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Linking the Work Environment for Creativity and Innovation to Talent Development: An Exploratory Study

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Abstract

Developing talent and establishing conditions conducive to creativity and innovation are important challenges for all organizations, yet little is known about the relationship between these two key areas. The purpose of this study was to quantitatively explore the relationship between the climate for creativity and innovation, and to qualitatively examine narrative comments regarding other factors in the work environment that help or hinder talent development efficacy. Results indicated significant relationships between all dimensions of creative climate and talent development, with four dimensions (Idea Support, Challenge and Involvement, Idea-Time, and Trust and Openness) as the strongest predictors. The narratives provided deeper insight into why these climate dimensions are germane, and identified the support of leaders, supervisors and peers; as well as equal access to development opportunities and resources as two other relevant factors within the broader work environment influencing talent development efficacy.

Keywords: *talent development, creative climate, work environment, creativity, innovation*

1. INTRODUCTION

> *"There certainly can be no doubt that environmental factors play a major role in the development of talent" (Simonton, 2001, p. 39).*

Creativity and innovation are key strategic aims for organizations, teams, and individuals (e.g. Dawson & Andriopoulos, 2021). As a result, leaders and managers are seeking ways to establish flourishing conditions within their places of work (e.g.

Kleynhans, et al., 2022). The emerging research on thriving at work points to two important determinants of a flourishing workplace (e.g. Goh, et al., 2022). The first of these relates to creating a work environment characterized by vitality, engagement, and commitment (e.g. Porath, et al., 2022). The second relates to the focus on learning—the acquisition of knowledge and skills that employees consider meaningful (e.g. Kleine, et al., 2019).

Thriving at work within organizations results in a wide variety of positive outcomes including improved task, unit, and organizational performance; reduced turnover intentions; improved trust in leadership; as well as increased creativity and innovation (e.g. Shahid, et al., 2021). Leaders and managers play an influential role for providing these determinants and obtaining the related outcomes (e.g. Sumanth, et al., 2023).

Although there is abundant literature relating to the broad area of human resource management (e.g. Wright & Steinbach, 2022), there is a relatively less research on talent development, particularly from a programmatic perspective. Few studies focus on linking talent development to climate and work-environment characteristics. Those that do, utilize quantitative approaches that focus on a single dimension. These conditions limit our understanding of how talent development and the work environment relate to each other, which also limits our ability to identify the priority levers for leaders and managers to establish these conditions.

This study applied an established multi-method and multi-dimensional measure of the work environment for creativity and innovation that quantitatively assessed nine dimensions of climate and open narrative questions allowing the identification of other salient factors within the broader work environment. We also developed and tested a preliminary scale to assess the efficacy of talent development programs at the organizational level of analysis. Taking this approach allowed us to consider which climate dimensions had the largest association with talent development, as well as other key influential factors that leaders and managers can attend to create thriving workplaces.

1.1. Focus on talent development

Talent development is a key component of the broader construct of talent management, both of which fall under the larger concept of strategic human resource management (SHRM). SHRM is a broad and inclusive concept, generally defined as the linking and aligning of human resources with the strategy and goals of the organization to improve its performance (Caldwell & Anderson, 2018).

The conceptual boundaries between talent management and talent development within the broad arena of SHRM are unclear (e.g. Cappelli & Keller, 2014; Rezaei & Beyerlein, 2018). Developing talent has also been referred to as human resource development (Ross, et al., 2020). Despite a recent increase in publications on talent development, there is still lack of clarity regarding its precise definition (e.g. Tiwari, et al., 2022). For example, a recent integrative literature review found that only four of the 29 articles reviewed defined talent development (Mehdiabadi & Li, 2016). Garavan, et al., (2012: p. 6) defined talent development as a subset or key component of talent management by indicating:

> *Talent development focuses on the planning, selection, and implementation of development strategies for the entire talent pool to ensure that the organization has both the current and future supply of talent to meet strategic objectives and that development activities are aligned with organizational talent management processes.*

The scope of developing talent includes "…all activities in which employees and organizations engage to increase the competence and expertise of employees for the purpose of improving individual and organizational performance" (Holton & Naquin, 2004, p. 59). This includes a diverse set of formal and informal activities such as training, coaching, mentoring, on-the-job learning, project assignments, job rotations, attending conferences, access to on-line learning platforms, etc.

In comparison to the broader constructs of SHRM or talent management, talent development is under-researched, especially regarding contextual factors influencing its effectiveness in organizations (e.g. King, 2017). Integrative literature reviews point

out the general shortage of research on the more tightly bounded concept of talent development (e.g. Hedayati-Mehdiabadi & Li, 2016). For example, Rezaei & Beyerlein (2018) conducted a systematic literature review on empirical studies related to talent development. Of the 34 studies that met their criteria for inclusion, only four focused mainly on talent development, the others related more broadly to talent management.

A variety of measures of talent have been applied within organizations (e.g. Holton & Naquin, 2004; Park & Lee, 2018). Many of these focus on assessing the amount invested in training, course feedback, competency and skill audits, and impact (Phillips & Phillips, 2010). King (2017), among others, argued that creating sustainable talent development demands explicit attention to creating a talent climate. We could find no measure that assessed the overall programmatic efficacy of talent development, leading to our first research issue identified below.

Research Question 1: Can we develop a scale that assesses the overall programmatic efforts to provide effective talent development within an organization with acceptable reliability and validity?

Further, the main strategic focus of the collaborating organization for this study aims to support talent development within credit unions, and other not-for-profit organizations. Their consultants work with the leadership teams of these organizations to provide feedback and support for their talent development efforts and were already and effectively applying an assessment of the work environment for creativity and innovation.

1.2. Context, climate, and culture for creativity and innovation

Within the literature relating to the organizational work environment, two dominant and independent streams have emerged—organizational culture and climate (Kuenzi & Schminke, 2009). Culture and climate can be conceived as conceptual siblings (Ehrhart, et al., 2014), and although these terms are sometimes used interchangeably, there is support for making clear distinctions between them. For example, Schneider, et al., (2017, p.468) offer the following definition of organizational climate:

> *"…a summary perception derived from a body of interconnected experiences with organizational policies, practices and procedures (e.g., from leadership and HR practices, and so forth) and observations of what is rewarded, supported, and expected in the organization with these summary perceptions becoming meaningful and shared based on the natural interactions of people with each other."*

In contrast to climate, organizational culture is conceived as shared values, beliefs, and assumptions reflecting the deeper identity of the organization, and can often exist at the preconscious level (Schneider, et. al., 2017). As illustrated in Figure 1, the consensus is that organizational culture is an antecedent to climate—climate is considered an 'artifact' of culture (e.g. Ostroff, et al., 2013; Schein, 2017).

Rather than considering a general or molar approach to climate, our facet-specific focus is on the work environment for creativity and innovation (e.g. Amabile, et al., 1996; Ekvall, 1996). Creativity and innovation are complex, multi-faceted and multi-level constructs, and many scholars have asserted that they are closely related (e.g. Perry-Smith & Mannucci, 2017). For the purposes of this study, we applied the integrative definition of creativity and innovation proposed by Anderson et al., (2014, p. 1298) who stated:

> *Creativity and innovation at work are the process, outcomes, and products of attempts to develop and introduce new and improved ways of doing things. The creativity stage of this process refers to idea generation, and innovation refers to the subsequent stage of implementing ideas toward better procedures, practices, or products. Creativity and innovation can occur at the level of the individual, work team, organization, or at more than one of these levels combined but will invariably result in identifiable benefits at one or more of these levels of analysis.*

We were interested in the organizational climate for creativity and innovation, as well as the more inclusive aspects of the work environment.

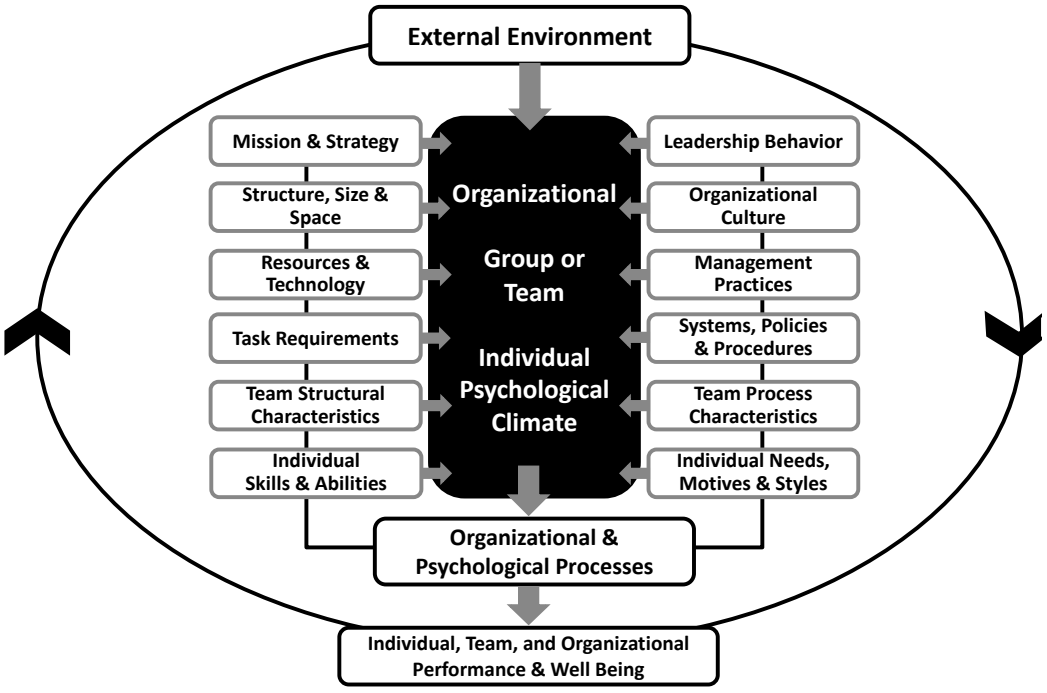

Figure 1: The work environment for creativity and innovation

Source: Adapted from Isaksen (2023).

The conceptual model guiding this study is illustrated in Figure 1. This model is based on the groundbreaking work of Ekvall (1996) on the climate for creativity and innovation and was influenced by Burke and Litwin's (1992) work on organizational change. Its origin and use are more fully elaborated in Isaksen (2013; 2017). Climate is influenced by a variety of factors, so this model points out those antecedent factors that have been found in the literature. Climate also influences a variety of organizational and psychological processes such as learning and problem solving. These processes, in turn, influence organizational outcomes, performance, and well-being. We see talent development as the capability to build employees' knowledge, skills, and attitudes, as an outcome related to performance and well-being.

Very few studies have focused on exploring the relationship between the facet-specific climate for creativity and innovation with talent development (e.g. Dysvik & Kuvaas, 2012; Nerstad, et al., 2018). For example, Majid and Mohammed (2020) examined the role that a climate for innovation plays between talent development practices and organizational performance within a manufacturing organization in Iraq. They used a nine-item scale adapted from other studies to assess the climate for innovation. They found a direct positive relationship between talent development practices and organizational performance—and that this relationship was moderated by innovation climate.

These, and other previous studies share a few common limitations. They all applied relatively short scales (4–8 items) of climate and limited their analysis to quantitative methods. Creative and innovative climate was treated as a singular, unidimensional construct. As this study aims to explore the linkages between a creativity conducive work environment and talent development in organizations, we applied an established instrument that includes nine well-established dimensions of creative climate that are described later and proposed two additional research questions.

Research Question 2: Do the dimensions of a climate for creativity and innovation relate significantly to talent development efficacy?

Research Question 3: Which of these dimensions, if any, are strong predictors of talent development

efficacy?

These two questions focus specifically on the climate for creativity and innovation. Since our interest extends to other salient factors within the broader work environment we identified our fourth research question.

Research Question 4: What other factors within the work environment for creativity and innovation influence talent development efficacy?

To explore these relationships more holistically, we included open-ended questions to identify additional factors in the broader work environment. beyond the bounded assessment of these nine climate dimensions. In doing so, we chose the context of organizations that were not only interested in increasing their talent development effectiveness, but also in becoming more creative and innovative. Our study focuses on this under-researched area, and applies an established, multi-dimensional measure of the climate for creativity and innovation.

2. METHOD

To pursue our research questions regarding climate dimensions, as well as other factors within the work environment that influence talent development efficacy, we took a multi-method approach (Gibson, 2017) and analyzed our data at an individual level of analysis (Kessler, 2019).

2.1. The credit union context

Credit unions occupy a unique niche within the larger financial services industry. They are not-for-profit cooperatives that serve the financial needs of a specific community that shares a common bond (i.e. members of the armed forces, a bounded geographic community) rather than the public at large. Credit unions are member-owned entities with member service as a driving force (Sumarwan, et al., 2021). As credit unions collaborate to solve problems and expand their reach, the cooperative spirit is demonstrated in the creation of Credit Union Service Organizations (CUSOs). These allow individual business entities to partner, thereby reducing costs by combining back-office functions, business loan underwriting, etc. Aligned with their focus on member education, credit unions understand the value of employee education.

As credit unions consolidate across the US and Canada, there is an increased focus on the importance of developing and retaining talent within the industry. Creativity and innovation are important strategies for credit unions as the seek to find new and better ways to: demonstrate accountability to members; build stronger linkages to the communities they serve; develop distinctive marketing and sales initiatives; among others.

The collaborating CUSO, whose focus in on talent development for the credit union industry (and other non-profits), looked to understand the impact of the working environment on their efforts. This CUSO focused on helping credit unions to be innovative and keep up with the constant changes in the financial industry. This organization provided access to our sample, as well as the third author for this study.

2.2. Participants

A total of 651 participants from 11 Credit Unions and one CUSO were contacted. A total of 497 returned complete questionnaires that were included in our analysis (76.3% response rate). We collected the data between June of 2018 and November of 2019. Most participants (78.3%) responded in 2019. The participating individuals represented credit unions across the United States (Florida, Wisconsin, Washington DC) and Canada, and from all levels of staff (22.1% of the respondents were working in middle- or upper-level management positions in the respective credit unions). Their mean age while responding was 41.3 years based on 450 respondents indicating their age. Furthermore, this sample included more female respondents (60.6%) with 443 stating their gender. Seventy percent of the participants were working at least one year in their respective positions, and 83.1% were working at least one year in their respective organization indicating that most of this sample represents individuals with sufficient socialization to the organizational work environment that they assessed. This sample also reflects a variety of educational backgrounds with 39.8% of the participants holding a Bachelors or higher educational degree.

2.3. Measures

We utilized two assessments for this study. Each will be described in more detail below.

The Situational Outlook Questionnaire (SOQ). The SOQ is a multi-dimensional, multi-method assessment. It is a web-based assessment that includes 53 items that assess nine dimensions of the climate for creativity and innovation (Isaksen, 2023). Table 1 provides definitions for each dimension and illustrative references for support in the literature (see Table 1). The SOQ also includes open-ended questions that allow participants to provide narrative responses to provide more depth regarding the dimensions, as well as identify other aspects within the broader work environment that impacts their observations.

The dimensions have been applied on the individual level as psychological climate (Isaksen & Lauer, 1999), team or group climate (Al-Beraidi & Rickards, 2003), as well as the organizational level of analysis (Isaksen & Ekvall, 2010).

The dimensions of the SOQ have successfully differentiated organizational levels of innovative productivity (e.g. Shanker, et al., 2017). The dimensions have also shown positive relationships to higher sales volumes, market share, profitability, and greater impact from implementing new social and technical systems (like self-managed teams), in addition to implementing more complex work designs (e.g. Davis, 2000; Porzse, et al., 2012). Further, the dimensions have also been linked to perceived support for creativity within organizations (e.g. Biekart, 2014). The dimensions correlate significantly, and in expected directions, with the Survey of Creative and Innovative Performance (Puccio, et al., 1995), as well as an earlier version of KEYS—the Work Environment Inventory (Ryhammar, 1996).

The SOQ has been shown to have adequate levels of internal reliability and stability over time (Isaksen, 2023) and has demonstrated a coherent internal factor structure reflecting the nine dimensions it is designed to measure (Dackert & Carlsson, 2007; Porter, 2010).

Talent Development Scale. For this study, an additional scale, including six items, was developed based on a review of the literature (e.g. Garavan, et al., 2012; Thunnissen & Gallardo-Gallardo, 2019) to assess the efficacy of talent development within the credit union industry. Our emphasis was to develop a scale to assess key programmatic indicators balancing the guidance provided by Holton and Naquin (2004) with the outcomes determined to be important to the organization with whom we collaborated.

One of the issues within the literature is determining how inclusive or exclusive talent development should be (e.g. O'Connor and Crowley-Henry, 2019). The emerging consensus is that work to develop talent should be inclusive (e.g. Kaliannan, et al., 2023). The item was *"People here at all levels of the organization take advantage of development offerings."* Another related item concerned the degree of awareness of opportunities within their organizations (see: Dries, 2013). The item was *"People here at all levels of the organization are aware of development offerings."* A key issue in the literature is the degree to which employees engage in developing talent (Rezaei & Beyerlein, 2018). Thus, the third item related to the degree of active engagement in developing their skills and the item was: *"People here are actively engaged in developing their skills & abilities."*

Another key issue in the literature is the level of motivation and encouragement employees perceive in transferring their training (Cappelli & Keller, 2014). The fourth item related to the degree of encouragement to act on their learning that employees receive. The item was: *"People here are encouraged to take action on their learning."* Another key issue is the role leadership and supervision play in supporting talent development (Maycock & Ikuomola, 2015). The fifth item we included was: *"Leaders here actively support talent development."* Properly designed talent development works, but how employees perceive the effectiveness of delivery and implementation matters (Salas, et al., 2012). The final item within the scale related to the perceived quality of the actual opportunities that are available to employees. The item was: *"People here speak highly of the development offerings."*

These six items were added to the standard 53 items of the SOQ and were scored on the same Likert-type scale ranging from 0 (not at all applicable) to 3 (applicable to a high degree).

Table 1: SOQ dimensions definitions—sample items and references

SOQ Climate Dimension	Definition and Sample Item	Illustrative References
Challenge/Involvement	The degree to which people are involved, interested and engaged in daily operations, long-term goals, and visions. **Sample Item:** People here take a sincere interest in their work.	Lofquist, Isaksen, & Dahl, 2018 **Impact:** Increased well-being, revenue, sales, profits, employee retention, and customer satisfaction (e.g. Harter, Schmidt, Agrawal, Plowman, & Blue, 2020).
Freedom	The degree of independence and autonomy shown by the people in the organization. **Sample Item:** People here make their own choices about their daily work.	Zhang, Zhang, Gu, & Tse, 2021 **Impact:** Stimulates entrepreneurial activity and innovative work behavior (e.g. Burcharth, Knudsen, & Søndergaard, 2017).
Trust/Openness	The level of emotional and psychological safety in relationships. **Sample Item:** People here believe in and trust each other.	Baer, Van der Werff, Colquitt, Rodell, Zipay, & Buckley, 2018 **Impact:** Improved effectiveness of business processes and knowledge sharing (e.g. Ibrahim & Ribbers, 2009).
Idea-Time	The amount of time people can, and do, use for elaborating and developing new ideas. **Sample Item:** People here take time to test new ideas.	Shao, Nijstad, & Täuber, 2019 **Impact:** Allows organizations to deal with competition and grow positive business results (e.g. Adebisi, 2013).
Playfulness/Humor	The degree to which there is an atmosphere of spontaneity and ease displayed within the workplace. **Sample Item:** People here exhibit a sense of humor.	Boekhorst, Halinski, & Good, 2021 **Impact:** Increased cohesiveness, communication effectiveness, workplace innovation behavior; decreased burnout and stress (e.g. Mesmer-Magnus, Glew, & Viswesvaran, 2012).
Conflict	The presence of personal and interpersonal emotional tensions—a negative dimension **Sample Item:** There is a great deal of personal tension here.	Isaksen & Ekvall, 2010 **Impact:** Increased turnover, bullying; decreased knowledge sharing, innovative and citizenship behavior (e.g. Lu, Zhou, & Leung, 2011).
Idea-Support	The way new ideas are treated, considered, and listened to. **Sample Item:** People here receive support and encouragement when presenting new ideas.	Tang, Yu, Cooke, & Chen, 2017 Impact: Increased likelihood of idea and knowledge sharing, and improved idea execution (e.g. Škerlavaj, Černe & Dysvik, 2014).
Debate	The occurrence and open disagreement between viewpoints, ideas, experiences, and knowledge. **Sample Item:** Many different points of view are shared here during discussion.	Kim, David, & Liu, 2020 **Impact:** Increased employee and team innovation performance (e.g. Deng, Lin, & Li, 2021).
Risk-Taking	The tolerance of uncertainty and ambiguity. **Sample Item:** People feel as though they can take bold action even if the outcome in unclear.	Shen, Hommel, Yuan, Chang, & Zhang, 2018 **Impact:** Improved product innovation, organizational resilience and performance (e.g. Castillo-Vergara, & Garcia-Pérez-de-Lema, 2020).

Source: Adapted from Isaksen (2023).

Table 2: Descriptive statistics and correlations

	Mean	SD	1	2	3	4	5	6	7	8	9	10
Challenge and Involvement	228.6	63.0	**.92**									
Freedom	175.3	60.4	.54	**.83**								
Trust and Openness	183.7	67.7	.72	.45	**.79**							
Idea-Time	173.8	72.1	.66	.57	.58	**.90**						
Playfulness and Humor	209.6	63.2	.72	.47	.65	.62	**.88**					
Conflict	81.9	80.4	-.56	-.17	-.58	-.33	-.48	**.92**				
Idea-Support	207.2	73.0	.82	.54	.69	.77	.70	-.51	**.92**			
Debate	194.2	60.8	.60	.48	.48	.58	.54	-.23	.68	**.86**		
Risk-Taking	150.9	62.5	.58	.60	.51	.64	.55	-.18	.65	.63	**.78**	
Talent Development	208.8	72.3	.68	.46	.60	.60	.53	-.40	.68	.46	.46	**.92**

Note: Cronbach's Alpha values are represented in bold along the diagonal. All correlations are significant at the p<.01 level (2-tailed).

Open-ended Questions. Beyond exploring which dimensions of climate were most impactful for the effectiveness of talent development, we deliberately chose a multi-method design enabling us to further explore *why* these dimensions might be relevant (Gibson, 2017). For this purpose, the SOQ included two open-ended questions asking participants to describe the aspects within their work environment which they perceived as most helpful or hindering their personal development.

3. RESULTS

As shown in Table 2, all scales demonstrated a sufficient degree of reliability assessed by Cronbach's alpha (α), and consistent with other applications of the SOQ (e.g. Isaksen, 2023), we found moderate intercorrelations among all climate dimensions. We further found moderate levels of correlations between the talent scale and all positive SOQ dimensions, and negative correlations with the Conflict dimension. The strongest relationships were observed with Idea-Support (.682, p<.01), Challenge and Involvement (.675, p<.01), Idea-Time (.606, p<01), and Trust and Openness (.597, p<.01). The lowest significant correlation with the talent scale was observed with Conflict (-.399, p<01).

3.1. Talent scale

Although our results indicated a high level of reliability of the talent development scale, we conducted further analyses regarding how the six items that were developed for the purposes of this study are contributing to this overall scale. As shown in Table 3, all items demonstrated relatively similar means and dispersion. Furthermore, we found that the overall reliability of the scale would not improve if any of these items would be removed from the scale. An exploratory factor analyses (EFA) with Promax rotation of all items supported the ten-dimensional structure of our data. All six talent development items demonstrated high loadings on their respective factor and no co-loadings above .30 on any other factor representing the SOQ dimensions. These results provide preliminary evidence for the construct validity of the scale as it is operationalized in this study.

Since these items were added to the 53 items of the nine climate dimensions, we assessed the risk of common method variance (CMV) by conducting Harman's single factor test by subjecting all items to an unrotated EFA, revealing that the largest factor only accounted for 40.5% of the variance which is below the commonly used threshold of 50% (Podsakoff et al., 2012). This suggests that although CMV might have influenced the reported results, it does not impose a major limitation.

3.2. Climate's relationship to talent development efficacy

To examine the usefulness of the SOQ dimensions

Table 3: Analysis of talent development efficacy scale

Scale Items	Mean	SD	Scale Reliability (α) if Item deleted	Loadings on Talent Development Factor
1. People here at all levels of the organization take advantage of development offerings.	1.95	.858	.910	.776
2. People here at all levels of the organization are aware of development offerings.	1.97	.868	.911	.925
3. People here are actively engaged in developing their skills and abilities.	2.06	.821	.905	.658
4. People here are encouraged to take action on their learning.	2.31	.810	.903	.763
5. Leaders here actively support talent development.	2.25	.859	.906	.708
6. People here speak highly of the development offerings.	1.99	.914	.899	.785

Table 4: Analysis of variance: climate and talent development

Dimension	Mean			F (2; 494)	p	$_p\eta^2$
	Talent Development Efficacy					
	0–100 (n=49)	101–200 (n=190)	201–300 (n=258)			
Challenge and Involvement	142.29	205.17	262.20	155.281	<.01	.386
Freedom	110.16	163.42	196.48	59.286	<.01	.194
Trust and Openness	106.12	160.95	215.12	98.381	<.01	.285
Idea-Time	97.67	147.07	208.02	96.127	<.01	.280
Playfulness and Humor	149.39	187.29	237.52	77.583	<.01	.239
Conflict	146.29	99.03	57.12	37.010	<.01	.130
Idea-Support	108.98	179.58	246.20	152.983	<.01	.382
Debate	135.04	181.66	214.70	50.246	<.01	.169
Risk-Taking	93.88	133.68	174.42	56.171	<.01	.185

for further application on the concept of talent development, we conducted a multivariate analysis of variance to see if perception of the climate dimensions significantly differs dependent on the perception of talent development. Therefore, we categorized our data into three groups reflecting low, medium, and high perceptions of talent development in the respective credit unions. We found a significant overall interaction effect of talent development on the perception of climate measured by the SOQ dimensions (Wilks' $\lambda = .546$; $F(9,486)=1220.4$, $p<.0001$, $_p\eta^2 = .261$). As shown in Table 4, all SOQ dimensions (except for *Conflict*) are rated significantly higher in those organizations that are perceived as supportive of talent development compared to those that are perceived as unsupportive of talent development. We found the strongest effect sizes ($_p\eta^2$) of this pattern for the Challenge and Involvement, Idea-Support, Trust and Openness, and Idea-Time dimensions.

To determine which of the nine dimensions of the SOQ best predicted the perception of talent development, we conducted a listwise multiple linear regression analysis. Overall, we found that the nine SOQ dimensions account for more than 50% of the variance in talent ratings (adjusted R^2=.526). As displayed in Table 5 below, the Idea-Support and Challenge and Involvement dimensions are the best indicators of talent development perceptions. Furthermore, Idea-Time and Trust and Openness are also suitable indicators. An increase in any of these dimensions indicates an increase in talent development scores. All other SOQ dimensions did not demonstrate statistically significant effects on the prediction of those scores in this model.

Both these quantitative analyses pointed in the

Table 5: Multiple linear regression on talent development efficacy

Climate Dimension	β	t	p
Challenge and Involvement	.282	4.477	.000
Freedom	.078	1.867	.062
Trust and Openness	.167	3.360	.001
Idea-Time	.168	3.226	.001
Playfulness and Humor	-.052	-1.069	.286
Conflict	.024	.568	.570
Idea-Support	.289	4.117	.000
Debate	-.048	-1.055	.292
Risk-Taking	-.066	-1.379	.169

same direction. Although we cannot assign causation to these results, they do point out the degree of association of climate dimensions with the results on the talent development scale. To further explore *why* these four dimensions are particularly associated with talent development efficacy, we selected participants who scored plus (n=75) or minus (n=58) one-half standard deviation on all four of these dimensions to qualitatively examine the narrative comments regarding what makes the difference between high and low manifestations of these dimensions. More specifically, the 133 selected participants, who had either positive or negative perceptions of the four climate dimensions, wrote two narrative comments respectively on the most salient helpful and hindering factors supporting their personal development in their work environment. This resulted in 266 analyzed comments with a total of 6,759 words and an average length of about 25 words per comment.

In a first step of the analysis, we conducted standard data-reduction procedures on the responses to the open-ended questions (Miles, et al., 2020) including open coding of helpful and hindering factors, and constant comparison within and between high and low perceptions of creative climate. Once our independent analysis was completed, we met to present and discuss our findings to ensure that we have a shared understanding of the data and our findings (Timmermans & Tavory, 2012). A summary of the most salient helpful and hindering factors that we derived from the narrative comments can be found in Table 6.

The similarities shown in Table 6 further illustrate that support not only from supervisors, but also from peers was a helpful factor that emerged in context of both, high and low climate perceptions. While the access to development opportunities and resources was also described as generally supportive, the lack of this access was particularly salient in context of low climate perceptions and frequently described as unfair. The differences provide deeper insights into potential mechanisms for why the four climate dimensions might be relevant for talent development. This includes on-the-job-learning and a collective engagement in development activities (i.e. peers pushing and helping each other to exceed) combined with feelings of safety to share ideas and a sense of efficacy to succeed in (co)-creating personal development opportunities.

To dig deeper into these relationships, we deductively coded the helpful and hindering factors in Table 6 into the four relevant climate dimensions (Challenge and Involvement, Trust and Openness, Idea-Time, Idea-Support) based on their definitions (see Table 1). Further, we contrasted positive and negative manifestations of each dimension and selected power quotes (Pratt, 2008; Rockman & Vough, 2023) to illustrate how participants expressed their perception of these climate dimensions.

Our qualitative results suggest that Idea-Support reduces barriers to engage in personal development. More specifically, participants emphasized how guidance and encouragement on their ideas helps them to develop a sense of efficacy for acting on their learning and exploring development opportunities as illustrated by the verbatim quotes below.

> *My supervisor is very supportive of me and encourages me to step out of my comfort zone. We work well together to come up with new ideas and to test them out together. I never am made to feel stupid when expressing my ideas, concerns, etc. (participant 14, positive perception of the Idea-Support dimension)*

> *One of my development goals for this year seems to have been pushed aside and was*

Table 6: Helpful and hindering factors for talent development efficacy

Low perception of creative climate dimensions[b] (N=58)	Similarities	High perception of creative climate dimensions[c] (N=75)
HELPFUL FACTORS[a]		
• none • independent work	• support from supervisors and leaders • support from peers • access to opportunities and other resources for personal development • flexibility and self-paced learning	• encouragement and efficacy for personal development (idea-support) • on-the-job-learning and knowledge-sharing (idea-time) • open communication and safety to share ideas (trust and openness) • collective enthusiasm for personal development (challenge and involvement)
HINDERING FACTORS[a]		
• limited access to opportunities and other resources for personal development • lack of open communication and safety to share ideas (trust and openness) • discouragement and lack of efficacy for personal development (idea-support) • resistance to change and lack of engagement (challenge and involvement)	• lack of time and focus for personal development (idea-time) • lack of support from supervisors • unrealistic goals	• none • policies and procedures

[a] Helpful and hindering factors are presented in descending order based on their relevance in the narrative data.
[b] Participants who scored one standard deviation below the sample mean in all dimensions of creative climate that are significantly associated with talent development efficacy: challenge/involvement, trust/openness, idea-time, idea-support.
[c] Participants who scored one standard deviation above the sample mean in all dimensions of creative climate that are significantly associated with talent development efficacy: challenge/involvement, trust/openness, idea-time, idea-support.

> *told "if you'd like to continue this past this year, you'll have to do so on your own time." This was extremely discouraging as this was a development item that was HIGHLY suggested to me and once I saw the benefits it had for me and I really got excited about it, I felt as if it was no longer allowed. (participant 7, negative perception of the Idea-Support dimension)*

We further found that Challenge and Involvement included not only people's perception of their engagement with their work, but that this dimension can also refer to people's personal development goals. Our results show that being surrounded by others who encourage each other to grow professionally builds business and human connection that spurs development as illustrated by the verbatim quotes below.

> *As my career within (my credit union) has progressed, I have been supported and encouraged to step outside my comfort zone many times, but always with the understanding that I am not doing this alone, but as part of a larger team. (participant 364, positive perception of the Challenge and Involvement dimension)*

> *When we are presented with challenges, and we give solutions we have to jump over multiple hurdles till we just get worn out and stop trying. I feel like that their tactic is to wear us down into obedient robots and it is rather exhausting. (participant 50, negative perception of the Challenge and Involvement dimension)*

Our qualitative findings also highlight the importance of a climate characterized by Trust and Openness for developing talent in organizations. We found an emphasis on a psychologically safe environment, which allows questions and ideas to be shared, and drives both organizational and

individual growth as illustrated by the verbatim quotes below.

> *My team has very strong communication with each other and feels free to be open about their emotions both positive and negative. They consistently provide feedback in an effort to be better […] and are open to sharing new ideas. (participant 218, positive perception of the Trust and Openness dimension)*

> *Member service goes out of their way to bring down the lending department anyway they can, no matter who it hurts. We are all on the same team and should be acting like it, but instead its department vs. department with no end in sight. (participant 56, negative perception of the Trust and Openness dimension)*

The Idea-Time dimension might have a more complex relationship to talent development, as the lack of time and focus for personal development emerged as the most salient hindering factor even among those with relatively high perceptions of this dimension. Yet, the key difference for people with low perceptions of Idea-Time was that people in the high Idea-Time context also mentioned that they feel empowered to make time for their development and that of others on-the-job, as illustrated by the verbatim comments below.

> *At a departmental or personal level, it helps to knowing I can take the time for free learning experiences as long as I can fit them into my schedule—for example, I can plan to attend a free webinar or take a free online learning class without first getting permission to take the time to do so. (participant 8, positive perception of the Idea-Time dimension)*

> *I have no time to pursue development. If and when I attend a conference, I come back to the office bogged down without any relief. I would like to pursue more opportunities but can't afford to because of the backlog of work I have even being out for one day generally. (participant 68, negative perception of the Idea-Time dimension)*

3.3. Key antecedents of talent development efficacy

Our narrative results summarized in Table 6 also include other helpful and hindering factors that do not fall directly into the definitions of positive or negative manifestations of the creative climate dimensions. Based on the descriptions and the logic of the model presented in Figure 1, we considered these factors as potential antecedents of climate. Two particularly salient antecedents of the four climate dimensions emerged from our analysis. First, we found that beyond direct supervisors and senior leaders the behavior of peers is an important driver of how much support people perceive for their personal development in their immediate work environment as illustrated by the comments below.

> *What is most helpful in my opinion is the support I receive from co-workers and from management as well. If I ever run into any obstacles, I would turn to either a co-worker or manager for reference on how to move forward and I always get the best feedback from each and every one of them. (participant 160, perceived support from supervisors and peers)*

> *One big thing that hinders my development is having a manager that is usually not approachable. Most times I approach this person, they are rude and not helpful. My coworkers and I walk on eggshells around this person and don't feel like we can talk to her unless we already know she is in a decent mood. (participant 45, perceived lack of support from supervisors)*

Second, we identified an equal access to development resources and opportunities as another key factor shaping people's perceptions of their work environment. The comments suggest that this is not necessarily about "more is better," but that it is rather more about the perception of how the resources and opportunities are distributed and made available.

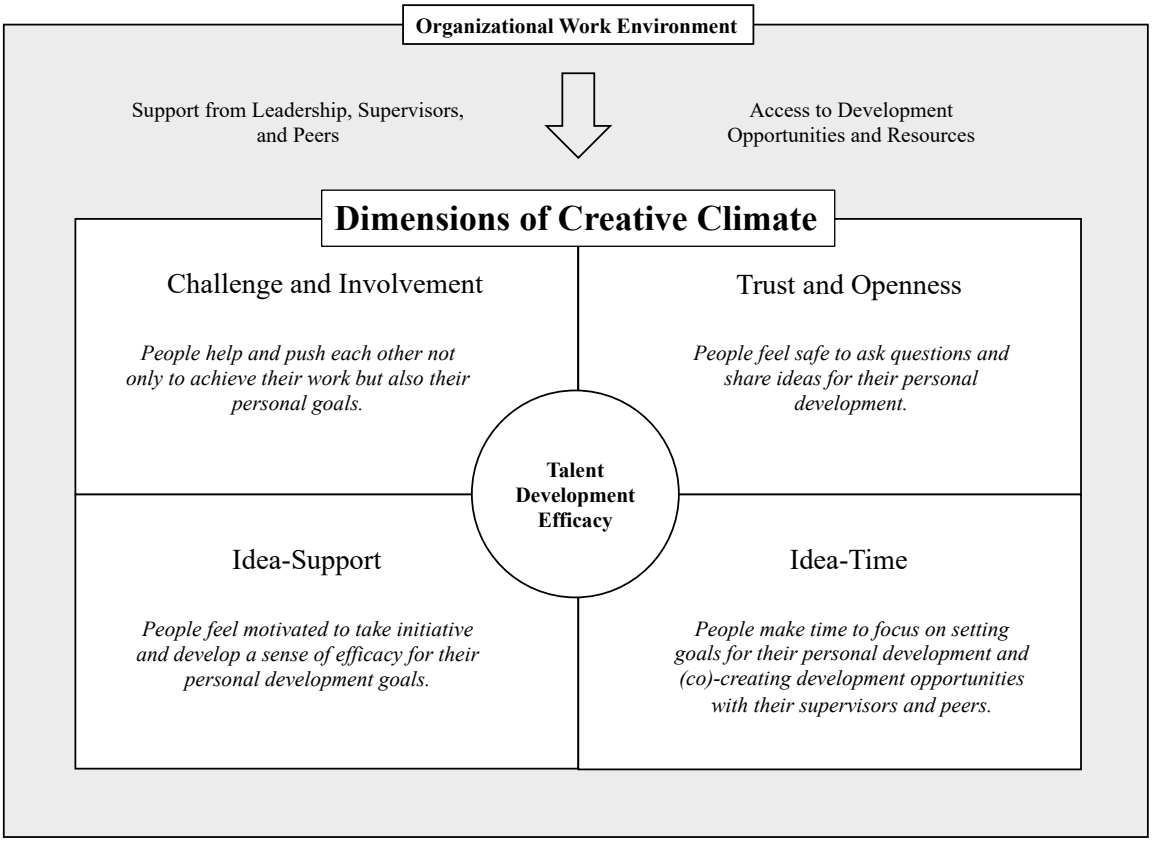

Figure 2: Linkages between dimensions of creative climate and talent development efficacy

I think we have fair opportunities to attend conferences and training. The education reimbursement is a nice benefit. (participant 43, perceived access to opportunities and other resources for personal development)

As the focus on which level of employees to focus development training on has changed year to year and my level has changed, I've missed many sponsored courses. (participant 116, perception of limited access to opportunities and other resources for personal development)

Triangulating our quantitative and qualitative findings creates a relatively clear picture as to which of the dimensions of creative climate are most relevant and how they might influence talent development in organizations. All nine dimensions of creative climate were significantly correlated with perceptions of talent development efficacy, yet our regression results identified four dimensions as most relevant predictors. Two key precursors for climate were also identified. We summarized the overall findings from these results in Figure 2.

4. DISCUSSION

Our study explored the relationship between talent development and the organizational context for creativity and innovation—an area in which there is a clear paucity of research. It appears that when talent development efforts are perceived as more effective and available, there is a corresponding positive climate and work environment, and vice versa. The literature shows that having this kind of work environment derives numerous other organizational benefits such as: increased organizational citizenship behavior (Pierce & Maurer, 2009); increased organizational

commitment (Khan & Iqbal, 2020); improved innovative work behavior (Sayyam & Hamayun, 2020); decreased turnover intentions (Fang, et al., 2020), and increased organizational effectiveness and performance (Collings, et al., 2019), among others.

4.1. Climate dimensions

A relatively clear picture emerges to describe the nature of the social interactions and work atmosphere that relate to talent development. All positive climate dimensions demonstrate a positive relationship, and the existence of personal tensions and Conflict produced a significantly negative relationship to talent development. This finding is consistent with other literature that points out the unproductive impact of Conflict on numerous organizational outcomes such as perceptions of leader behavior (Zhao, et al., 2019), team effectiveness (Shah, et al., 2021), and turnover intentions (Namin, et al., 2021), among others.

Idea-Support involves encouraging people to share their ideas and receiving these suggestions in an attentive and kind manner. It has been shown to substantially increase creative performance (e.g. DiLieillo, et al., 2011), as well as the execution and implementation of new ideas (Škerlavaj, et al., 2014). To have Idea-Support, Idea-Time is also required. Although it is generally agreed that intense workload pressure has negative consequences for producing creative outcomes, the business case for flexible work-time arrangements has been mixed (e.g. De Menezes & Kelliher, 2011; Xiang, et al., 2021). These mixed results could be due to the general finding that there is an inverted U relationship between time and work-load pressure and innovative work behavior (e.g. Montani, et al., 2020). The implication is that there is a 'sweet spot' between not having enough time and having too much.

A key implication arising from our findings is that beyond integrating some slack within workday design (Bentley & Kehoe, 2020), and reducing workload and time pressure, organizations should also explicitly empower employees to make time for their personal development. This involves integrating development time in individual work schedules, but also guidance from supervisors helping employees to prioritize where they should invest their time for personal development.

When people observe higher levels of Challenge and Involvement, they experience higher degrees of meaningfulness and vitality in their work (e.g. Cohen-Meitar, et al., 2009), higher levels of creative performance (e.g. Garcia-Buades, et al., 2016), as well as higher levels of work engagement (e.g. Lofquist, et al., 2018). These conditions increase the likelihood of engagement in learning and applying new skills and abilities, as well as well-being. To use this motivating potential driven by high levels of Challenge and Involvement, organizations could promote collaboration within and between teams and involve a wide range of employees in talent development activities.

When employees observe high levels of Trust and Openness, they are more likely to engage in knowledge-sharing and express their needs and interests with each other and with those in supervisory roles (e.g. Mehmood, et al., 2021). When people observe this quality of interaction among multiple levels within the organization, they may also be more likely to engage in meaningful dialogue with those who can assist them in identifying productive pathways for developing talent. Trust and psychological safety have demonstrated clear linkages with individual creativity and organizational innovation (e.g. Akter, et al., 2021; Wang, et al., 2018).

To build high levels of Trust and Openness organizations should promote within and cross-team communication. This involves celebrating successes and failures, talking openly about ambitions, needs, or anxieties, in addition to adhering to transparent and consistent promotion criteria and setting examples against dishonest behavior such as stealing ideas. Visiting or shadowing other departments are other examples of development opportunities mentioned by participants that would also promote cross-team communication and knowledge-sharing.

Organizations can take deliberate effort to improve each of these dimensions (e.g. Gundry, et al., 1994; Isaksen & Tidd, 2006). Leadership teams that have reviewed results from the SOQ have been able to target specific dimensions that, if improved, would impact their strategy. For example, Isaksen

and Tidd (2006) reported that an electrical engineering division within a larger global organization applied the SOQ and targeted the Challenge and Involvement dimension which was much lower than they needed to conduct their transformation efforts. They designed and delivered monthly all-employee meetings to review their strategy and report on performance. They actioned numerous efforts for all four of the dimensions they targeted, and after 13 months they completed the SOQ a second time. The leadership team also used the narrative results to obtain a more holistic understanding of what was working, what needed to be improved, as well as specific suggested actions to be taken. They were able to significantly improve all four dimensions upon which they focused, along with two other dimensions. More importantly, they were able to demonstrate real progress on achieving their strategic goals.

4.2. Key antecedents

The results from the narrative data in response to what hindered or helped employees engage in developing talent identified two broad factors beyond the four dimensions that influenced the relationship between climate and developing talent. The importance of leadership behavior in creating a climate for creativity, innovation, and change is well supported in the literature (e.g. Isaksen, 2017; Sheffield, et al., 2022). When we examined the helps and hinders narrative comments it became clear that leadership influence occurred at multiple levels. Senior leaders, who are at a more distal level, communicated the strategy of the organization and emphasized the importance of engaging in developing talent to meet the mission. Leaders at a more proximal level, such as supervisors and front-line managers, exerted a strong influence as well.

Our findings are consistent with the results of Swinnen, et al., (2019) who found that the influence of leadership behavior on climate was stronger when it was analyzed at the proximal versus the distal level. Further support for the importance of the influence of leaders at lower levels of the organizational hierarchy was provided by Kilroy, et al., (2023). They reported that supervisors and front-line managers were key mediating agents in the causal chain between HR policies and actual relationship practices within the workplace. These leaders create a 'zone of reciprocity' which describes a broad sphere of social interactions and influences.

Our results also underscore the importance of informal leaders, such as those colleagues and peers perceived as thought-leaders who influenced the relationship between climate and talent development by providing support, encouragement, and role models for individuals who take initiative. This novel finding could open important conceptual and empirical inquiry into the linkages between informal social networks and their influence on developing talent (e.g. White, et al., 2016).

The second major broad antecedent factor we observed based on the narrative comments was the importance of the availability of a variety of resources. These resources fall into three main sub-categories, the first of which is having access to a wide variety of learning opportunities. The opportunities can be formal or informal, and internal or external to the organization. This finding is consistent with other research that indicates perceived investment in training and development opportunities has a positive effect on lowering turnover intention, and increasing task performance, organizational citizenship behaviors, and initiative for making productive changes (e.g. Dysvik, et al., 2016). This is an important finding considering the great resignation (Liu, 2023), and is also highlighted by a recent survey from the Society for Human Resource Management (2022) that 76% of employees are more likely to stay with an organization that provides continuous training.

The second major theme relating to resources is having adequate levels of time, technology and budget. Participants in our study indicated that on the one hand, having adequate technology to perform their jobs was important. On the other hand, they also wanted to use technology to be able to access training and learning opportunities. Time and money are often considered scarce resources, and both have been shown to effect creative behavior (e.g. Gong, et al., 2020), and are likely to effect engagement in developing talent.

The third resource theme concerned staffing and workload pressure. Our narrative comments demonstrated how these two aspects were

interrelated, and is supported by Gutnick, et al., (2012). They proposed a double mediation model in which two states can evolve from workload pressure. The first considers the pressure as a challenge and requires some degree of flexibility to respond. The second considers pressure as a threat and requires persistence as a response. They asserted that having adequate levels of physical, personal, social and organizational resources, as well as employee commitment can influence the positive or negative consequences of workload pressure. A climate for creativity, innovation, and change, can influence how the challenge of pressure is perceived, and affect overall engagement in developing talent.

4.3. Limitations and future research

Our results should be considered in light of several limitations pointing the way forward for future research. Our study was cross-sectional and relied on a single source so the results may have limited generalizability. The dimensions of the SOQ were significantly correlated so some caution is warranted regarding the regression results and there was some variance inflation. We used a sample of convenience and not a random sampling of all types of organizations. Females were heavily represented within our sample, and the participants held relatively positive perceptions of their climate, so future research should seek a better sampling balance and move beyond self-report measures. Further replication and extension are recommended.

Although the multi-method survey instrument that we used in this study allowed us a comprehensive quantitative and qualitative assessment of the perception of different climate dimensions, the narrative comments had only an average length of 25 words. Thus, they only reflected a brief description of the most salient helpful and hindering factors that people recalled from their memory when they took the survey. To further explore the underlying mechanisms how climate dimensions influence talent development efficacy, future research should draw on richer qualitative data including observations, interviews, and documentations of internal communication (e.g. e-mails). Taking this further, a multiple case-study approach is particularly promising to provide a more in-depth comparison of high and low manifestations of creative climate and their implications for the efficacy of talent development.

Our findings are also grounded in the credit union context prior to the pandemic. It is likely that crises will impact numerous organizational attributes such as versatility (Kaiser, 2020), and well-being (Pipera & Fragouli, 2021), as well as engagement in developing talent. It is likely that given the digital transformation and virtual working, it will be important to conduct research in organizations that work almost completely virtual, and therefore, may have distinct patterns of communication and interaction among their members.

Our results indicated a positive impact of the climate for creativity, innovation and change on talent development efficacy within the credit union context. Although these findings seem logical, it is also possible that this efficacy leads to more positive perceptions of creative climate. Further research is necessary to determine the causal directionality of this relationship.

Our results on the talent scale were promising, particularly when it came to its internal consistency and factor structure. Much more work needs to be done to further validate the scale, particularly to examine its boundary conditions relative to more general concepts like talent management and HRM. Given our results, it may also be important to include items relating to the actual quality of the talent development practices such as training.

5. CONCLUSION

This study supports the two inter-related and strategically important tasks for thriving in organizations: establishing a productive working environment and providing opportunities for learning. The work environment for creativity and innovation is clearly inter-related to the efficacy of talent development, and doing both provides many other benefits to the organization and its employees. Building these capabilities would help organizations respond to the many strategic challenges and disruptions they face today and in the future.

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