



# uSPEQ® Employee Climate Survey

## Technical Report August 2008

uSPEQ®

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## Preface

The uSPEQ® Employee Climate Survey is an anonymous and confidential questionnaire for employees to voice their experiences and perspectives, their satisfaction, and their needs. Employees are the backbone of an organization; they are the people planning, developing, and providing services. They implement the mission and vision. Understanding employees' experiences and satisfaction with their jobs can provide important insight into an organization's health. The survey covers areas of employee interest such as organizational culture and outlook, communication, leadership, teamwork, management support, staff support, work environment, staff development, compensation, recognition, and overall job satisfaction. The survey data can be used to assess organizational well-being and performance in key areas of management.

uSPEQ is a national and international pooled data system, featuring a core set of universal questions for national and international benchmark comparisons, an optional set of standardized questions, and the capability to incorporate custom questions to fit an organization's unique data needs. The survey questionnaire is based on an employee climate survey that has been administered in private industry for a decade. In 2005, the survey content was refined through extensive research on factors associated with and components of employee satisfaction. The questionnaire was extensively field tested in 2006. A pilot study was conducted in diverse organizations from the United States and Canada to evaluate the psychometric properties of the revised survey instrument and the feasibility of the survey process. The data were analyzed to refine the questionnaire and to ensure scientific soundness.

# Sample Description

The uSPEQ Employee Climate Survey was pilot tested in thirteen organizations in 2006. Organizations of various sizes, program types, and geographic locales volunteered to be pilot sites. Four were located in Canada, while the rest were distributed across the United States. A range of service populations was also represented (see Table 1). Some organizations provided services in more than one area and are counted in both areas. The size of the organizations ranged from 4 to 514 employees. The breakdown is depicted below (see Table 2). In terms of ownership, ten organizations were private, not-for-profit organizations; and two were private, for-profit organizations (data were unavailable for one organization).

**Table 1. Pilot organizations by provider service area**

Service Type	Number of Organizations
Employment and Community Services	8
Behavioral Health	4
Medical Rehabilitation	1
Aging Services	2
Other	1

**Table 2. Pilot organizations by size**

Number of Employees	Number of Organizations
1 – 99	5
100 – 199	3
200 – 300	2
>300	3

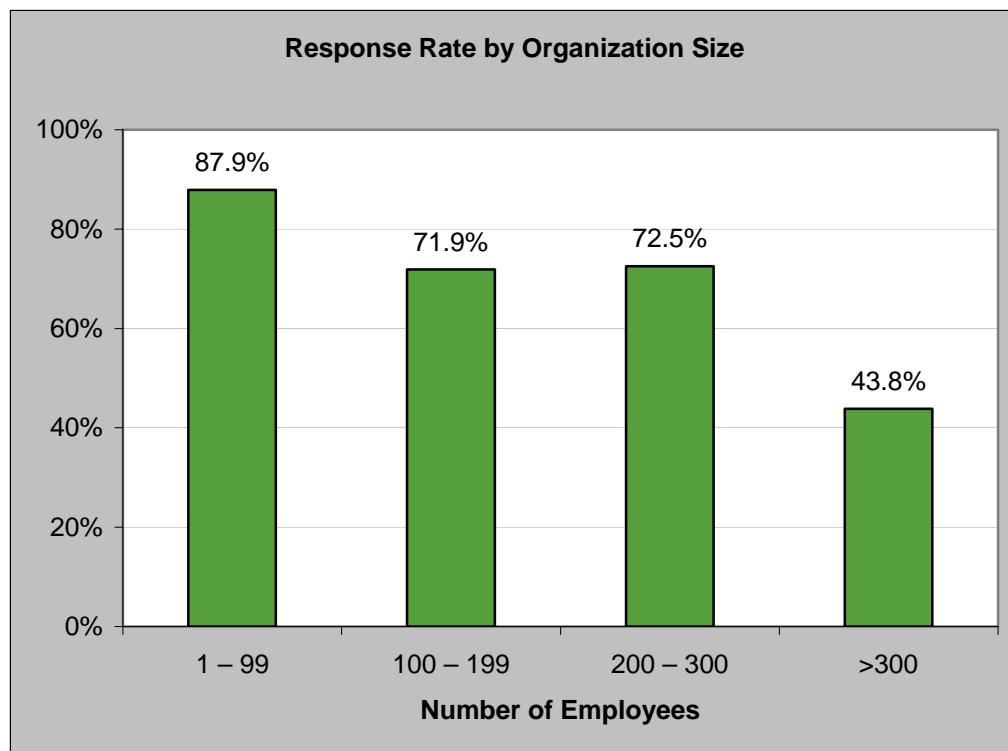
# Survey Implementation

The uSPEQ Employee Climate Survey questionnaire consists of three tiers of items: Tier 1 universal items, Tier 2 optional items, and Tier 3 custom items. Tier 1 (n=35) items are crosscutting in nature, reflecting common concerns of employees from various organizations. They are included in all surveys and become the basis for establishing benchmarks. Tier 2 items are optional, a pool of standardized items from which a subscriber can pick and choose. They are intended to provide greater detail in each of the survey sections. In addition, a subscriber can add a limited number of their own custom questions (Tier 3). Twelve of the thirteen organizations opted to add in Tier 2 items, with an average of 23 Tier 2 items added (range 0-39 items). Eleven organizations also added in Tier 3 custom items, averaging 5 custom items (range 0-15 items). The average number of items across the surveys was 62 items, ranging from 35 to 86 items per survey. The average time to complete 62 items was approximately 14 minutes.

# Response Rate

A total of 1,393 surveys were received from a possible 2,453 employees, or surveys distributed on paper or by e-mail, across the pilot sites (56.8 percent). The response rate for the individual organizations ranged from 27.4 percent to 100 percent, with an average response rate of 71.7 percent (SD  $\pm$ 23.3). The response rate appeared to be inversely related to organization size. Some large organizations included part-time or casual employees, some working only several hours a month, in their number of eligible employees. However, some of the survey items (e.g., medical insurance coverage) did not pertain to the employees' positions in the organizations. Thus, the lower response rate in these organizations may be attributed to part-time staff not completing the survey.

Figure 1. Response rate by organization size



# Item Analysis

## Item response rate

Items on the Employee Climate Survey were organized into tiers, Tier 1 universal items that were included in all surveys and Tier 2 optional items. The response rate for each Tier 1 item was examined to identify any problematic items. Overall, the item response rate was very high, with item response rates ranging from 94.5 percent to 98.6 percent, with an average response rate of 97.0 percent.

## Measures of internal consistency

Classical Test Theory (CTT) was employed in evaluating the psychometric properties of the uSPEQ Employee Climate Survey<sup>1</sup>. The reliability of the survey was established through the following measures:

- Cronbach's alpha
- Inter-item correlation
- Corrected item-scale correlation
- Spearman-Brown split half reliability

Cronbach's alpha is one of the most popular methods to measure the reliability of a survey instrument; e.g., in quantifying the reliability of a score to summarize the information of several items in questionnaires. It indicates the extent to which a set of survey items can be treated as measuring a single latent construct. Although a reliability of 0.70 is considered adequate for a survey instrument, it is desirable for each subscale to be at 0.80 or higher, and for the entire questionnaire to be 0.90 or higher. The uSPEQ Employee Climate Survey has high Cronbach's alpha values, both for items within each domain or subscale (range: .820 to .953) and for the instrument as a whole (.965). Another measure of internal consistency is how the items within a subscale correlate with each other, or the inter-item correlation. One would expect the average inter-item correlation to be  $\geq .3$  in a large sample. A third indicator of internal consistency is the item-scale correlation, or the correlation of a specific item with the total score of the items comprising a scale.

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<sup>1</sup> Two Tier 1 compensation items were not included in some of the reliability analyses, as they are often dependent on an organization's financial limitations due to funding variability. Further, compensation and benefits packages vary greatly between organizations and thus do not necessarily measure an underlying construct.

**Table 3. Reliability statistics (internal consistency)**

Domain	# Items	Reliability (Cronbach's alpha)	Average Inter-item Correlations	Average Item-scale Correlation
Organizational Climate	9	0.893	0.488	0.658
Workgroup	14	0.953	0.586	0.747
Staff Support	6	0.82	0.429	0.589
Overall Job Satisfaction	4	0.921	0.747	0.82
Entire scale	33	0.965	0.456	0.664

The Spearman-Brown split-half reliability coefficient estimates full test reliability based on split-half reliability measures. Items from the scale are randomly sorted into the two forms used to calculate the split-half reliabilities. A common rule of thumb is .80 or higher for adequate reliability and .90 or higher for good reliability. It was .972 for this survey instrument.

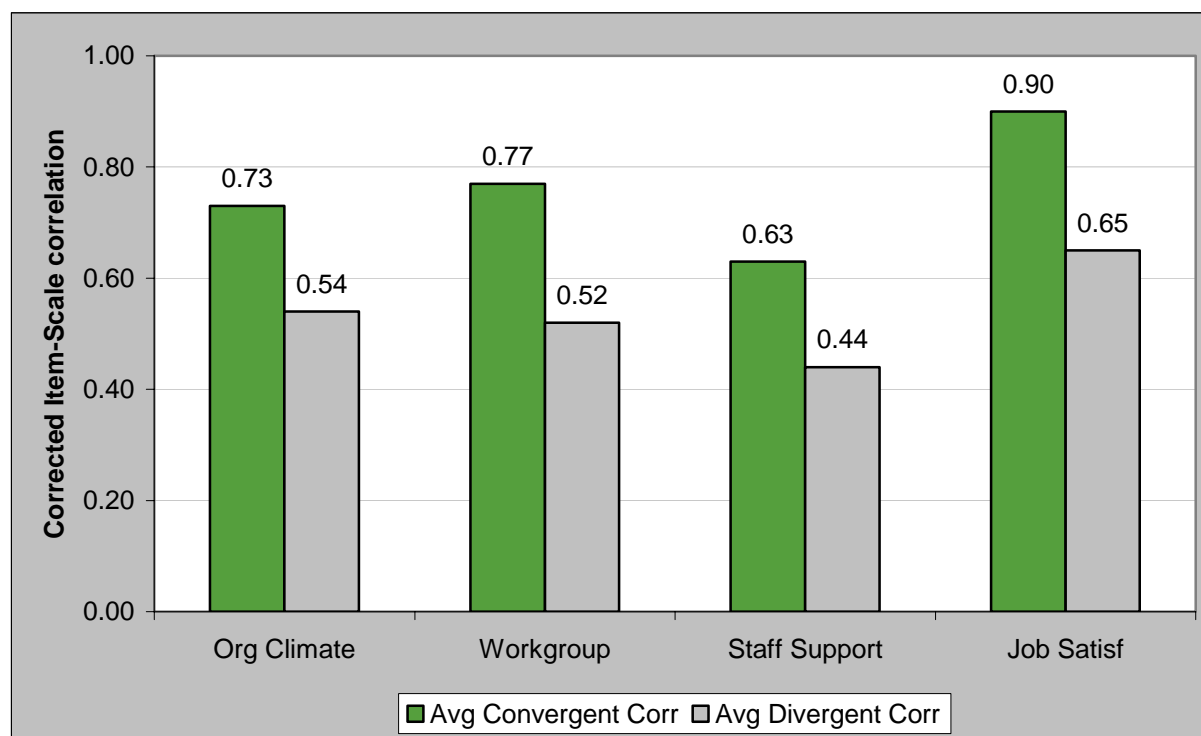
**Table 4. Spearman-Brown Split-Half Reliability Statistics**

	N of Items	Value	
Cronbach's Alpha	Part 1	17	0.937
	Part 2	16	0.928
	Total	33	0.946
Spearman-Brown Coefficient	Equal length		0.972
	Unequal length		0.972
Guttman Split-Half Coefficient			0.970

## Convergent and divergent validity

The construct validity is considered the most valuable indicator of the validity of a survey instrument. There are two forms of construct validity, namely, convergent validity and divergent validity. Convergent validity examines how individual items are related to their own scale or domain. An individual item from a domain should be well correlated with the other items in the same domain. Conversely, divergent (or discriminant) validity examines how individual items in a domain are related to other domains. In general, an item should be more closely related to other items in the same domain or scale than to items in other domains or scales. The figure below provides a graphical contrast between convergent and divergent validities for each domain. Clearly, the uSPEQ Employee Climate Survey has demonstrated good convergent validity and divergent validity.

Figure 2. Average convergent and divergent validity



### Predictive (criterion) validity

Predictive validity indicates the relation between overall satisfaction scores and other content scores that theoretically should be linked to satisfaction. Thus, the survey domains and items should be related to overall job satisfaction. Three multiple regression models were run to determine predictive validity. In the first regression, the survey content domains, Organizational Climate, Workgroup, and Staff Support were examined with a regression model. The model was statistically significant, predicting 66 percent of the variance (adjusted  $R^2=.657$ ).

Table 5. Survey domains ANOVA

Model 1	Sum of Squares	df	Mean Square	F	Sig.
Regression	722.42	3	240.807	859.406	.000(1)
Residual	376.591	1344	0.28		
Total	1099.011	1347			

Predictors: (Constant), Staff Support Domain, Workgroup Domain, Organizational Climate Domain  
 Dependent Variable: Job Satisfaction

In the second model, the subdomains were regressed on the overall job satisfaction scale. The model was statistically significant, predicting 67 percent of the variance (adjusted  $R^2=.665$ ).

**Table 6. Survey subdomains ANOVA**

Model 1	Sum of Squares	df	Mean Square	F	Sig.
Regression	572.287	7	81.755	323.048	.000(1)
Residual	285.468	1128	0.253		
Total	857.755	1135			

Predictors: (Constant), Compensation, Staff Development, Organizational Culture & Outlook, Manager Support, Leadership, Communication, Teamwork  
 Dependent Variable: Job Satisfaction

In the last model, the 31 Tier 1 items in other domains were regressed on the overall job satisfaction domain or scale. The model was statistically significant, predicting 69 percent of the variance (adjusted  $R^2=.686$ ).

**Table 7. Tier 1 items ANOVA**

Model 1	Sum of Squares	df	Mean Square	F	Sig.
Regression	160.336	29	5.529	30.186	.000(1)
Residual	65.572	358	0.183		
Total	225.909	387			

Predictors: (Constant), All survey items (n=31) in other domains  
 Dependent Variable: Job Satisfaction

## Conclusion

The uSPEQ Employee Climate Survey is a turnkey data collection and reporting system designed to assist organizations with performance improvement. It is an anonymous and confidential survey for employees to voice their experiences and perspectives, their satisfaction with their job, and their needs as employees. The survey allows organizations to systematically gather and analyze feedback from their employees regarding the work environment. In turn, the management team uses the reported information to improve organizational climate. The questionnaire originated from a private industry employee survey administered since 1998. In 2005, the questionnaire structure and survey items were refined through extensive research on factors associated with and components of employee satisfaction. The questionnaire was pilot tested across a diverse group of organizations, ranging in size, type, and geographical diversity, with locations across the United States and Canada in 2006. CTT, including construct validity, measures of internal consistency, item correlations, predictive (criterion) validity, and qualitative analysis, was utilized to further refine the questionnaire in 2007. From all perspectives of the psychometric analyses, the results revealed robust psychometric properties of the survey instrument. The domains and concerns covered in the survey were also demonstrated to be closely related to the construct of job satisfaction.

The refined survey instrument (version 1.0), as a result of the pilot testing and data analysis, consists of 35 Tier 1 items and 60 Tier 2 optional items. The domains and subdomains of the instrument are as follows:

Domain	Subdomain	# Tier 1 Items	# Tier 2 Items
<b>Organizational Climate</b>		<b>9</b>	<b>8</b>
	Organizational Culture	4	1
	Communication	3	4
	Leadership	2	3
<b>Workgroup</b>		<b>14</b>	<b>9</b>
	Teamwork	4	3
	Manager Support	10	6
<b>Staff Support</b>		<b>6</b>	<b>19</b>
	Work Environment	2	1
	Staff Development	4	3
	Compensation and Recognition	2	16
<b>Overall Job Satisfaction</b>		<b>4</b>	<b>8</b>
<b>Total</b>		<b>35</b>	<b>60</b>

As a national and international pooled data set, the uSPEQ Employee Climate Survey's future will provide an opportunity for benchmarking. When the system has gathered sufficient data, there will be an opportunity to develop benchmarks, one of the key features for which subscriber organizations have asked. Analyzing trends and differences between various types of organizations (e.g., size, ownership, and locale) over time requires a thorough understanding of the data plus sufficient data size to

ensure meaningful sample sizes in various segments of the population(s). Research efforts in these important areas will continue using the employee survey data as their use grows.

Overall, the development of a survey instrument is in itself a continuous quality improvement process. It evolves over time. With new survey data collected in the database, the uSPEQ research and development team will continue to refine the survey instrument. Efforts are underway to study and analyze new data in the future.