).

In contrast, an error avoidance climate emphasizes the importance of preventing failure and mistakes. When employees perceive such a lack of psychological safety, they are less willing to engage in uncertain change activities and stick to known procedures and solutions to problems rather than experiencing and dealing with setbacks at work (Edmondson, 1999; Lee et al., 2004). An error avoidance climate does not offer much room for proactive experimentation and learning from trial and error as a prerequisite of resilience at work (Näswall et al., 2019). We hypothesize:

Hypothesis 1b. An appreciation climate will be positively related to resilient behavior at work.

Hypothesis 2b. A facilitation climate will be positively related to resilient behavior at work.

Hypothesis 3b. An error avoidance climate will be negatively related to resilient behavior at work.

Building on our earlier explanation of the relationship between trait resilience and learning climate, on the one hand, and the association between learning climate and resilient behavior at work, on the other, we predict that individuals with high trait resilience will more strongly deal with change and setbacks at work (i.e., behave resiliently), because they perceive the work environment as more appreciative and facilitating (and less error avoiding). In other words, they behave resiliently because they perceive a high subjective person-environment fit. To target the situational specificity of trait-behavior linkages, we draw on trait activation theory (e.g., Tett & Burnett, 2003), which postulates that traits such as resilience need trait-like situations for their expression. In other words, traits are expressed as work behavior in reaction to trait-relevant situational cues (Tett et al., 2021). Accordingly, we assume that resilient employees with their pronounced characteristics of

positive emotions in challenging situations are more strongly triggered to exhibit more resilient behavior at work, because they perceive their work environment in more positive or approaching ways, thus perceiving the learning climate as appreciative and facilitating. Similarly, because of a work environment that instigates a sense of psychological safety (instead of fear of making mistakes) (Edmondson, 1999; Lee et al., 2004) experimentation, and thereby also dealing with change and setbacks at work, is more strongly activated for resilient employees. Accordingly, we hypothesize:

Hypothesis 1c. An appreciation climate mediates the relationship between resilience as a trait and resilient behavior at work.

Hypothesis 2c. A facilitation climate mediates the relationship between resilience as a trait and resilient behavior at work.

Hypothesis 3c. A low error avoidance climate mediate the relationship between resilience as a trait and resilient behavior at work.

3. Method

3.1. Participants and procedure

A two-wave study was conducted among employees from various Dutch organizations. The questionnaire was administered by a Dutch ISO (International Organization for Standardization) certified research company and targeted a broad sample of employees with paid work in The Netherlands. In total 450 employees received the questionnaire in the first wave. After one week a reminder was sent. In total 333 (74 %) questionnaires were returned. After removing incomplete and inconsistent forms we were left with 302 (67 %) usable responses. After 6 months the respondents that participated in study 1 were asked to fill in the same questionnaire again. Prior studies that assess behavioral outcomes employed a similar lag (e.g., Zhang et al., 2021) and have demonstrated that a six-month lag is suitable for capturing information on behavior (Shoda et al., 1994). A six-month lag is sufficiently long in that the responses given at the first data gathering are unlikely to be recollected at the moment of the second data gathering. Hence, these responses cannot confound responses in the second measurement (Dormann & Griffin, 2015). The second wave data collection generated 199 usable responses (66 % of 333). From this final set of respondents, 49 % identified as female; the average age was 47.2 (SD 12.5); the average number of years of work experience was 12.8 (SD 11.6); and 59.3 % received vocational training, 27.1 % have an undergraduate degree and 13.1 % hold a graduate degree.

Data were not nested, as participants were distributed over various organizations throughout the country. Participation was voluntary and data were pseudonymized before being transferred to the researching team.

In line with other studies about resilience (e.g., Meneghel et al., 2016) we gathered data using self-reports, which may present a risk associated with common method bias. However, these concerns are minimal when the outcome variable is oriented at behavior instead of performance (Conway & Lance, 2010; Heidemeier & Moser, 2009; Kim et al., 2013) as is the case in individual resilience studies. Moreover, data about resilient behavior (the outcome variable) was gathered at a later time point than trait resilience (the predictor) and learning climate (the mediator variable), thereby limiting possible effects of common method bias (Podsakoff et al., 2003).

3.2. Measures

To measure each construct variable, we used multiple-item scales of which psychometric properties were validated in prior studies. Construct variables were measured on seven-point Likert scales ranging from 1 (totally disagree) to 7 (totally agree).

3.2.1. Trait resilience

An employee's capability to adapt positively to adverse conditions was measured using the six-item brief resilience scale developed by Smith et al. (2008). An example item is "I tend to bounce back quickly after hard times". The reliability of the scale was $\alpha = 0.81$.

3.2.2. Resilient behavior

Was measured by eight items from the resilience at work scale from Näswall et al. (2015) ($\alpha = 0.85$). This scale is explicitly designed to measure resilient behavior in workplace settings (Näswall et al., 2015) as opposed to resilience as a character trait. An example item is "I resolve crises competently at work".

3.2.3. Learning climate

We used Nikolova et al.'s (2014) three-dimensional scale to assess the organization's learning climate. The three dimensions are (1) appreciation, (2) facilitation, and (3) error avoidance, each consisting of three items. A sample item of appreciation climate is "Employees get quickly promoted here, if they engage in continuous professional development". A sample item of facilitation climate is "My organization provides sufficient resources to develop my competence". Finally, a sample item of error avoidance climate is "In my organization, one is afraid to admit mistakes. All dimensions yielded good internal reliability (respectively $\alpha = 0.81$, $\alpha = 0.91$, and $\alpha = 0.78$).

3.2.4. Controls

To be consistent with prior studies about resilience and organizational climates (e.g., Cortini et al., 2016; Meneghel et al., 2016), we controlled for demographic variables, including age, tenure, gender and education level. Tenure was measured by years of experience in the current or similar function. Gender was measured as a dichotomous variable in which males were coded as 1, females were coded as 2. The coding of the education level followed the Dutch education system with the following categories: none (coded as 1), lower vocational education (coded as 2), high school (coded as 3), general vocational education (coded as 4), junior college (coded as 5), Bachelor of Arts Degree or Bachelor of Science (coded as 6), Master's degree or Doctoral degree (coded as 7), no answer (coded as 8).

3.3. Analytical strategy

To examine the hypothesized mediation effects, we conducted structural equation modeling by using the R package Lavaan (Rosseel, 2012), which facilitates bootstrapping. Measures were mean-centred to enhance the interpretability of data. To assess whether multicollinearity could be a problem in our dataset, we calculated the variance inflation factors (VIFs) of predictor variables. All the VIF values are below the

conservative threshold of four (Fox, 1991), with the highest VIF being 1.48. We have used Goodman and Blum's (1996) recommendations to assess the effects of attrition. We compared respondents who prematurely dropped out of our study (droppers) to those who remained in the longitudinal sample (stayers). We could not detect a statistically significant difference between stayers and the droppers, indicating that our dataset likely does not suffer from attrition bias. To confirm that each measure loads on the intended factor (discriminant validity), we performed a confirmatory factor analysis on the measurement model, i.e., a model that specifies the relations between the observed and the latent construct variables (Byrne, 2013). As expected, all items loaded on the intended factor, which is attested by the fit statistics for the measurement model ($\chi^2 = 374.659$; $df = 220$; RMSEA = 0.059; CFI = 0.92; TLI = 0.91; SRMR = 0.064). The alternative one-factor model presented a worse fit ($\chi^2 = 1250.411$; $df = 230$; RMSEA = 0.149; CFI = 0.46; TLI = 0.41; SRMR = 0.131). Table 1 reports the fit statistics of various possible alternative measurement models. The confirmatory factor analysis showed the five-factor structure to have a better fit than all other model specifications. As an additional test for establishing discriminant validity, we used the heterotrait-monotrait ratio of correlations (HTMT; Henseler et al., 2015). Results from these tests confirmed the presence of discriminant validity.

Furthermore, to check the robustness of our model an alternative model specification was tested in which we specified relationships that are reversed to the hypothesized relations. We found no support for this alternative model specification.

4. Results

Table 2 summarizes means, standard deviations and correlations between the main variables in our study. The control variables do not structurally associate with any of the main variables, as all correlations are below 0.3. Hence, to increase the power of our tests, we left the control variables out of the regression analyses (cf. Becker, 2005). As expected, we find medium to strong correlations between different organizational climates. A three-factor confirmatory factor analysis (CFA) confirms the distinctiveness of the three-factor model ($\chi^2 = 27.595$; $df = 24$; CFI = 0.997; TLI = 0.996; RMSEA 0.022; SRMR = 0.030). The one-factor solution shows a worse fit ($\chi^2 = 453.950$; $df = 27$; CFI = 0.696; TLI = 0.595; RMSEA 0.229; SRMR = 0.144).

Fig. 1 displays the results for the partial relationships in our hypothesized model. We find that all partial relationships (a-paths as well as b-paths) are significant. The paths toward and from the error avoidance climate have negative coefficients, which is in accordance with what one would expect. Consequently, our findings support Hypotheses 1a-3a, and 1b-3b.

Table 3 presents the results of our mediation model. It shows a

Table 1
Confirmatory factor analyses and fit indices.

Model	Factors	χ^2	df	χ^2/df	CFI	TLI	GFI (AIC)	RMSEA	SRMR	$\Delta\chi^2$ vs Model 1
1	5-factor	374.659	220	1.70	0.92	0.91	14,115.26	0.06	0.06	
2	4-factor	485.484	224	2.17	0.86	0.84	14,218.08	0.08	0.07	110.82***
3	3-factor	645.699	227	2.84	0.78	0.75	14,372.30	0.10	0.09	160.22***
4	1-factor	1250.411	230	5.44	0.46	0.41	14,971.01	0.15	0.13	604.71***
5	3-factor Appreciation	253.03	116	2.18	0.89	0.87	10,220.7	0.08	0.07	
6	3-factor Facilitating	248.26	116	2.14	0.91	0.89	10,154.71	0.08	0.07	
7	3-factor Error avoidance	258.75	116	2.23	0.88	0.86	10,361.48	0.08	0.07	

Note. Error-terms were not allowed to correlate in any of the models, nor were any other changes made to the models. Model 1 is our measurement model in which items were loaded onto their respective factors (i.e., trait resilience, appreciation climate, facilitating climate, error avoidance climate, resilient behavior). Model 2 is a four-factor model in which both "positive" climates, i.e., appreciation climate and facilitating climate, were loaded onto one factor and all other measures were loaded onto their respective factors. Model 3 is a three-factor model in which the three climates were loaded onto one factor and all other measures were loaded onto their respective factors. Model 4 is a one-factor model in which all measure items were loaded onto one factor. Models 5, 6 and 7 are three-factor models in which only one climate is taken into account. CFI = comparative fit index; TLI = Tucker-Lewis index; GFI = goodness-of-fit index; AIC = Akaike information criterion; RMSEA = root-mean-square error of approximation; SRMR = standardized root-mean-square residual.

*** $p < .001$.

Table 2
Means, standard deviations, and correlations with confidence intervals.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Resilient behavior T2	5.01	0.84	(0.85; 0.91)												
2. Appreciation climate T1	3.74	1.30	0.27**	(0.81; 0.81)											
3. Facilitating climate T1	4.29	1.48	0.32**	0.58**	(0.91; 0.91)										
4. Error avoidance climate T1	3.36	1.34	-0.23**	-0.26**	-0.33**	(0.78; 0.80)									
5. Trait Resilience T1	4.59	0.98	0.40**	0.16**	0.25**	-0.22**	(0.81; 0.86)								
6. Tenure T1	12.77	11.59	0.02	-0.05	0.05	0.08	0.00								
7. Age (years)	47.20	12.54	0.02	-0.07	0.05	0.06	0.06	0.52**							
8. Gender (1 = male, 2 = female)	1.49	0.50	-0.05	-0.04	-0.03	-0.09	-0.21**	-0.17**	-0.12*						
9. Education level (0 = others, 1 = lower vocational education)	0.09	0.29	-0.22**	-0.09	-0.16*	0.06	-0.16*	0.03	0.11	-0.00					
10. Education level (0 = others, 1 = high school)	0.07	0.26	-0.09	-0.04	-0.10	0.03	-0.03	0.12	0.22**	0.08	-0.09				
11. Education level (0 = others, 1 = general vocational education)	0.31	0.46	0.16*	0.08	0.05	0.07	-0.09	-0.01	-0.05	-0.11	-0.21**	-0.19**			
12. Education level (0 = others, 1 = junior college)	0.06	0.23	0.05	0.07	0.01	0.01	0.05	0.07	0.18*	-0.02	-0.08	-0.07	-0.16*		
13. Education level (0 = others, 1 = bachelor)	0.31	0.46	-0.02	0.01	0.08	-0.05	0.14*	-0.00	-0.10	0.04	-0.21**	-0.19**	-0.45**	-0.16*	
14. Education level (0 = others, 1 = master/doctoral)	0.16	0.36	0.02	-0.06	0.02	-0.09	0.03	-0.13	-0.18**	0.07	-0.14	-0.12	-0.29**	-0.10	-0.29**

Note. M and SD are used to represent mean and standard deviation, respectively. * indicates $p < .05$. ** indicates $p < .01$. T1 denotes measurement moment 1, T2 denotes measurement moment 2. To establish convergent validity, we report cronbach alpha and omega between brackets respectively. Omega does not assume essential tau-equivalence. Omega will be the same as alpha under the assumption of essential tau-equivalence (Peters, 2014).

significant direct effect of trait resilience on resilient behavior at work ($b = 0.35, p < .001$). In addition, the total indirect effect of the mediation model for an appreciation climate is significant ($b = 0.04, p < .001$). The 95 % bias-corrected confidence interval (CI) for the total effect (derived from 1000 bootstrap samples) does not contain zero, 95 % CI = [0.011, 0.086]. Furthermore, the analysis shows a positive significant indirect effect of a facilitating climate ($b = 0.06, p = .014, CI = [0.017, 0.110]$). This pattern of results is consistent with a mediating effect of an appreciation climate as well as a facilitating climate in the relationship between trait resilience and resilient behavior, thereby supporting Hypothesis 1c and Hypothesis 2c. Furthermore, in contrast to Hypothesis 3c, we did not find support for a mediation effect of an error avoidance climate.

5. Discussion

Increasingly, resilience is seen as an important resource reservoir that helps employees manage the ever-changing situations and setbacks experienced at work. Resilient people tend to proactively prepare for hardships. Yet to date, little attention has been given to the translation of trait resilience into resilient behavior at work, and learning climate as a critical mechanism in the course of this translation. Drawing on person-environment fit theory and the principle of trait activation, our study investigated the role of three particular perceptions of organizational policies and practices aimed at supporting employees' learning behaviors: (1) appreciation climate, (2) facilitation climate, and (3) error avoidance climate. The basic assumption was that employees match their personal characteristics work perceptions including the learning climate of the organization they work for to fit their personal characteristics (Bakker et al., 2016; Wrzesniewski & Dutton, 2001), and that there needs to be a fit between trait resilience and environment in the form of learning climate for traits to be expressed in the form of behavior (Tett & Burnett, 2003).

Our results demonstrate that employees' resilience is positively related to an appreciation and facilitation climate, and negatively associated with error avoidance climate. Moreover, appreciation and facilitation climate are positively associated with resilient behavior at work. An error avoidance climate is negatively related to dealing with change and setbacks at work. Furthermore, an appreciation and facilitating climate mediate the relationship between trait resilience and resilient behavior at work. No mediating effect was found for an error avoidance climate.

This study makes several contributions. First, we advance the literature by theoretically highlighting and empirically testing the mechanism underlying the relationship between trait resilience and resilience at work. This is important because previous studies have often implicitly assumed that trait resilience would directly manifest in resilient behavior at work (e.g., Avey et al., 2009; Smith et al., 2008). Person-environment fit theory in conjunction with the principle of trait activation highlights the importance of subjective person-environment fit for resilience research. Resilience as a trait is activated when confronted with perceptions of the organization's practices and policies in that they are framed in a learning-supportive way ensuring person-environment fit that makes resilient employees more likely to actually deal with change and setbacks at work.

Second, we contribute to the literature on organizational learning climates (e.g., Crans et al., 2021; Van der Heijde et al., 2018). Our study highlights the importance of differentiating between approach-oriented (e.g., facilitation and appreciation climate) and avoidance-oriented (e.g., error avoidance climate) perceptions of organization's practices and policies aimed at supporting employees' learning behaviors. Whereas both approach-oriented and (reduced) avoidance-oriented climates lead to higher levels of resilient behavior at work, the functioning of these relationships appears to work in different ways. Specifically, an avoidance climate only has a direct effect on employees' dealing with change and setbacks at work. Resilient people perceive the organizational

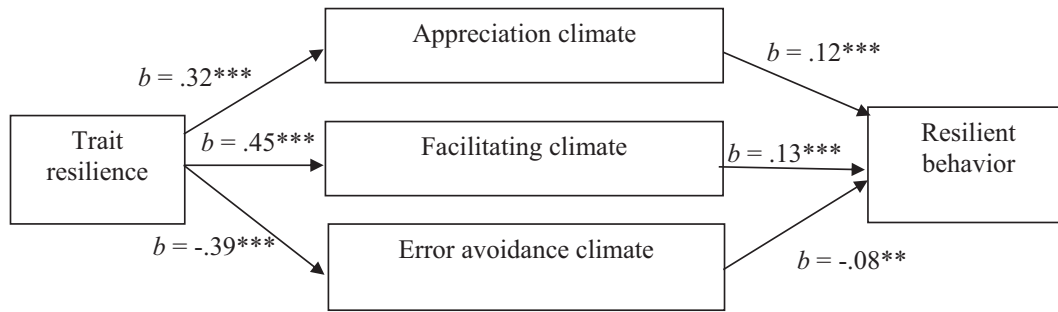


Fig. 1. Results for the hypothesized model.

Table 3

Regression summary for the mediating role of learning climates in the relationship between resilience (trait) and resilient behavior (n = 199).

	Model 1. Mediation through appreciation climate [95 % bias-corrected CI]	Model 2. Mediation through facilitation climate	Model 3. Mediation through error avoidance climate
Total effect			
Resilience (trait) → Resilience (behavior)	0.35*** (0.058) [0.24, 0.47]	0.35*** (0.058) [0.24, 0.47]	0.35*** (0.058) [0.24, 0.47]
Constant	3.40*** (0.269) [2.87, 3.93]	3.40*** (0.269) [2.87, 3.93]	3.40*** (0.269) [2.87, 3.93]
Partial effect toward climate (a-path)			
Resilience (trait) → Climate	0.32*** (0.097) [0.14; 0.52]	0.45*** (0.11) [.23; 0.68]	−0.39*** (0.092) [−0.56; −0.20]
Partial effects from climate to resilience (behavior) (b-path)			
Climate → Resilience (behavior)	0.12*** (0.044) [0.042; 0.21]	0.14*** (0.041) [0.051; 0.22]	−0.079* (0.039) [−0.16; −0.008]
Direct effects (c'-path)			
Resilience (trait) → Resilience (behavior)	0.31*** (0.053) [0.21, 0.42]	0.30*** (0.052) [0.20, 0.40]	0.32*** (0.055) [0.20, 0.42]
Indirect effects (a*b)	0.04** (0.018) [0.011, 0.086]	0.06** (0.023) [0.017, 0.110]	0.031 (0.017) [0.003, 0.07]

Notes. Unstandardized coefficients are reported, independent variables were centred, se between brackets.

** p < .05.

*** p < .01.

climate as less error avoiding. Apparently, their trait resilience is not activated by an error-avoidance climate, i.e., not resulting in resilient behavior. In other words, perceiving the organizational environment as error-avoiding does not necessitate trait-resilient individuals to behave in more or less resilient ways. This reasoning is in line with Trait Activation Theory, as resilient behavior is not triggered in trait-resilient individuals when they do not perceive the organizational climate as error-avoiding. In contrast, an approach-oriented climate is necessary for employees' resilience to be translated into resilient behavior at work. What this suggests is that proactive positive traits like resilience need trait-like situations such as appreciative and facilitating climates for their expression.

5.1. Limitations and future research

The results of our study have to be seen in the light of several limitations which give rise to avenues for further research. First, as we study resilience and resilient behavior of employees, we must be alert on the possibility of a healthy worker effect. People without a job, and who presumably may not be resilient, were not within our sample. Fortunately, in our sample we see sufficient variation in responses regarding trait resilience, which abates this worry. Moreover, as our study revolves around the organization's learning climates, it would not have been possible to include non-workers. However, future studies which tap into employee resilience, while less relying on perceptions of organizational policies and practices, may be interested to collect data from employees who are leaving an organization, for example by exit-interviews or surveys. In that way it may be possible to grasp experiences from a group of workers with potentially less resilience.

Second, given that our dependent variable is behavioral in nature and can therefore be best assessed by individuals themselves, our study relies on self-report measures. Consequently, the results may have been influenced by common method variance. We have undertaken several procedures (following recommendations of Podsakoff et al., 2003) to minimize the possible effects of common method bias. Among others, we adopted a time-lagged design (Podsakoff et al., 2003) and gathered data about our dependent variable and the predictor variables at different points in time. Nevertheless, future studies may want to explore alternative research designs to further minimize the risk of bias.

Third, even though we adopted a time-lagged design, which allows time-intervals between the predictor variables and the outcomes, we could not include autoregressive effects in our model. By using time lags our research design strengthens causal inference and is superior to unlagged cross-sectional designs (Daniels & Harris, 2005; Xanthopoulou et al., 2009); yet, our conclusions should be interpreted with caution. More research is needed to verify causal inferences, for instance by employing experiments. Relatedly, we measured trait resilience (our independent) at the same time as the climates (the mediators), which is not preferred when analyzing a mediation model. However, traits are generally found to be quite stable over time (e.g., Kuntz, Connell, & Näswall, 2017; Kuntz, Malinen, & Näswall, 2017). It is therefore unlikely that an organizational climate could influence character traits of individuals. In contrast, character traits (by being stable) could very well influence the way in which an organizational climate is perceived. Nevertheless, future studies are advised to measure independent variables at an earlier point in time than the mediator.

Last, in this study we focused on resilience of individuals. However, resilient employees do not operate in a vacuum (Linnenluecke, 2017; Van der Vegt et al., 2015). Trait resilience may instigate them to flourish to some extent context-free, but given that their perceptions of a learning-supportive organizational environment are conducive of their resilient behavior, support from team members (including the team leader) is likely to be of key importance as well. Even if there is much dynamic freedom for fitting perceptions of organizational practices and

policies toward the individual personality, it would still be interesting to examine whether this could also be enhanced at the team level (Sto-verink et al., 2018). Further research into predictors of resilient behaviors may want to take team interactions into account.

5.2. Managerial implications

Our research has practical value for employees, managers and their organizations, as it provides insights about when employees behave resiliently at work, which is in turn positively associated with job performance and organizational commitment (Meneghel et al., 2016; Wang et al., 2017; Youssef & Luthans, 2007). Given our results, to ensure that employees display resilient behavior it seems useful for organizations to start with hiring resilient individuals and make sure that resilient employees are provided with an appreciative and facilitating organizational climate. In other words, managers should be cautious encouraging perceptions of error avoidance within their organizations.

First, regarding hiring resilient employees, we suggest organizations to use survey instruments (Smith et al., 2008) to measure candidates' trait resilience during the hiring process. This is important because individuals who are highly resilient in character, are more likely to perceive an appreciation and facilitation climate, which is positively associated with resilient behavior at work.

Second, with respect to an organization's current workforce that may include less resilient employees, organizational interventions can help to construe social identities (Roberts et al., 2003). In particular, changes in social and work roles could not only change the image that individuals have of themselves (Roberts et al., 2003), but also interventions that construe social identities have been found to be useful to develop employees' resilience (Lodi-Smith & Roberts, 2007; Roberts & Wood, 2006). For example, organized sessions of constructive feedback from leaders can fortify a positive self-image of being resilient in challenging times.

Third, managers can strive to enhance employees' perception of a learning-supportive climate, as facilitation and appreciation climates positively relate to resilient behavior among employees. As managers and leaders have often been identified as having a chief role in creating the organizational climate (e.g., Dragoni, 2005), it may be important to create awareness among them about the impact they may have on the resilient behavior of their employees. Furthermore, we advise organizations to frequently utilize employee surveys in which employees report how they experience the learning climate (Nikolova et al., 2014). This could guide organizations to craft interventions to alter organizational practices and policies aimed at learning, also on the individual employee-level.

Data availability statement

Due to the nature of this research, participants of this study did not agree for their data to be shared publicly. To protect respondent confidentiality and participant privacy supporting data is not available.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

Avey, J. B., Luthans, F., & Jensen, S. M. (2009). Psychological capital: A positive resource for combating employee stress and turnover. *Human Resource Management, 48*, 677–693.

Bakker, A. B., Rodríguez-Muñoz, A., & Sanz Vergel, A. I. (2016). Modelling job crafting behaviors: Implications for work engagement. *Human Relations, 69*(1), 169–189.

Bandura, A., & Locke, E. (2003). Negative self-efficacy and goal effects revisited. *Journal of Applied Psychology, 88*, 87–99.

Becker, T. E. (2005). Potential problems in statistical control of variables in organizational research. *Organizational Research Methods, 8*, 274–289.

Britt, T. W., Shen, W., Sinclair, R. R., Grossman, M. R., & Klieger, D. M. (2016). How much do we really know about employee resilience? *Industrial and Organizational Psychology, 9*(2), 378–404.

Byrne, B. M. (2013). *Structural equation modeling with Mplus: Basic concepts, applications, and programming*. New York: Routledge.

Caniëls, M. C. J., & Baaten, S. M. J. (2019). How a learning-oriented organizational climate is linked to different proactive behaviors. *Social Indicators Research, 143*(2), 561–577.

Caniëls, M. C. J., & Hatak, I. (2019). Employee resilience: Considering both the social side and the economic side of leader-follower exchanges in conjunction with the dark side of followers' personality. *International Journal of Human Resource Management*.

Connor, K. M., & Davidson, J. R. T. (2003). Development of a new resilience scale: The Connor-Davidson Resilience Scale (CD-RISC). *Depression and Anxiety, 18*, 76–82.

Conway, J. M., & Lance, C. E. (2010). What reviewers should expect from authors regarding common method bias in organizational research. *Journal of Business and Psychology, 25*(3), 325–334.

Cortini, M., Pivetti, M., & Cervai, S. (2016). Learning climate and job performance among health workers. A pilot study. *Frontiers in Psychology, 7*, 1644.

Coutu, D. L. (2002). How resilience works. *Harvard Business Review, 80*(3), 46–55.

Crans, S., Bude, V., Beusaert, S., & Segers, M. (2021). Social informal learning and the role of learning climate: Toward a better understanding of the social side of learning among consultants. *Human Resource Development Quarterly, 2021*, 1–29.

Daniels, K., & Harris, C. (2005). A daily diary study of coping in the context of the job demands-control-support model. *Journal of Vocational Behavior, 66*, 219–237.

Demerouti, E., van Eeuwijk, E., Snelder, M., & Wild, U. (2011). Assessing the effects of a "personal effectiveness" training on psychological capital, assertiveness and self-awareness using self-other agreement. *Career Development International, 16*, 60–81.

Dormann, C., & Griffin, M. A. (2015). Optimal time lags in panel studies. *Psychological Methods, 20*, 489–405.

Dragoni, L. (2005). Understanding the emergence of state goal orientation in organizational work groups: The role of leadership and multilevel climate perceptions. *Journal of Applied Psychology, 90*, 1084–1095.

Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly, 44*, 350–383.

Fenigstein, A., Scheier, M. F., & Buss, A. H. (1975). Public and private self-consciousness: Assessment and theory. *Journal of Consulting and Clinical Psychology, 43*, 522–527.

Fleeson, W., & Gallagher, P. (2009). The implications of Big Five standing for the distribution of trait manifestation in behavior: Fifteen experience-sampling studies and a meta-analysis. *Journal of Personality and Social Psychology, 97*(6), 1097–1114.

Fox, J. (1991). *79. Regression Diagnostics: An Introduction*. Sage.

Fredrickson, B. L., Tugade, M. M., Waugh, C. E., & Larkin, G. R. (2003). What good are positive emotions in crises? A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th, 2001. *Journal of Personality and Social Psychology, 84*, 365–376.

Gara Bach Ouerdian, E., Mansour, N., Al-Zahrani, A., & Chaari, A. (2019). Promoting knowledge sharing in Tunisian KIFs through HRM practices. The mediating role of human capital and learning climate. *The International Journal of Human Resource Management, 30*(16), 2321–2359.

Goodman, J. S., & Blum, T. C. (1996). Assessing the non-random sampling effects of subject attrition in longitudinal research. *Journal of Management, 22*(4), 627–652.

Grohner, T., Meuwissen, R. H. G., & Gijsselaers, W. H. (2019). Enabling young professionals to learn from errors - The role of a supportive learning climate in crossing help network boundaries. *Vocations and Learning, 12*, 217–243.

Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the workplace: A multilevel review and synthesis. *Applied Psychology: An International Review, 69*(3), 913–959.

Heidemeier, H., & Moser, K. (2009). Self-other agreement in job performance ratings: A meta-analytic test of a process model. *Journal of Applied Psychology, 94*, 353–370.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science, 43*(1), 115–135.

Hystad, S., Eid, J., Laberg, J., & Bartone, P. (2011). Psychological hardness predicts admission into Norwegian military officer schools. *Military Psychology, 23*, 381–389.

Kao, K. Y., Rogers, A., Spitzmueller, C., Lin, M. T., & Lin, C. H. (2014). Who should serve as my mentor? The effects of mentor's gender and supervisory status on resilience in mentoring relationships. *Journal of Vocational Behavior, 85*(2), 191–203.

Kim, S., Egon, T. M., Kim, W., & Kim, J. (2013). The impact of managerial coaching behavior on employee work-related reactions. *Journal of Business and Psychology, 28*, 315–330.

Kossek, E. E., & Perrigino, M. B. (2016). Resilience: A review using a grounded integrated occupational approach. *Academy of Management Annals, 10*(1), 729–797.

Kristof-Brown, A. L., Zimmerman, R. D., & Johnson, E. C. (2005). Consequences of individual's fit at work: A meta-analysis of person-job, person-organization, person-group, and person-supervisor fit. *Personnel Psychology, 58*, 281–342.

Kuenzi, M., & Schminke, M. (2009). Assembling fragments into a lens: A review, critique, and proposed research agenda for the organizational work climate literature. *Journal of Management, 35*(3), 634–717.

Kumpfer, K. L. (1999). Factors and processes contributing to resilience: The resilience framework. In M. D. Glantz, & J. L. Johnson (Eds.), *Resilience and development: Positive life adaptations* (pp. 179–224). New York: Kluwer Academic/Plenum.

Kuntz, J., Connell, P., & Näswall, K. (2017a). Workplace resources and employee resilience. *Career Development International, 22*(4), 419–435.

- Kuntz, J., Malinen, S., & Näswall, K. (2017b). Employee resilience: Directions for resilience development. *Consulting Psychology Journal*, 69(3), 223–242.
- Kuntz, J., Näswall, K., & Malinen, S. (2016). Resilient employees in resilient organizations: Flourishing beyond adversity. *Industrial and Organizational Psychology: Perspectives on Science and Practice*, 9, 456–462.
- Lee, F., Edmondson, A. C., Thomke, S., & Worline, M. (2004). The mixed effects of inconsistency on experimentation in organizations. *Organization Science*, 15, 310–326.
- Lee, J. H., Nam, S. K., Kim, A. R., Kim, B., Lee, M. Y., & Lee, S. M. (2013). Resilience: A meta-analytic approach. *Journal of Counseling and Development*, 91, 269–279.
- Linnenluecke, M. K. (2017). Resilience in business and management research: A review of influential publications and a research agenda. *International Journal of Management Reviews*, 19, 4–30.
- Lodi-Smith, J., & Roberts, B. W. (2007). Social investment and personality: A meta-analysis of the relationship of personality traits to investment in work, family, religion, and volunteerism. *Personality and Social Psychology Review*, 11(1), 68–86.
- Luthans, F. (2002). Positive organizational behavior. Developing and managing psychological strengths. *Academy of Management Executive*, 16(1), 57–72.
- Luthans, F. (2002). The need for and meaning of positive organizational behavior. *Journal of Organizational Behavior*, 23(6), 695–706.
- Luthans, F., Avey, J. B., Avolio, B. J., Norman, S. M., & Combs, G. M. (2006). Psychological capital development: Toward a micro-intervention. *Journal of Organizational Behavior*, 27, 387–393.
- Luthans, F., Vogelgesang, G. R., & Lester, P. B. (2006). Developing the psychological capital of resiliency. *Human Resource Development Review*, 5, 25–44.
- Luthans, F., Youssef, C. M., & Avolio, B. J. (2007). *Psychological capital: Developing the human competitive edge* (Vol. 198). Oxford: 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.
- Meneghel, I., Borgogni, L., Miraglia, M., Salanova, M., & Martinez, I. M. (2016). From social context and resilience to performance through job satisfaction. *Human Relations*, 69(11), 2047–2067.
- Moenkemeyer, G., Hoegl, M., & Weiss, M. (2012). Innovator resilience potential: A process perspective of individual resilience as influenced by innovation project termination. *Human Relations*, 65(5), 627–655.
- Näswall, K., Kuntz, J., & Malinen, S. (2015). Employee resilience scale (EmpRes): Technical report. In . ISSN: 1178-7279 *Resilient Organizations Research Report 2015/04*.
- Näswall, K., Malinen, S., Kuntz, J., & Hodliffe, M. (2019). Employee resilience: Development and validation of a measure. *Journal of Managerial Psychology*, 34(5), 353–367.
- Niessen, C., Weseler, D., & Kostova, P. (2016). When and why do individuals craft their jobs? The role of individual motivation and work characteristics for job crafting. *Human Relations*, 69(6), 1287–1313.
- Nikolova, L., Van Ruysseveldt, J., De Witte, H., & Van Dam, K. (2014). Learning climate scale: Construction, reliability and initial validity evidence. *Journal of Vocational Behavior*, 85(3), 258–265.
- Nikolova, L., Van Ruysseveldt, J., Van Dam, K., & De Witte, H. (2016). Learning climate and workplace learning: Does work restructuring make a difference? *Journal of Personnel Psychology*, 15(2), 66–75.
- Osagie, E. R., Wesselink, R., Runhaar, P., & Mulder, M. (2018). Unraveling the competence development of corporate social responsibility leaders: The importance of peer learning, learning goal orientation, and learning climate. *Journal of Business Ethics*, 151(4), 891–906.
- Peters, G. Y. (2014). The alpha and the omega of scale reliability and validity. *The European Health Psychologist*, 16(2), 56–69.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research. *Journal of Applied Psychology*, 88(5), 879–903.
- Putz, D., Schilling, J., Kluge, A., & Stangenberg, C. (2012). Measuring organizational learning from errors. *Management Learning*, 44(5), 511–536.
- Robbins, M. (2019). Why employees need both recognition and appreciation. *Harvard Business Review* (November 12, 2019). retrieved from: <https://hbr.org/2019/11/why-employees-need-both-recognition-and-appreciation>.
- Roberts, B. W., Robins, R. W., Caspi, A., & Trzesniewski, K. H. (2003). Personality trait development in adulthood. In J. L. Mortimer, & M. Shanahan (Eds.), *Handbook of the life course*. New York: Plenum Press.
- Roberts, B. W., & Wood, D. (2006). Personality development in the context of the neo-socioanalytic model of personality. In D. K. Mroczek, & T. D. Little (Eds.), *Handbook of personality development* (pp. 11–39). Lawrence Erlbaum Associates.
- Rosseel, Y. (2012). Lavaan: An R package for structural equation modeling. *Journal of Statistical Software*, 48(2), 1–36.
- Salmela-Aro, K., & Upadyaya, K. (2018). Role of demands-resources in work engagement and burnout in different career stages. *Journal of Vocational Behavior*, 108, 190–200.
- Shoda, Y., Mischel, W., & Wright, J. C. (1994). Intraindividual stability in the organization and patterning of behavior: Incorporating psychological situations into the idiographic analysis of personality. *Journal of Personality and Social Psychology*, 67, 674–687.
- Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, P. (2008). The brief resilience scale. *International Journal of Behavioral Medicine*, 15, 194–200.
- Spurk, D., Hofer, A., & Kauffeld, S. (2021). Why does competitive psychological climate foster or hamper career success? The role of challenge and hindrance pathways and leader-member-exchange. *Journal of Vocational Behavior*, 127, Article 103542.
- Stoverink, A. C., Kirkman, B. L., Mistry, S., & Rosen, B. (2018). Bouncing back together: Toward a theoretical model of work team resilience. *Academy of Management Review*, 45, 395–422.
- Tett, R. P., & Burnett, D. D. (2003). A personality trait-based interactionist model of job performance. *Journal of Applied Psychology*, 88(3), 500–517.
- Tett, R. P., Toich, M. J., & Ozkum, S. B. (2021). Trait activation theory: A review of the literature and applications to five lines of personality dynamics research. *Annual Review of Organizational Psychology and Organizational Behavior*, 8(1), 199–233.
- Van der Heijde, R., Nelson, B. J., Murphy, R. R., Choset, H., Wagner, P., Claudia, M., et al. (2018). Learning climate perceptions as a determinant of employability: An empirical study among European ICT professionals. *Frontiers in Psychology*, 9, 2471.
- Van der Vegt, G. S., Essens, P., Wahlström, M., & George, G. (2015). Managing risk and resilience. *Academy of Management Journal*, 58(4), 971–980.
- Van Dyck, C., Frese, M., Baer, M., & Sonnentag, S. (2005). Organizational error management culture and its impact on performance. *Journal of Applied Psychology*, 90(6), 1228–1239.
- Wagnild, G. M., & Young, H. M. (1993). Development and psychometric evaluation of the resilience scale. *Journal of Nursing Measurement*, 1, 165–178.
- Wang, J., Cooke, F. L., & Huang, W. (2014). How resilient is the (future) workforce in China? A study of the banking sector and implications for human resource development. *Asia Pacific Journal of Human Resources*, 52, 132–154.
- Wang, Z., Li, C., & Li, X. (2017). Resilience, leadership and work engagement. *Social Indicators Research*, 132, 699–708.
- Wrzesniewski, A., & Dutton, J. E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review*, 26, 179–201.
- Wu, K. D., & Clark, L. A. (2003). Relations between personality traits and self-reports of daily behavior. *Journal of Research in Personality*, 37, 231–256.
- Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009). Reciprocal relationships between job resources, personal resources, and work engagement. *Journal of Vocational Behavior*, 74, 235–244.
- Youssef, C. M., & Luthans, F. (2007). Positive organizational behavior in the workplace. *Journal of Management*, 33(5), 774–800.
- Zhang, M. J., Zhang, Y., & Law, K. S. (2021). Paradoxical leadership and innovation in work teams: The multilevel mediating role of ambidexterity and leader vision as a boundary condition. *Academy of Management Journal*. <https://doi.org/10.5465/amj.2017.1265>. in press.