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A Practical Scale for Multi-Faceted Organizational Health Climate Assessment

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The current study sought to develop a practical scale to measure 3 facets of workplace health climate from the employee perspective as an important component of a healthy organization. The goal was to create a short, usable yet comprehensive scale that organizations and occupational health professionals could use to determine if workplace health interventions were needed. The proposed Multi-faceted Organizational Health Climate Assessment (MOHCA) scale assesses facets that correspond to 3 organizational levels: (a) workgroup, (b) supervisor, and (c) organization. Ten items were developed and tested on 2 distinct samples, 1 cross-organization and 1 within-organization. Exploratory and confirmatory factor analyses yielded a 9-item, hierarchical 3-factor structure. Tests confirmed MOHCA has convergent validity with related constructs, such as perceived organizational support and supervisor support, as well as discriminant validity with safety climate. Lastly, criterion-related validity was found between MOHCA and health-related outcomes. The multi-faceted nature of MOHCA provides a scale that has face validity and can be easily translated into practice, offering a means for diagnosing the shortcomings of an organization or workgroup's health climate to better plan health and well-being interventions.

Keywords: health climate, healthy organization, workplace health, workplace health and safety

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Of growing interest to many researchers and organizations is how to make organizations healthier. Two reasons for this growing interest are rising health care costs and the many negative organizational outcomes associated with having unhealthy workers (Samantaray, 2010). Our goal in the present study was to respond to this growing interest by defining a new construct—health climate—and developing a way to measure this construct as one of several key components of a healthy organization.

Healthy Organizations and Organizational Health Climate

Although the concept of a healthy organization has general appeal, researchers' definitions of a "healthy organization" have varied widely. Early conceptualizations of a healthy organization had little to do with the actual physical health of the employees, they focused instead on characteristics of the organization itself; one that is competitive, innovative, shows growth, and is adaptive (Hofmann & Tetrick, 2003). This viewpoint might consider employee well-being and organizational performance to be opposing forces because of company growth and competitiveness coming at a cost of excessive demands on employees. However, occupational health and safety experts argue that in a healthy organization, performance and well-being would not only be compatible but also mutually reinforcing (Sauter, Lim, & Murphy, 1996). The definition of organizational health has now evolved to specifically include employee health and company resources for employee health in addition to the financial bottom line (Kelloway & Day, 2005; Murphy, 1998).

Employee perceptions about health in the organization are a critical component to a healthy organization, which motivated our development of a new construct and practical measure of organizational health climate. Employees have some awareness of the existence of organizational resources relating to employee health, and these perceptions are known to guide their workplace behaviors and attitudes (Vandenberg, Park, DeJoy, Wilson, & Griffin-Blake, 2002). However, it is possible that the employees have very different perceptions about workplace health than management does. Management might think that the organization has taken the necessary steps to provide the resources needed to create a work environment that supports, maintains, or improves employee health and well-being, whereas employees might perceive that the organization has done very little in this regard.

For the purpose of the present study, we define health climate as "employee perceptions of active support from coworkers, supervisors and upper management for the physical and psychological well-being of employees." This conceptualization of health climate encompasses a number of factors such as organizational norms and values, organizational programs, employee attitudes, social support, and environmental conditions. By definition, this conceptualization of health climate measures employee perspectives of key dimensions of organizational function in relation to how each supports employee health, and can, therefore, serve as one component of the broader conceptualization of a healthy organization.

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In the current study this proposed definition of health climate is operationalized, validated, and tested in regard to its potential ability to predict both health and work-related outcomes.

Previous Conceptualizations of Health Climate

Health climate has been touched upon in the literature before (Basen-Engquist et al., 1998; Ribisl & Reischl, 1993), yet previous conceptualizations of health climate have fallen short of creating a practical and comprehensive scale for measuring workplace health climate. Initially, Ribisl and Reischl (1993) developed the Worksite Health Climate Scale (WHCS) that consisted of 62 items that represent 12 subscales (e.g., nutrition norms, smoking norms, job tension norms, job flexibility to exercise, and supervisor social support) and that is, unfortunately, too lengthy to use in most organizational survey efforts. The other existing health climate scale was developed by Basen-Engquist and colleagues (1998) for the purpose of measuring both health climate and safety climate. Although the 5-item health dimension of this scale is much more practical, its reliability (α = .74) is not very promising and its scope is limited because of a lack of an adequate definition of health climate. Neither of the previous measures explicitly assesses health climate as manifested at different levels in the organization.

Additionally, previous conceptualizations of health climate have also been misclassified in the literature, which may partly explain the subsequent lack of research surrounding health climate. Health climate is often found in the safety climate literature because organizational health and safety are often assessed as one construct (Basen-Engquist et al., 1998; Bjerkan, 2010; Wilson et al., 2004). Although health and safety are undoubtedly related constructs, it is our position that safety represents only one aspect of health and that safety and health may be viewed and prioritized quite differently by organizations and their employees. Although illnesses and injuries can be caused by an occupation, and this would be considered in the realm of workplace safety (Bjerkan, 2010), the organization also pays a role in supporting/facilitating personal health decisions and behaviors that are separate from safety.

If health climate and safety climate are, in fact, two distinct constructs, it is problematic methodologically to combine them into the same measure. For example, in her measurement of health and safety climate, Bjerkan (2010) developed the following item: “I would rather not discuss health and safety environment with my supervisor” (p. 456). Wilson and colleagues (2004) developed as similar item: “There are no significant shortcuts taken when safety and health are at stake” (p. 571). An employee might well be conflicted on how to respond to these items because health and safety can have different meanings. For example, an employee might feel comfortable discussing a safety concern with a supervisor but not personal health issues.

Health Climate and Employee Health

To overcome some of the issues with previous conceptualizations of health climate, in the current study, we provide a clear definition and conceptual development of organizational health climate. Examining health climate from a social exchange theory framework (Blau, 1964), if an employee perceives a quality relationship between the organization and its employees, in terms of the organization valuing the employee’s well-being, then this employee is more likely to behave in ways that benefit his or her organization. This framework is relevant because it has been suggested that different types of workplace culture create different forms of psychological contracts between the employer and employee (Vandenberg et al., 2002). Workers are also known to form distinguishable social exchange relationships with their supervisor, coworkers, and organization (Cropanzano & Mitchell, 2005), which suggests that each one of these is a potential exchange relationship that can uniquely impact employee or organizational health. Social Exchange theory has already been applied to the safety climate literature where it was found that employees who work in an organization where safety is a concern usually reciprocate by complying with safety procedures (Hofmann & Morgeson, 1999). This same relational exchange framework might also impact employee prohealth behaviors in response to an organization that actively promotes employee health and wellness.

The value of examining health climate from three organizational levels that influence employee health can also be explained from a macroergonomics framework (Hendrick, 2002). Design aspects of work systems are known to impact employee behavior via performance-design interactions, and the nature of these interactions is likely to impact employee health. Employees interface with different levels of the work organization, which opens up the possibility of separately examining the effects on each level on employee health and developing targeted interventions to benefit health climate. A similar multilevel assessment approach has been applied in the study of safety climate (Zohar & Luria, 2005).

Summary: The Proposed Multi-faceted Organizational Health Climate Assessment (MOHCA)

The current study describes the development of the Multifaceted Organizational Health Climate Assessment (MOHCA), a survey tool designed to measure the climate for health from the perspective of the employee. Hinkin’s (1998) guidelines for scale development were followed in four phases across two samples: (a) item generation, (b) initial evaluation (exploratory factor analysis), (c) confirmatory factor analysis, and (d) validation. Study 1 consisted of the process of item development and exploratory and confirmatory factor analyses that had to be completed before exploring the validation hypotheses associated with workplace health climate in Study 2, in which MOHCA was tested as a predictor of employee health outcomes as well as an employee’s work attitudes.

Study 1: Scale Development

First, a careful review of the literature on how workplace climates emerge was considered before determining key components of a health climate measure. Schneider and Reichers (1983) point to interactions between individuals as one of the ways that climates are known to emerge in the workplace. Employees display various health behaviors and beliefs at work in in the course of their daily activities while interacting with other coworkers, and this communicates norms and expectations about health to the other workgroup members. For example, employees may talk to each other about health and support each other when health issues become evident, and it is not unusual for coworkers to regularly interact with each other when engaging in unhealthy behaviors (e.g., so-

cializing with coworkers during smoking breaks). Employees are known to identify more closely with proximal relationships, such as with coworkers, than with distal relationships such as with their supervisors or upper management (Larkin & Larkin, 1996). Therefore, the many interactions that occur between individuals who work closely together are likely to impact the way health is viewed by employees. Items for the MOHCA scale were developed specifically relating to the interaction between employees in regards to health behaviors and the norms of health in their workgroup.

The construct of workplace health climate being developed here, however, depends on more than interactions between immediate coworkers. Another theory of how climates emerge in the workplace emphasizes structural aspects, where aspects such as rules and policies and the centrality of decision making are assumed to have a large influence on employee perceptions (Schneider & Reichers, 1983). Therefore, to assess this contribution to workplace health climate, items are included in the MOHCA scale to assess whether the organization provides individuals with resources to be healthy, the extent of communication between the organization and its employees about health, and how well the organization responds to health issues when these arise.

In addition to assessing both the workgroup and organizational dimensions of workplace health climate, items were also included in the scale to assess the contributions of the immediate supervisor because workplace climates can emerge out of a combination of individual interactions with others at work as well as with objective policies (Schneider & Reichers, 1983). Supervisors are in a position to influence the health climate of a workgroup not only by creating rules, setting performance expectations and facilitating employee input on decision making, they can also impact health climate by encouraging healthy behaviors within the workgroup or even beyond the workplace. For example, the organization may provide a health promotion program at the workplace but some supervisors may not encourage subordinates to participate in that program.

The MOHCA scale, therefore, seeks to cover three key facets: workgroup, supervisor, and organization. We developed a pool of prospective items for creating the MOHCA scale and refined the items to create an initial scale that contained items that would operationalize our definition of health climate. Item content within each of these facets was influenced by the authors' experience in conducting focus groups and interviews in field research on Total Worker Health (see Morse, Dussetschleger, Warren, & Cherniack, 2011). For example, focus groups in this research had revealed that social interaction at work often involved engaging in unhealthy behaviors, such as taking smoking breaks together.

All health climate items were required to have clarity and face validity. Limiting the initial scale to 10 items was a goal to facilitate its future practical use while also ensuring there were enough items to maintain sound psychometric characteristics and provide a meaningful construct of health climate. Three items were chosen for each of the workgroup and supervisor facets, and four items were developed for the organization facet. To verify the readability of the health climate items that we chose, we conducted a short study on Amazon's Mechanical Turk to assess whether individuals were interpreting the items in the way in which we intended. This sample consisted of 21 individuals, a third of which had no higher than a high school diploma or GED. In an online survey, participants were presented with each of the items and an interpretation of the meaning of the items. They were then asked for each item whether their interpretation of the item was similar to ours and given three response options that ranged from essentially agreeing with our interpretation to not at all agreeing and were additionally encouraged to write an open ended response. Over 91% of the time participants responded by saying that their interpretation of the scale item was the same as ours. These results suggest consistent readability of the items across various educational backgrounds. Additionally, participants in this study were asked to read each of the items and determine which category the item belonged in (workgroup, supervisor, or organization), categories that were briefly described to participants. Participants placed the items in the correct category 87% of the time, providing evidence for the face validity of each of the three factors.

The 10-item scale that was initially tested is presented in Table 1. A 7-point Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree* was used to assess variability in the construct. Two of the initial items in the scale are reverse-scored because they were negatively worded. A higher MOHCA score indicates a better workplace health climate. The set of directions included on the scale reads:

> When the following items refer to "health and well-being," this covers your physical, mental and emotional health, and their impact on your ability to work and enjoy life.

This set of directions was intended to remind the participant that their state of health also impacts them beyond the workplace.

Method

Participants and procedure. Sample 1—the cross-organization sample—was comprised of 531 full-time working adults. Students from a large university in the Northeast United States and students from two Midwestern Universities recruited study participants (working adults) for this study in exchange for partial course credit for their undergraduate psychology course. This study was approved by the institutional review boards (IRB) of each of the three universities. The data used from this sample came from a larger survey that was conducted for the purpose of gathering data on health, safety, and gender norms across individuals in different jobs/fields. Sample characteristics are provided in Table 2.

Sample 2—the within-organization sample—was obtained by surveying health care employees from a correctional department in the Northeast. These employees took an online survey as part of a larger ongoing project with this organization targeting workplace civility and civility training. University IRB approval was obtained for this project in the correctional health care units. There were 250 of the 796 (31% response rate) full-time employees completed the survey items needed for this study. Sample characteristics are provided in Table 2.

Results

After developing the MOHCA items, the first analysis phase was to examine the initial psychometric properties and initial factor structure of MOHCA. Scale interitem correlations were completed with both Samples 1 and Sample 2. Item 1 was dropped as it correlated less than .40 with each of the other items (Kim & Mueller, 1978).

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Table 1
Health Climate Items and Factor Loadings by Sample

Factor item	Factor Loadings by sample						
		1b			2		
	1a	WG	Sup	Org	WG	Sup	Org
1. In general, employees frequently engage in unhealthy behaviors in my workgroup (*r*, dropped)							
2. If my health were to decline, my coworkers would take steps to support my recovery.	.62	.77			.39		
3. In my workgroup, use of sick days for illness or mental health issues is supported and encouraged.	.75	.86			.57		
4. My supervisor sets performance norms that are in conflict with healthy behaviors (*r*).	.32		.68			.45	
5. My supervisor encourages participation in organizational programs that promote employee health and well-being.	.83		.89			.78	
6. My supervisor encourages healthy behaviors in my workgroup.	.84		.85			.81	
7. My organization is committed to employee health and well-being.	.91			.86			.76
8. My organization provides me with opportunities and resources to be healthy.	.86			.91			.89
9. When management learns that something about our work or the workplace is having a bad effect on employee health or well-being, then something is done about it.	.82			.92			.80
10. My organization encourages me to speak up about issues and priorities regarding employee health and well-being.	.87			.88			.80

Note. Data from Sample 1a were analyzed using principal components analysis where only a one-factor solution was found. Samples 1b and 2 were analyzed using confirmatory factor analysis. (*r*) indicates items that were reverse scored. Item 1 was dropped because of low correlations. WG = workgroup factor; Sup = supervisor factor; Org = organization factor.

The initial factor structure of the 9 items was examined using principal components analysis on a split half of the data from Sample 1, Sample 1a (Tabachnick & Fidell, 1989). A single factor was identified that accounted for 60.75% of the variance. Factor loadings for the 9-item one-factor solution can be seen in Table 1 ($\alpha = .91$).

Following the exploratory factor analysis (EFA), confirmatory factor analyses (CFA) were tested on the 9-item MOHCA in the second random split half of Sample 1 (Sample 1b) and Sample 2 representing both a cross-organization sample and a within-organization sample using Amos 7.0 (Arbuckle, 2006).

In addition to conducting a CFA on the one-factor solution, a higher order three-factor model was also tested in both samples for model comparison to verify that the one-factor solution, as found in the EFA, was the best fit to the data. A three-factor higher order CFA was chosen as a comparison to the one-factor model because it was theorized that there would be one factor for each of the three facets (workgroup, supervisor, and organization), and that these three facets would all contribute to one latent construct of health climate.

The higher order solution had a better model fit than the one-factor solution in each of the two samples (χ^2 difference test: Sample 1b $\chi^2 = 34.2$, $df = 1$, $p < .01$; Sample 2 $\chi^2 = 19.91$, $df = 1$, $p < .01$), and therefore, the higher-order three-factor model was retained. The factor loadings for the paths leading from the second-order factor (health climate) to the first-order factors (workgroup, supervisor, and organization) were all strong at above .9 and disturbances were set to be equal among these factors in this analysis. This model also had adequate fit, as presented in Table 3. The standardized factor loadings from the first-order factors to the items in Sample 1b ranged from .68 to .97, and from .39 to .99 in Sample 2 (see Table 1). Lastly, Tables 4 and 5 provide internal consistency estimates and correlations among the facets.

Study 2: MOHCA Validation

The purpose of Study 2 was to examine the network of constructs surrounding MOHCA through appraisals of convergent, discriminant, criterion-related, and incremental validity. An assessment of the nomological net of constructs surrounding workplace health climate will help to validate the development of MOHCA and its use as a construct important in employee health.

First, because a core component of workplace health climate is to have support from the three dimensions (workgroup, supervisor,

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Table 2
Sample Characteristics

	Sample 1a	Sample 1b	Sample 2
Average age	42	43	43–51
Sex	55% women	55% women	70% women
Education level: College degree or higher	51%	46%	67%
Ethnicity	68% White	69% White	70% White
Job tenure	NA	NA	9.6 years

Note. Sample 2 ($N = 250$) measured age range rather than actual age. Samples 1a ($N = 274$) and 1b ($N = 256$) have a large number of individuals missing sex and did not measure job tenure.

Table 3
CFA Model Fit Statistics for 9-Item Health Climate

	χ^2	*df*	χ^2/df	CFI	RMEA
Sample 1b					
One-factor model	123.07	27	4.56	.95	.12
Hierarchical three-factor model	88.870	26	3.42	.97	.10
Sample 2					
One-factor model	199.76	27	7.40	.85	.16
Hierarchical three-factor model	179.85	26	6.92	.88	.15

Note. Sample 1b $N = 240$, Sample 2 $N = 244$. Hierarchical three-factor models were run with factor disturbances set to be equal. CFA = confirmatory factor analyses; RMEA = root mean square error of approximation.

Table 4
Zero-Order Correlations and Descriptive Statistics for Variables in Sample 1

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11
1. Overall MOHCA	4.7	1.25	(.89)										
2. Workgroup	4.74	1.4	.78**	(.54)									
3. Supervisor	4.73	1.23	.88**	.58**	(.60)								
4. Organization	4.67	1.53	.95**	.624**	.76**	(.91)							
5. Perceived supervisor support	4.95	1.5	.58**	.47**	.53**	.52**	(.89)						
6. Civility norms	5.12	1.42	.52**	.43**	.45**	.49**	.45**	(.88)					
7. Safety climate	5.23	1.3	.66**	.46**	.59**	.65**	.62**	.49**	(.94)				
8. Safety Behaviors	6.03	.95	.29**	.24**	.24**	.29**	.20**	.26**	.41**	(.93)			
9. Healthy days	23.28	7.99	.20**	.14**	.13**	.22**	.07	.06	.09**	.06	NA		
10. Job stress	1.67	1.14	−.25**	−.20**	−.24**	−.23**	−.23**	−.26**	−.22**	−.08	−.07	(.84)	
11. Fatigue	2.85	.86	−.28**	−.23**	−.19**	−.28**	−.17**	−.13**	−.14	−.06	−.47**	.13**	(.84)

Note. Coefficient αs are in parentheses along the diagonal. $N = 530$. MOHCA = Multi-faceted Organizational Health Climate Assessment.
** $p < .01$.

and organization), the relationships among perceived supervisor support (PSS), perceived organizational support (POS), workgroup cohesion, and the entire MOHCA (not broken down by lower level factors) are evaluated to assess convergent validity. The difference between these forms of support and health climate is that PSS, POS, and workgroup cohesion are more general while health climate focuses exclusively on support for health. Despite the differences between these constructs, we would expect there to be a positive relationship between MOHCA and PSS, POS, and workgroup cohesion.

> *Hypothesis 1:* MOHCA will be positively associated with (a) perceived organizational support, (b) perceived supervisor support, and (c) workgroup cohesion.

As discussed previously, health climate is comprehensive in nature because it also assesses the quality of the interaction between individuals and the organization as a relationship. For this reason citizenship behaviors toward other employees (OCB-Es) and civility norms are also examined as evidence of convergent validity. OCB-Es involves helping other employees and taking an interest in their well-being (Williams & Anderson, 1991). Similarly, civility climate is defined as "perceptions of norms supporting respectful treatment among workgroup members" (Walsh, Magley, et al., 2012). Respect for workgroup members is expected to be closely related to caring about the well-being of workgroup members. Therefore, it is expected that OCB-Es and civility norms will be positively associated with MOHCA.

> *Hypothesis 2:* MOHCA scale will be positively associated with (a) citizenship behaviors toward employees and (b) civility norms.

To assess the discriminant validity of MOHCA it is important to distinguish this construct from safety climate. Health climate and safety behaviors are likely to be related constructs because health is an outcome of being safe. However, being in a workplace where safe behaviors are commonplace doesn't necessarily mean that there is a workplace climate for promoting health. Therefore, we hypothesized that the MOHCA scale will be positively related to safe behavior but that this correlation would be significantly lower than the correlation between safety climate and safety behavior.

> *Hypothesis 3:* MOHCA will be positively associated with safety behavior, but this correlation will be significantly lower than the correlation between safety climate and safety behavior.

To examine the criterion-related validity of the MOHCA scale, the association of the workplace health climate scale and several health-related constructs was assessed. Specifically, the association between health climate and job stress, burnout, fatigue, and "healthy days" (a measure developed by the Centers for Disease

Table 5
Zero-Order Correlations and Descriptive Statistics for Variables in Sample 2

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1. Overall MOHCA	3.66	1.28	(.89)									
2. Workgroup	4.12	1.41	.70**	(.50)								
3. Supervisor	3.75	1.40	.92**	.50**	(.71)							
4. Organization	3.35	1.48	.95**	.53**	.83**	(.88)						
5. Perceived organizational support	2.88	1.58	.67**	.38**	.60**	.70**	(.96)					
6. Workgroup cohesion	4.83	1.53	.45**	.53**	.34**	.37**	.29**	(.92)				
7. Organizational citizenship behaviors	6.02	.89	.23**	.24**	.20**	.20**	.21**	.23**	(.90)			
8. Civility norms	4.09	1.50	.58**	.50**	.49**	.54**	.41**	.65**	.20**	(.74)		
9. Job stress	1.21	.65	−.45**	−.39**	−.40**	−.40**	−.33**	−.33**	−.14**	−.37**	(.85)	
10. Burnout	4.52	1.29	−.41**	−.38**	−.38**	−.36**	−.37**	−.33**	−.36**	−.29**	−.41**	(.67)

Note. Coefficient αs are in parentheses along the diagonal. $N = 250$. MOHCA = Multi-faceted Organizational Health Climate Assessment.
** $p < .01$.

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Control to measure overall health) is examined. Using the social exchange theory framework as well as previous findings about healthy organizations, it was expected that a positive workplace health climate would be associated with better employee health. Further, it was expected that health climate would incrementally impact these health-related constructs beyond the effects of the similar constructs of perceived support and workgroup cohesion.

Hypothesis 4: MOHCA will be negatively associated with (a) job stress, (b) burnout, and (c) fatigue.

Hypothesis 5: MOHCA will be positively associated with healthy days.

Hypothesis 6: MOHCA will be negatively associated with (a) job stress, (b) burnout, and (c) fatigue and beyond the effects of perceived organizational support, perceived supervisor support and workgroup cohesion.

Hypothesis 7: MOHCA will be positively associated with healthy days beyond the effects of perceived supervisor support.

Lastly, the incremental contribution of MOHCA to health-related outcomes is predicted beyond the effects of safety climate to support the argument that health climate is more comprehensive in terms of employee health than safety climate.

Hypothesis 8: MOHCA will be negatively associated with (a) job stress and positively associated with (b) healthy days beyond the effects of safety climate.

Method

Sample and procedure. Samples 1 and 2 from Study 1 were also used in the validation of the MOHCA in Study 2. Participants from both samples took online surveys (different for each sample) that included the MOCHA. MOCHA scores were calculated using the mean of the nine items. The measures used for validation and their αs in this study can be seen in Table 6. Reliabilities for these scales were all above .70 with the exception of burnout which had an α of .67. Complete correlation tables can be seen in Tables 4 and 5.

Hypotheses were tested in each sample depending on availability of constructs in that sample. The following results present the correlations between the overall 9-item MOHCA scale and variables of interest rather than the three individual factors because it was of primary interest to determine the validity of this underlying factor of health climate.

Results

Hypotheses 1 through 6 were tested via a series of correlations in Sample 1 and also in Sample 2. The MOHCA scale was positively correlated with perceived organizational support ($r = .67$, $p < .01$) and workgroup cohesion ($r = .45$, $p < .01$) in Sample 2, supporting Hypotheses 1a and 1c. MOHCA was also positively correlated to perceived supervisor support ($r = .58$, $p < .01$) in Sample 1 in support of Hypothesis 1b. Hypothesis 2a was supported in Sample 2 with the significant positive correlation between MOHCA and citizenship behaviors toward other employees ($r = .23$, $p < .01$). Both samples provided support for Hypothesis 2b indicating a strong positive correlation between health climate and civility norms (Sample 1: $r = .52$, $p < .01$; Sample 2: $r = .58$, $p < .01$). Support of Hypotheses 1 and 2 provides evidence for the convergent validity of the MOHCA scale.

Hypothesis 3 posited that MOHCA would be positively associated with safety behaviors, but that this correlation would be lower than the correlation between safety climate and safety behaviors. Results from Sample 1 indicate that the correlation between MOHCA and safety behaviors ($r = .29$, $p < .01$) is weaker than the correlation between safety climate and safety behaviors ($r = .41$, $p < .01$). This support for Hypothesis 3 provides evidence for discriminant validity with the MOHCA scale.

Hypothesis 4a was supported by results from both samples. Job stress was negatively correlated with MOHCA in Sample 1 ($r = -.25$, $p < .01$) and Sample 2 ($r = -.45$, $p < .01$). Hypothesis 4b was tested and supported in Sample 2; MOHCA was negatively correlated with burnout ($r = -.41$, $p < .01$). Hypothesis 4c was tested and supported in Sample 1; MOHCA was negatively correlated with fatigue ($r = -.28$, $p < .01$). Hypothesis 5 was also tested and supported in Sample 1; MOHCA was positively correlated with “healthy days” ($r = .20$, $p < .01$).

To test Hypotheses 6, 7, and 8, hierarchical regression analyses were performed to examine the incremental contributions of MOHCA to health related outcomes (see Tables 7 and 8). In Sample 1, Hypothesis 6a, 6c, and 7 were tested separately by first entering perceived supervisor support in Step 1 of the regression, and then entering MOHCA in Step 2 with job stress, (6a) fatigue

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Table 6
Validation Measures

Construct	Source	Number of items	Sample 1 α	Sample 2 α
Perceived supervisor support	Eisenberger, Stinglhamber, Vandenberghe, Sucharski, and Rhoades (2002)	3	.89	
Job stress	Stanton, Balzer, Smith, Parra, and Ironson (2001)	4	.84	.85
Civility norms	Walsh et al. (2011)	4	.88	.74
Fatigue	Chalder, Berelowitz, Pawlikowska, Watts, Wessely, Wright, and Wallace (1993)	3	.84	
Healthy days	Moriarty, Zack, and Kobau (2003)	1		n/a
Safety climate	Hayes, Perander, Smecko, and Trask (1998); Neal and Griffin (2006)	7	.94	
Safety behaviors	Neal and Griffin (2006)	3	.93	
Burnout	Demerouti, Bakker, Nachreiner, and Schaufeli (2000)	4		.67
Perceived organizational support	Eisenberger, Huntington, Hutchinson, and Sowa (1986)	4		.96
Workgroup cohesion	Walsh, Matthews, Tuller, Parks, and McDonald (2010)	4		.92
Citizenship behavior toward employees	Williams and Anderson (1991)	2		.90

Table 7
Incremental Contributions of Health Climate in Predicting Health-Related Outcomes in Sample 1

Variable	Job stress β	Job stress ΔR^2	Fatigue β	Fatigue ΔR^2	Healthy days β	Healthy days ΔR^2
Model 1		5.2%		3.1%		.6%
Perceived supervisor support	−.23***		−.17***		.08	
Model 2		1.9%		5%		4.5%
Perceived supervisor support	−.13*		−.02		−.07	
MOHCA	−.17*		−.27***		.26***	
Total R^2	7.1%		8.1%		5.1%	

Note. Hypotheses 7a, 7c, and 8. $N = 482$. Standardized coefficients reported.
* $p < .05$. *** $p < .001$.

(6c), and healthy days (7) as the dependent variables. Results from Sample 1 for Hypothesis 6a indicate that perceived supervisor support captures a significant amount of variation in job stress, and MOHCA accounted for an additional 1.9% of the variance in Step 2, thus supporting Hypothesis 6a in Sample 1. Hypothesis 6c was tested in the same way in Sample 1. Results indicate that perceived supervisor support captured a significant amount of the variance in fatigue, and MOHCA did account for an additional 5% of the variance in Step 2, thus Hypothesis 6c was supported. Similarly, Hypothesis 7 was tested on Sample 1 using this same method. Results indicate that perceived supervisor support does not capture a significant amount of the variance in healthy days but that MOHCA does account for an additional 4.5% of the variance, thus Hypothesis 7 was partially supported.

Hypotheses 6a and 6b were also tested in Sample 2. These hypotheses were tested separately by first entering perceived organizational support and workgroup cohesion in Step 1 of the regression and then entering MOHCA in Step 2 with stress (6a) and burnout (6b) as the dependent variables (see Table 8). Results for Hypotheses 6a and 6b indicate that perceived organizational support and perceived supervisor support accounted for a significant amount of the variation in both stress and burnout. MOHCA accounted for an additional 6.1% of the variance in stress and an additional 2.5% of burnout, thus Hypotheses 6a and 6b were supported in Sample 2. Collectively, the findings from Hypotheses 4 through 7 indicate that MOHCA has incremental validity and also has value as a predictor of health-related outcomes.

Hypothesis 8 was tested in Sample 1 to determine the incremental contribution of MOHCA to health outcomes above and beyond safety climate. Hypotheses 8a and 8b were tested separately by first entering safety climate in Step 1 of the regression and then entering MOHCA in Step 2, where *job stress* and *healthy days* were the dependent variables (see Table 9). Results for Hypotheses 8a indicate that safety climate captures a significant amount of variance in job stress (standardized $\beta = -.22$, $p < .001$), and MOHCA accounted for an additional 1.8% of the variance in Step 2 (standardized $\beta = -.17$, $p < .05$, total $R^2 = 6\%$), thus supporting Hypothesis 8a. Hypothesis 8b was tested in the same way in Sample 1. Results indicate that safety climate captures a significant amount of the variance in *healthy days* (standardized $\beta = .10$, $p < .05$), and MOHCA accounted for an additional 4% of the variance in Step 2 (standardized $\beta = .26$, $p < .001$, total $R^2 = 4.9\%$), thus Hypothesis 8b was also supported. Support of Hypothesis 8 suggests that MOHCA has incremental validity over safety climate in predicted health-related outcomes.

Discussion

The purpose of this study was to develop a new scale to measure health climate from the perspective of the employee as an important component of a healthy organization. Characteristics that differentiate this new scale from previous health climate scales are its sound psychometric properties, its clearer definition and classification of health climate, and its practicality and overall usability.

The psychometric properties of the MOHCA were assessed across two samples ($N = 781$). The findings, in combination, suggest a 9-item, higher-order three-factor structure with high internal consistency across samples. The final MOHCA items can be seen in Appendix. This structure will allow researchers and practitioners to use the MOHCA scale to assess the overall latent construct of health climate, as well as to assess the respective contributions of the workgroup, supervisor, and organizational facets separately. This three-faceted approach will also make it possible to diagnose the source of any shortcomings that occur, thereby identifying areas to target with interventions to benefit employee health and well-being.

Table 8
Incremental Contributions of Overall MOHCA in Predicting Health-Related Outcomes in Sample 2

Variable	Job stress β	Job stress ΔR^2	Burnout β	Burnout ΔR^2
Model 1		16.9%		19.1%
Workgroup cohesion	−.26***		−.25***	
Perceived organizational support	−.25***		−.29***	
Model 2		6.1%		2.5%
Workgroup cohesion	−.16*		−.19**	
Perceived organizational support	−.04		−.16*	
MOHCA	−.36***		−.23**	
Total R^2	23.0%		21.6%	

Note. Hypotheses 7a and 7b. Standardized coefficients reported.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 9
Incremental Contributions of Health Climate in Predicting Health-Related Outcomes in Sample 1

Variable	Job Stress β	Job Stress ΔR^2	Healthy Days β	Healthy Days ΔR^2
Model 1		4.7%		1.0%
Safety climate	−.22***		.1*	
Model 2		1.8%		4.0%
Safety climate	−.10		−.08	
MOHCA	−.17*		.26***	
Total R^2	6.5%		5.0%	

Note. Hypotheses 9a and 9b. Standardized coefficients reported.
* $p < .05$. *** $p < .001$.

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The two reverse-scored items (Item 1 [dropped] and Item 4) did not fit well with the other items, which suggested the need to consider using all positively worded items in this scale. As an adaptation of this scale, we later tested an additional positive item for the workgroup facet: "Healthy behaviors are the norm whenever members of my workgroup socialize at work or elsewhere (e.g., eating healthy foods, walking together during breaks)." The addition of this item significantly improved the α for the workgroup facet. Adapting items further may be warranted when the structure of an organization varies, such as an organization that lacks a meaningful workgroup level, or when other organizational levels would be more salient. Involving employees in the process of adapting the MOHCA scale to best fit the levels present in their organization could be a key validation step, as recommended in participatory approaches to survey design and interventions (Nielsen, 2013). The consideration of employees' opinions would also be in line with promoting healthy organization principles and continuous improvement (Henning, Warren, Robertson, Faghri, & Cherniack, 2009). Similarly, results from the confirmatory factor analysis in this study show that there are slight differences between samples on how these items load. Although these differences in CFA results were not major, they are largely present in the workgroup component. This may suggest careful consideration of the target population and whether workgroups represent meaningful aspects of these employees' workplaces.

Results from analysis of the two separate employee samples provided sound evidence for the convergent, discriminant, criterion-related and incremental validity of the 9-item MOHCA. These findings are important because they provide evidence that MOHCA is a distinct construct that explains additional variance in employee health-related outcomes.

Findings from this study point to the importance of encouraging work organizations to promote employee health and well-being generally, both at work and outside of work. The incremental validity of MOHCA provides justification for the necessity of assessing a specific climate centered around health, an important consideration for those researchers and organizations concerned with the negative outcomes associated with poor employee health. Although the incremental validity of MOHCA over measures of safety climate, perceived support, and workgroup cohesion was significant yet appeared to be relatively small in magnitude, any additional explanation of variability in employee health can be considered important given the complex nature of health and its value to organizations. The significant correlations between MOHCA and health-related outcomes suggest a reciprocal relationship in which an employee who perceives the organization to value the employee's well-being is more likely to adopt healthy behaviors that can benefit the organization. When a quality relationship overall is perceived by employees, as exemplified by high MOHCA scores, this can be expected to also benefit employee health-related outcomes.

One major goal in the development of the MOHCA scale was to create a scale that would translate easily from research to practice. Organizations are increasingly focusing on ways to improve employee health given the steady rise in health care costs. The MOHCA scale is not only a manageable-sized scale, it also allows for assessing multiple facets of health climate. Future research studies will be able to examine these three facets of health climate and determine whether they are useful for identifying shortcomings in organizations when planning targeted interventions. For example, if the organizational facet of health climate is strong but the employee facet of health climate is lacking even though health program resources are in place, this may suggest the need to focus intervention efforts on improving employee usability of these programs to create a better overall health climate for employees. Periodic assessment of health climate using MOHCA might also be useful in tracking intervention effectiveness over time.

Limitations and Future Research

Although climate is often conceptualized as a workgroup-level concept, the present health climate scale development and validation effort was done at an individual level. Future studies that conceptualize and examine health climate at the workgroup level may reveal new and equally important relationships that affect employee health-related constructs. Another limitation of this study was the use of self-reported health-related measures rather than objective health measures. The use of objective health measures in future research could establish strong links between health climate and employee health, therefore making health climate a priority to researchers and employers. Future research could also examine the unique contribution of each of the three facets to workplace stressor-strain relationships, and whether high scores in all three facets of health climate are necessary in order for employees' health to fully benefit. Lastly, future research could include an examination of the antecedents of workplace health climate as well other potential work outcomes such as increased productivity or reduced turnover.

Conclusion

With the emergence of major national efforts such as the National Institute of Occupational Safety and Health (NIOSH) Total Worker Health Program dedicated to creating and maintaining healthy workplaces, there is an increasing need for researchers in occupational health psychology to lead efforts to derive new assessment techniques that can be used to support these new initiatives. The MOHCA scale answers a widespread call for better psychometric assessment tools that can be used to examine key components of healthy organizations. As the definitions of healthy organizations and employee health continues to evolve, it is important that our measurement approaches evolve as well. MOHCA can be used to distinguish health climate from safety climate as well as to measure multiple facets of health climate that can contribute to workplace health. This thereby enables researchers to further explore relationships between this component of a healthy organization and employee health/well-being, and many other workplace characteristics and outcomes as well. Lastly, MOHCA offers practitioners a practical new tool for assessing an important aspect of a healthy organization, and in identifying any shortcomings as a first step in developing interventions—an avenue of great need and value to both individual and organizational well-being.

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Appendix

MOHCA Items

Workgroup facet

If my health were to decline, my coworkers would take steps to support my recovery.

In my workgroup, use of sick days for illness or mental health issues is supported and encouraged.

Healthy behaviors are the norm whenever members of my workgroup socialize at work or elsewhere (e.g., eating healthy foods, walking together during breaks)

Supervisor Facet

My supervisor sets performance norms that are in conflict with healthy behaviors (*r*).

My supervisor encourages participation in organizational programs that promote employee health and well-being.

My supervisor encourages healthy behaviors in my workgroup.

Organization Facet

My organization is committed to employee health and well-being.

My organization provides me with opportunities and resources to be healthy.

When management learns that something about our work or the workplace is having a bad effect on employee health or well-being, then something is done about it.

My organization encourages me to speak up about issues and priorities regarding employee health and well-being.

Note. Response scale was a 7-point Likert Scale with options ranging from *strongly disagree* to *strongly agree*. Items should be adapted to reflect appropriate organizational levels for target participants.

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