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Evaluating the Communication Satisfaction Questionnaire as a Communication Audit Tool

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Despite the number of publications about auditing organizational communication, scholars have paid little attention to the reliability and validity of individual audit techniques. This study examines the merits and restrictions of the Communication Satisfaction Questionnaire (CSQ) by comparing CSQ results with results gathered with the critical incident technique. The authors used both instruments to assess the quality of internal communication within three organizations. They found that the two techniques converge and that the CSQ appears to have criterion-related validity. However, the CSQ fails to explicitly address issues of decision making, top-down and bottom-up communication, responsibilities, and the extent to which organizations keep rules and agreements. The authors conclude that the CSQ is an appropriate instrument for gaining overall insights into the way employees evaluate aspects of organizational communication but that the method is less suitable for diagnosing specific communication problems and formulating recommendations.

Keywords: *Communication Satisfaction Questionnaire; critical incident technique; communication audit; validity*

Communication audits typically evaluate an organization's communication system and provide the organization with valuable information about its communicative strengths and weaknesses (Goldhaber, 1993; Goldhaber & Rogers, 1979; Hargie & Tourish, 2000). Although the word *audit* may suggest otherwise, the term actually covers a wide variety of data-collection techniques such as questionnaires, interviews, diary studies, network analysis, ECCO-analysis, and the critical incident technique (CIT). Various handbooks describe these data-collection techniques in detail (e.g., Booth, 1986, 1988; Downs, 1988; Downs & Adrian, 2004; Hamilton, 1987;

Hargie & Tourish, 2000). However, despite the number of publications about auditing organizational communication, scholars have paid little attention to the methodological strengths and weaknesses of the specific data-collection techniques involved. Publications about communication audits usually focus on overall audit results, which makes it hard to distinguish the contribution of each individual technique (e.g., Tourish & Hargie, 1998; Tourish & Robson, 2003). Moreover, handbooks and case studies dominate the literature on communication audits. Empirical research into the reliability and validity of specific communication audit techniques is limited, and we believe that more research is needed to isolate and compare the contribution of individual audit techniques.

We therefore sought to evaluate the merits and restrictions of one of the most prominent audit techniques, the Communication Satisfaction Questionnaire (CSQ). For this evaluation, we compared the CSQ and the CIT. Both methods focus on the communication satisfaction of employees in an organization, yet take different approaches. The CIT focuses on discrete positive or negative communication incidents, producing a wide range of communicative behaviors about which employees have outright positive or negative feelings. The CIT is an open method that allows employees to mention any communicative event that comes to mind. The CSQ, on the other hand, focuses on the overall judgment employees have of the communication in their organization; this judgment is the result of a series of recurring communicative behaviors. Employees are asked to give their opinion about a fixed number of communicative issues on 7-point Likert-type scales. To sum up, the CSQ is a quantitative method that maps the overall attitudes of employees, whereas the CIT is a qualitative method that focuses on discrete communicative behaviors. Our study thus compares an open versus a closed method for examining communication satisfaction of employees.

A comparison of CSQ and CIT results will significantly contribute to our knowledge of the strengths and weaknesses of the CSQ. First, CSQ users need to know whether both methods point toward the same dimensions of communication as the most satisfactory and dissatisfactory aspects of the organization's communication system (convergent validity). A second relevant issue is whether all the critical communicative events found with the CIT are covered by the CSQ (content validity). Finally, we need to examine whether researchers can use both methods to explain employees' overall communication satisfaction and job satisfaction (criterion-related validity).

Communication Satisfaction

Communication audit research focuses on communication satisfaction, which is considered to be an important barometer of organizational well-being and functioning (Downs & Adrian, 2004; Downs & Hazen, 1977). Although scholars and communication professionals have difficulty isolating the role of organizational communication, researchers generally assume that effective and satisfactory communication may contribute to an organization's productivity, performance, and external customer orientation (Downs & Adrian, 2004; Hargie & Tourish, 2000). Larson and Fukami (1984), Pincus (1986), and Clampitt and Downs (1993) all provide empirical support for this assumption. At the same time, the levels of stress, staff turnover, and absenteeism are reduced (Angle & Perry, 1981; Hargie, Dickson, & Tourish, 1999; Ray, 1993; Steers, 1977). Communication satisfaction has also been shown to influence employees' level of job satisfaction, commitment, and work motivation (Gregson, 1990; Mathieu & Zadjac, 1990; Orpen, 1997; Pettit, Goris, & Vaught, 1997; Varona, 1996). Researchers seem to agree that communication satisfaction consists of multiple constructs such as the amount of information employees receive, the organization's communication climate, the receptivity of upward communication, and employees' frequency of interaction (Hargie, Tourish, & Wilson, 2002; Hecht, 1978; Mohr & Sohi, 1995). Given the importance of satisfaction to organizational functioning, it is not surprising that both the CIT and the CSQ focus on the communication satisfaction of employees in organizations.

Review of the CSQ

Downs and Hazen (1977) originally developed the CSQ to acquire a holistic impression of the way employees evaluate an organization's communication system. The instrument focuses on employees' attitudes and judgments of several communicative practices, as these perceptions will influence the behavior of employees in an organization. The CSQ grew out of a debate among communication scholars, who tried to compile a list of relevant topics for the assessment of organizational communication. Both the CSQ and the ICA (International Communication Association) audit questionnaire were the result of their efforts, with the latter being more comprehensive in its scope yet very long and impractical. The CSQ was meant to cover the same ground as the ICA questionnaire but to be more manageable. After its introduction, the CSQ was used in many communication audits, and it has been the focus of several PhD dissertations (Clampitt & Downs, 2004).

The CSQ estimates employees' communication satisfaction by asking them a large number of questions regarding eight different communicative topics. These topics vary from interpersonal communication (e.g., an employee's evaluation of the communication with his or her supervisor) to an assessment of the organization-wide communication climate. Researchers may use established statistical techniques to assess the instrument's reliability and to analyze its results.

Most of the discussions in the literature concerning the CSQ have focused on the appropriate number of dimensions for the instrument through factor analysis. Downs and Hazen (1977) originally found eight dimensions, which Crino and White (1981) later confirmed. Recently, based on sophisticated data analysis techniques (AMOS), Gray and Laidlaw (2004) proposed a two-factor solution, in which they only distinguished a relational and an informational dimension. The CSQ has a test-retest reliability of .94 (Downs & Hazen, 1977), and there are indications of the construct and concurrent validity of the instrument (Rubin, Palmgreen, & Sypher, 1994). The content validity of the CSQ has, however, not been investigated before, which seems to be an important shortcoming (Gray & Laidlaw, 2004; Greenbaum, Clampitt, & Willhnganz, 1988; Schriesheim, Powers, Scandura, Gardiner, & Lankau, 1993).

Review of the CIT

The CIT focuses on extraordinary positive and negative communication experiences, which are assumed to affect or represent employees' overall level of communication satisfaction. The results reveal underlying structural communication practices that employees considered to be sources of communication satisfaction or dissatisfaction. Flanagan (1954) originally developed the CIT as a technique to observe human behavior and to determine the competencies required of members of a specific profession or group. Later, Goldhaber and Rogers (1979) modified the technique and incorporated it in the ICA audit (which they referred to as the gathering of "critical communication experiences"). Since then, researchers have included the CIT in their overviews of communication audit methods (e.g., Booth, 1986, 1988; Downs & Adrian, 2004; Hamilton, 1987; Hargie & Tourish, 2000). The rationale behind the technique states that employees' feelings of satisfaction or dissatisfaction stem from actual experiences (incidents) in real life. Employees' overall level of communication satisfaction will be determined by the actual positive and negative communication events they have encountered in day-to-day organizational life.

The CIT asks employees to recall and describe communicative experiences that they feel were particularly effective or ineffective and about which they have outright positive or negative feelings. Employees must describe each experience in detail, focusing on what exactly happened, who was involved, and what the effects were. Earlier studies have shown that the technique provides detailed insight into the communication processes within the organization, for example, whether information is exchanged adequately, how decisions are made, and what communication channels are used to communicate important issues to employees (Downs & Adrian, 2004; Goldhaber & Rogers, 1979; Hargie & Tourish, 2000). In a recent study, Zwijze-Koning and De Jong (2007) outlined the type and character of the incidents collected when the CIT is applied to organizational communication. They conclude that the technique has great potential for studying organizational communication because the rich, qualitative character of the CIT data enables the in-depth study of the communication problems of an organization. In addition, the open-ended character of the CIT makes it possible to shed light on important new or unexpected determinants of communication satisfaction (Meyer, 2002).

Research Purposes

In this study, we used both the CIT and the CSQ to measure the communication satisfaction of employees within three large organizations. We compared the results of both methods to evaluate the individual contribution of the CSQ to the study of organizational communication. Specific research questions were:

1. Do both instruments indicate the same kinds of communicative factors as the most prominent factors within the organizations (convergent validity)?
2. Are there any emergent themes from the CIT data that the CSQ instrument does not incorporate (content validity)?
3. Are both instruments able to predict employees' overall level of communication satisfaction and job satisfaction (criterion-related validity)?

Method

Research Setting and Respondents

Three large secondary schools participated in our study, all of which had undergone multiple mergers. The mergers had resulted in large-scale

organizations that all had several departments. These departments were responsible for different types of education and were situated in buildings placed apart from each other. As a result, the schools were dealing with many organizational and communicative challenges. We strategically selected respondents from all organizational levels within the schools and included top management executives, senior and middle managers, teachers, receptionists, administrative workers, and janitors. A total of 165 employees participated in our study (see Table 1), 50 of them female (30%) and 115 male (70%). The mean age of the respondents was 44 years ($SD = 13.4$), and respondents had worked for their current employer for 15 years on average ($SD = 10.1$). There were no significant differences between the three schools for gender ($\chi^2 = 5.016$, $df = 2$, $p = .08$) or age distribution, $F(2, 162) = 2.436$, $p = .09$. However, respondents from the third school had worked for their current employer longer than respondents from the first school, $F(2, 162) = 3.310$, $p = <.05$.

Data Collection

We held individual interviews with all 165 respondents, all of whom received a personal invitation. The interviews lasted between 45 minutes and 2 hours and were held in available conference rooms on the various sites of the school. During the interview, we asked respondents to (a) recall as many critical incidents as they could and (b) fill out the CSQ. We also asked the respondents to describe their network relationships by answering several sociometric questions, but it is beyond the scope of this article to present the results of this part of our study.

At the beginning of the interview, we explained the selection procedure to the respondent, which was based on job position and the department to which he or she belonged. Subsequently, we stressed the respondent's anonymity and asked permission to record the interview (none of the respondents refused this request). We started the interview with several questions about the respondent's background, such as age and length of employment. We then asked the respondent to describe his or her job and daily work routines. We asked these questions to stimulate conversation and make the respondent feel at ease. Research has shown that it is counterproductive to ask for critical incidents in the very first part of an interview (Dunn & Hamilton, 1986). We then asked the respondent to recall a communication incident that he or she had recently experienced and about which he or she had outright positive or negative feelings. When the respondent mentioned such an incident, we asked several questions to explore it

Table 1
Background Information Concerning the Three Schools

School	Total Number of Employees	Number of Respondents	Number of Departments	Average Years of Employment
School 1	249	49	4	12
School 2	326	53	7	14
School 3	291	63	4	17

in detail (e.g., who was involved, what were the consequences of the incident, and to what extent the incident could be seen as typical for the way people communicated within this organization). We asked each respondent to mention as many incidents as he or she could recall. When the respondent could not recall any new incidents, he or she filled out the CSQ. After the respondent had filled out the questionnaire, we thanked him or her for participating in the interview, and the session came to an end.

The CSQ consisted of the original 44 questions as developed by Downs and Hazen (1977). The questions covered the following eight topics: (a) organizational integration, (b) organizational perspective, (c) communication climate, (d) media quality, (e) horizontal and informal communication, (f) relationship to superiors, (g) personal feedback, and (h) relationship with subordinates (which was only relevant for supervisors). In all, 14 questions dealt with the respondent's satisfaction with the amount and quality of several forms of information. These included: "Can you indicate how satisfied you are with the amount and/or quality of information you get about changes within this school?" and "Can you indicate how satisfied you are with the amount and/or quality of information you get about the policies and goals of this school?" Respondents indicated their level of satisfaction on a scale from 1 (*very dissatisfied*) to 7 (*very satisfied*). The other 30 questions were statements the respondents rated on a scale from 1 (*totally disagree with*) to 7 (*totally agree with*). The statements were, for example: "My supervisor trusts me" and "I receive the information I need in order to do my work well, in time." We added another 10 questions about the following two topics: (a) top management communication and (b) interdepartmental communication (as suggested by Downs & Adrian, 2004, and Pincus, 1986). These statements included: "The top management team communicates in an open and honest way with its employees" and "When there is a problem, the different departments communicate well together to solve it." In total, the

CSQ covered 10 communicative factors (the 8 original factors and the 2 supplementary factors).

We also included two questions to measure overall job and communication satisfaction. These questions were: "How satisfied are you with your job?" and "How satisfied are you with the communication within this school?" We could have evaluated the respondents' job and communication satisfaction using multiple items (Spector, 1997), but we tried to stay close to the original CSQ instrument (see Rubin et al., 1994), which contained only a single item to measure respondents' overall job satisfaction. We formulated the communication satisfaction measure analogous to the job satisfaction item. Respondents could respond to these items on a scale from 1 (*very dissatisfied*) to 7 (*very satisfied*).

Data Analysis

We transcribed all interviews verbatim and marked the beginning and end of each incident in the transcripts. We then tried to code every incident using the 10 CSQ factors (see Table 2) as categories (e.g., incidents could be about the communication climate or the relationship of an employee with his or her supervisor, etc.). However, early in the coding process, we discovered that we were unable to assign some of the incidents to an appropriate CSQ factor. We therefore analyzed these incidents using the principles of grounded theory (Glaser & Strauss, 1967). This meant that the two authors went through the incidents independently, coding them according to their own insight. We then discussed the incidents and determined the scope of each code. As a result, we formulated four new codes (Decision Making, Communication Flow, Responsibilities, and Rules and Agreements), making a coding scheme containing 14 codes that together described all relevant aspects of the incidents. To ensure that the coding of all incidents would be reliable, the two authors went through 75 of the incidents independently (10% of the total number of incidents) and coded them using the 14 codes. Intercooder reliability (Cohen's κ) reached an acceptable level of .75. Consequently, the coding scheme was considered reliable, and the first author coded all incidents using this final coding scheme.

Results

Convergent Validity

Our analysis of the CSQ data (see Table 2) showed that the respondents evaluated the factors Relationship with Subordinates and Relationship with

Table 2
Means, Alphas, and Correlations for the Communication Satisfaction Questionnaire Factors

Factor	<i>M</i>	α	1	2	3	4	5	6	7	8	9	10
1. Organizational integration	4.54	.83	—									
2. Communication climate	4.03	.79	.63*	—								
3. Organizational perspective	3.94	.79	.60*	.59*	—							
4. Media quality	4.21	.82	.53*	.77*	.53*	—						
5. Horizontal and informal communication	5.08	.62	.59*	.55*	.59*	.58*	—					
6. Personal feedback	4.35	.80	.79*	.62*	.47*	.56*	.54*	—				
7. Relationship to superiors	5.21	.89	.62*	.48*	.29*	.47*	.45*	.73*	—			
8. Relationship with subordinates	5.57	.99	.00	.03	.27	.32*	.45*	-.13	-.21	—		
9. Top management communication	3.89	.96	.53*	.60*	.64*	.55	.44*	.55*	.50*	.25	—	
10. Interdepartmental communication	3.42	.91	.62*	.58*	.55*	.53*	.43*	.59*	.51*	.15	.65*	—

Note: *N* = 165.

*All correlations significant at $p < .001$.

Superiors most positively ($M = 5.57$, $SD = 0.73$; $M = 5.21$, $SD = 1.2$; respectively). Supervisors thus seemed very satisfied with the communication with employees for whom they were responsible, and vice versa. We also found that the respondents evaluated the factor Horizontal and Informal Communication, dealing with nonhierarchical relationships and informal communication relationships, rather positively ($M = 5.08$, $SD = 0.89$). On the other hand, they were clearly less satisfied with Interdepartmental Communication ($M = 3.42$, $SD = 1.2$) and Top Management Communication ($M = 3.89$, $SD = 1.6$). According to the respondents, there was not enough communication among departments, and employees felt as if top management were not very open and honest in their communication. Of the original CSQ factors, the Communication Climate was evaluated as least satisfactory ($M = 4.03$, $SD = 1.1$). Respondents did not feel as if they were considered to be an important part of the organization, and the organization's communication practices did not motivate them to do their job.

The internal reliability of all CSQ factors was high, except for the Horizontal and Informal Communication factor, which had a moderate, but still acceptable, alpha level ($\alpha = .62$). In addition, all of the factors correlated strongly (with the exception of the factor Relationship with Subordinates). Thus, the factors of the CSQ appear to be strongly interwoven. Because communication is part of almost any organizational activity, it may be hard for employees to individually evaluate the underlying constructs. For example, one of the strongest correlations found was that between the factor Relationship to Superiors and the amount of Personal Feedback an employee receives ($r = .734$, $p = .000$). In many instances, the supervisor is responsible for the feedback given to employees and addresses how employees handled certain problems and recognizes (extra) effort. The strong connection between these two factors may thus lead to an almost identical evaluation between Relationship to Superiors and Personal Feedback.

The CIT interviews provided us with 745 incidents that described employees' positive and negative communication experiences. On average, each respondent was able to mention 4 or 5 incidents. Most of the incidents (525) were negative (70%). Almost two thirds of the incidents (473) had a direct relationship with one of the factors of the CSQ, whereas the remainder (272 incidents, 36%) addressed other communicative issues (we will discuss these in the section on the content validity of the CSQ).

Two things stand out regarding the convergent validity of the methods. First, in accordance with the CSQ results, we found that the two most positively evaluated dimensions were the Horizontal and Informal Communication factor and the Relationship to Superiors factor (see Table 3). The

Horizontal and Informal Communication factor contained the largest number of incidents, most of them positive; 67 incidents that referred to horizontal communication activities were positive. For example, respondents gave descriptions of meetings that went very well or of how a weekly newsletter helped them remember an important appointment. Respondents were also rather positive about their relationship with their supervisor (Relationship to Superiors). They mentioned incidents in which their supervisor showed an interest in their ideas and was enthusiastic about them. The largest number of negative incidents mentioned dealt with the Communication Climate within the organization. Many respondents gave examples of incidents that made them realize they were not considered to be important members of the organization or incidents that had an extremely negative effect on their work motivation. Because only supervisors ($n = 40$) could mention incidents regarding their relationship with subordinates, this dimension could not become a factor with a significant number of incidents. Thus, we can conclude that the CIT and the CSQ show roughly the same results. Both methods point to horizontal communication activities and supervisor relationships as areas of satisfaction and to the general communication climate as a source of dissatisfaction.

One could argue that the similarities in results between the CSQ and the CIT may have been caused by the order in which respondents were exposed to the two methods (first the CIT, and then the CSQ). The CSQ results would then be influenced by the communication events respondents discussed during the CIT interviews, which would heighten the convergence between the two instruments. However, in two of the three schools, this assumption can be ruled out because we also administered the CSQ to the other employees of these schools. We compared the results of the interview participants and the other employees (using independent-sample t tests) and did not find any significant differences in the mean scores of all CSQ dimensions.

Second, although Interdepartmental Communication and Top Management Communication activities were not the biggest sources of dissatisfaction in the CIT results (which would have been in accordance with the CSQ), these factors did contain substantial numbers of incidents (44 and 25 incidents, respectively). Furthermore, the evaluation of Top Management Communication activities contained 39 negative incidents (of a total of 44 incidents), a number that seems overwhelming. Both factors were not incorporated in the original CSQ, but the results of our study show that the addition of these factors to the CSQ is justified.

Table 3
Total Number of Critical Incidents for Each Factor

Factors	Total Number of Incidents	Negative	Positive
Horizontal and informal communication	114	47	67
Communication climate	87	73	14
Relationship to superiors	67	36	31
Media quality	47	26	21
Top management communication	44	39	5
Organizational integration	32	24	8
Organizational perspective	29	26	3
Interdepartmental communication	25	19	6
Personal feedback	22	6	16
Relationship with subordinates ^a	6	3	3
Total	473	299	174

Note: $N = 165$.

a. $n = 40$.

Content Validity

Many of the incidents that we collected were directly related to an exact item of the CSQ. For example, several incidents addressed situations in which respondents had not received important information on time. Other incidents (139) were not directly related to items of the CSQ. However, although no one item captured the essence of these incidents, we could clearly identify which factor of the CSQ these incidents related to. For example, a respondent recalled an incident in which he felt the need to discuss an important personal issue with his colleagues and felt free to do so. He described this incident in detail, telling about how he did not hesitate to discuss this matter with his colleagues, how their reaction was supportive, and how it made him appreciate his coworkers more. Although this example clearly constitutes a horizontal communication issue, the essence of the incident (the ability to discuss personal matters with colleagues) is not literally captured in the formulation of the CSQ items within this factor. In our analysis, we labeled the incident a Horizontal and Informal Communication issue. We have captured the essence of other incidents such as the one mentioned above in concise statements and these are shown in Table 4.

Our analysis of these incidents captured in statements suggests the importance of taking into account the accessibility of supervisors and the

Table 4
Examples of Statements That Were Reckoned Among the Factors of the
Communication Satisfaction Questionnaire

Factors	Number of Incidents	Example of Statement (Formulated Positively)
Relationship to supervisors	37	My supervisor offers me help when I'm having a problem. My supervisor supports me when I'm going through a difficult period. I feel free to approach my supervisor when I am having a problem. When I need to ask my supervisor about something, I can always reach him/her. My supervisor is available when I have to deal with urgent matters.
Horizontal communication	34	There is a good atmosphere between colleagues in my unit. If I want, I can also discuss personal matters with my colleagues. My colleagues offer me support.
Top management communication	28	The management team knows what issues the work floor is dealing with. The management team is interested in the issues the work floor is dealing with. Members of the management team seem to be working well together. Communication from the management team is clear and concise. Communication from the management team is always unequivocal. The management team has vision; They know where the organization is headed. It is clear to me what the management is doing/what they are working on. The amount of information I get by means of the mailbox is about right. Communication by means of e-mail works well within this organization.
Media quality	25	In meetings I always hear about the latest practical and organization issues. I am satisfied with the information I receive about my future with this organization.
Organizational integration	10	I am satisfied with the information I receive about practical matters within this organization (arrival of a new colleague, annual show, or important meeting). I am satisfied with the extent to which I hear critical organization issues from my employer (and do not have to hear about it in the news).
Interdepartmental communication	5	The amount of information exchanged between the departments is about right. All departments respect and admire each others work.

help they offer during times of personal need when evaluating an employee's relationship with his or her supervisor. The ability to discuss personal matters with direct colleagues appears to be an important aspect of horizontal communication in an organization. In addition, the extent to which the management team's communication messages are clear, concise, and unequivocal seems important to employees when evaluating Top Management Communication activities. Finally, new communication media, such as e-mail, are not evaluated in the CSQ. The factor Media Quality does not take this communication medium into account. When practitioners or researchers use the CSQ, they must add items that address these issues or try to gain insight into these matters through other audit techniques.

Of the 745 incidents we collected with the CIT, a little more than one third (272) did not have a relationship with a factor on the CSQ. Through a grounded analysis of these data, we found four categories which together captured the essence of the incidents (see Tables 5 and 6). All of these categories contained many negative incidents, indicating that these four themes represent major determinants of dissatisfaction.

The most substantial category concerned the way decisions were made within the organization. Respondents reported that they were not invited to outline their arguments on issues that would significantly affect their work. At other times, they described incidents in which management was not receptive to feedback concerning decisions that were to be made. In many instances, respondents gave examples of decisions that were enforced by senior management; all employees were expected to follow the new rules as soon as they were informed of them. In other words, strategic decisions were not usually adjusted to real-life organizational settings. Respondents described how these incidents made them feel as if they were unimportant to the organization and made them realize that the management team did not value their opinions. Other incidents suggested that strategic decisions could not be executed in practice, leading to indifference toward management decisions. Incidents such as these had strong communicative power and affected the employees' level of communication satisfaction, job satisfaction, and motivation to work for the organization.

Another category that emerged dealt with the organization's communication flows. Respondents described incidents in which top-down and bottom-up communication functioned inadequately. Respondents, mostly teachers but also middle managers, communicated important matters upward, but these communications lacked a timely response. Sometimes, top management took as long as six months to react. This category also included incidents in which communication took place across too many

Table 5
Distribution of the Remaining Incidents

Category	Total Number of Incidents	Negative	Positive
Decision making	87	66	21
Communication flows	59	46	13
Responsibilities	57	54	3
Rules and agreements	52	45	7
Remaining incidents	18	16	2
Total	272	226	46

Table 6
Examples of the Categories

Category	Examples
Decision making	Participation in decision making Receptivity to bottom-up communication Fine-tuning of decisions by management Enforced decisions
Communication flows	Speed of reaction to request Length of the communication lines Communication without a response
Responsibilities	Unclear distribution of responsibilities Wrong distribution of responsibilities
Rules and agreements	Extent to which agreements are kept Equal rules for all employees Flexibility of rules

organizational levels. Before respondents received a response to their letter or request, it had passed across the desks of many managers who had to pass it on to another organizational level. Finally, this category comprised incidents in which employees made requests but where middle or top management did not respond. From the detailed descriptions of the consequences of these incidents, we learned that these incidents significantly affected employees' communication satisfaction, their motivation, and their self-esteem.

A third important category of communication problems involved the distribution of responsibilities in the organization. Respondents said that it was often unclear to them who was responsible for a certain matter. For instance, employees wondered about the exact responsibilities of their

supervisor. When they had a problem with a student, could they approach their superior for help? When a student caused damage to school materials or furniture within the school, who were they supposed to contact? A related problem was that respondents often felt that responsibilities were not adequately divided. In a number of incidents, respondents described superiors holding on to too many tasks that could better have been performed by others. As a result, superiors did not deal with urgent strategic matters. In other cases, too many people were involved in processes, resulting in unproductive collaborations.

The final category we distinguished dealt with the extent to which rules and agreements were kept. Within this category, respondents mentioned incidents in which promises were broken or rules were not applied equally to all employees or departments. In other cases, rules lacked flexibility in the case of special circumstances.

To find out how these additional categories, found through the CIT, related to the original factors of the CSQ, we performed a factor analysis. Based on the classification of the CIT results, we created a new set of variables representing the numbers of critical events that respondents mentioned within each category. The resulting factorial solution was clear (see Table 7). Factor loadings varied from .52 to .81, and there were only five dual-factor loadings, all smaller than .40.

As Table 7 shows, the additional categories all fall into existing factors of the CSQ. The evaluation of decision-making processes, for example, falls into the same factor as communication from the top management team. Because management teams are often responsible for many of the decisions made in organizations, employees will probably take these decision-making activities into account when evaluating Top Management Communication activities. Because the CSQ only evaluates the extent to which employees believe the management team cares for them and the extent to which the management team communicates important decisions to employees on time, misinterpretation on the basis of CSQ results is a potential danger. Respondents may be thinking of other issues when they are evaluating communication from the top management team. The factor analysis shows that the extent to which employees were involved in decision-making processes and the extent to which decisions made by the management team were accompanied by legitimate arguments were also issues when employees evaluated Top Management Communication activities. These issues, however, are not explicitly included in the CSQ. In this way, researchers may draw the wrong conclusions from the CSQ, based on the restricted character of the questions regarding Top Management Communication.

Table 7
Factor Analysis for the Total Number of Incidents per
Factor/Category*

Factors	1	2	3	4	5	6
Organizational integration	.760					
Organizational perspective	.678					
Communication climate	.639				(-.317)	
Top management communication		.764				
<i>Decision making</i>	(.327)	.646				
<i>Rules and agreements</i>			.811			
Relationship to superiors			.702			
Horizontal and informal communication				.731		
<i>Responsibilities</i>				.566		
Personal feedback		(.388)		.515	(.318)	(.326)
Media quality					.807	
<i>Communication flows</i>						.732
Interdepartmental communication						.616

Note: Extraction method: principal component analysis; rotation method: varimax with Kaiser normalization; 60.43% variance explained; eigenvalues 1.823-1.024; factor loadings < .30 are suppressed. Categories developed on account of the critical incident technique data are in italics.

This applies to the other three added categories as well. The relationship employees have with their supervisor may also be based on the extent to which supervisors keep agreements or the extent to which they apply rules equally to all employees. Important horizontal communication issues may depend on respondents knowing who is responsible for what in the organization and whether or not this distribution of responsibilities is appropriate. And finally, communications flows and interdepartmental communication flows together encompass an important construct, which influences an employee's communication satisfaction.

Criterion-Related Validity

In this study, we gathered employees' attitudes regarding communication by means of the CSQ and behavioral incidents by means of the CIT. In addition, we gathered employees' reactions to two overall satisfaction questions, which addressed their overall level of communication and job satisfaction.

For the CSQ factors, we found evidence of criterion-related validity because 9 of the 10 factors correlated significantly with employees' overall

level of communication satisfaction and also with their overall level of job satisfaction (see Table 8). The Communication Climate ($r = .63, p < .001$) correlated especially strongly with the overall level of communication satisfaction, but the level of Media Quality ($r = .60, p < .001$) and the evaluation of Interdepartmental Communication ($r = .58, p < .001$) also had a strong relationship with respondents' overall level of communication satisfaction. In accordance with the literature, the relationship of employees with their superior influenced the overall level of job satisfaction most strongly ($r = .48, p < .001$).

The total number of incidents per factor was not strongly related to respondents' overall level of communication satisfaction. The only two factors that correlated (moderately) with respondents' overall level of communication satisfaction were the evaluation of Top Management Communication ($r = -.26, p = .003$) and the evaluation of Decision Making ($r = -.22, p = .013$). Respondents who mentioned more incidents regarding Top Management Communication and Decision Making within the organization were more dissatisfied with the communication as a whole. Apparently, the extent to which there is participation in decision making and receptivity to bottom-up communication significantly influences employees' overall level of communication satisfaction. Most of the critical incidents gathered through the CIT have no criterion-related validity with the overall levels of communication and job satisfaction, indicating that the relationship between critical behaviors and respondents' overall level of satisfaction is not straightforward.

Discussion

In this study, we evaluated the strengths and weaknesses of the CSQ by comparing its results with the more open and qualitative CIT. We tried to establish the CSQ's value for estimating employees' level of communication satisfaction by examining its convergent validity with the CIT and its criterion-related validity with two overall measures of communication satisfaction. We also tried to determine the CSQ's ability to diagnose organizational communication problems by investigating its content validity.

We can conclude that the CSQ is an appropriate instrument for determining what employees consider important communication issues within their organization. The factors addressed in the CSQ were all internally reliable, and both the CSQ and the CIT show roughly similar results. Thus, our study provides evidence of the convergent validity of the CSQ and the CIT.

Table 8
Correlation With Overall Levels of Satisfaction

Factors	Overall Communication Satisfaction (<i>r</i>)		Overall Job Satisfaction (<i>r</i>)	
	CSQ	CIT	CSQ	CIT
Organizational integration	.47*	-.06	.35*	-.01
Communication climate	.63*	-.17	.37*	-.18
Organizational perspective	.55*	-.16	.34*	-.11
Media quality	.60*	.08	.32*	-.01
Horizontal and informal communication	.44*	-.07	.31*	.07
Personal feedback	.48*	-.13	.40*	-.34*
Relationship to superiors	.38*	-.12	.48*	-.03
Relationship with subordinates	.10	.01	-.24	.02
Top management communication	.49*	-.26*	.37*	-.17
Interdepartmental communication	.58*	-.11	.28*	.04
Decision making	—	-.22*	—	-.09
Communication flows	—	-.17	—	-.12
Responsibilities	—	-.07	—	-.15
Rules and agreements	—	-.15	—	.14

Note: CSQ = Communication Satisfaction Questionnaire; CIT = critical incident technique; — = was not measured using this method.

*All correlations significant at $p < .001$.

We also found evidence of criterion-related validity, indicating that CSQ results can provide insight into aspects of the organization's internal communication system that significantly influence employees' overall level of communication satisfaction. We therefore suggest that the CSQ is an appropriate instrument to use to determine whether employees' level of communication satisfaction has increased or decreased over the years. In addition, researchers may also use the instrument to examine whether the level of employees' communication satisfaction has changed in response to efforts to improve communication within the organization. Finally, we consider the instrument to be an adequate benchmark tool for organizations that wish to compare the satisfaction scores of their employees with those of related organizations.

However, we believe that the diagnostic value of the CSQ is less obvious. There are several issues that the CSQ does not deal with but that seem to influence significantly employees' overall level of communication satisfaction. For example, the way in which decisions are made within the organization was found to be a major source of dissatisfaction for employees.

Factor analysis for the number of incidents per factor showed that these decision-making activities were considered part of the communication by top management. Thus, when employees are asked to give their opinion on top management communication activities (e.g., "Top management communicates openly and honestly"; "Top management cares about its employees"), they will presumably base their responses partly on their feelings and opinions regarding the way decisions are made in the organization. In this way, CSQ results may lead to misinterpretations: Researchers and practitioners who use the CSQ to diagnose communication problems in an organization may conclude that the management team does not communicate in an open and honest way, whereas actually employees may be dissatisfied with the way decisions are made.

The same applies to the other three factors that emerged from the CIT results. Supervisory communication activities coincide with the extent to which rules and agreements are met and the extent to which rules are applied equally to all employees. The way supervisors apply rules and agreements in the organization, and the flexibility they observe when applying these rules, apparently shape or co-shape how employees view their relationship with their supervisor. The evaluation of whether responsibilities are clearly and fairly divided within the organization seems to affect the evaluation of communication in the direct work environment of employees. Together with horizontal communication activities (the extent to which colleagues work well together and can share personal issues) and the amount of personal feedback employees receive, these responsibilities represent important communication activities in the immediate work environment of employees. Finally, bottom-up and top-down communication activities, the length of the communication lines, and communication among departments are important factors in the evaluation of communication flows in the organization.

These results show that there is a potential danger of misdiagnosis of the communication system on the basis of CSQ results. Important communicative issues, which are not explicitly addressed in the CSQ, are nevertheless taken into account by employees when evaluating the CSQ-related factor. To warrant a just evaluation of an organization's communication system, we would recommend that the CSQ be complemented with other, preferably qualitative (audit) instruments, such as the CIT, focus groups, or in-depth interviews. If the CSQ is used as the only audit instrument, we believe that questions need to be added to its format, addressing the additional issues mentioned above. Only then will a communication auditor be able to recommend the appropriate actions that need to be undertaken to improve the organization's most urgent communication problems.

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