

Measuring internal communication satisfaction: validating the internal communication satisfaction questionnaire

Internal
communication
satisfaction

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Received 13 January 2021
Revised 12 March 2021
Accepted 12 March 2021

Abstract

Purpose – The study examines the psychometric properties of internal communication satisfaction questionnaire (ICSQ), an instrument originally developed in Croatian. A need for a contemporary instrument validated among a non-English-speaking population of employees who use English as their second language motivated the authors to translate the scale.

Design/methodology/approach – ICSQ was validated on a sample of 507 employees of a large Croatian subsidiary of a multinational bank, where English is the official corporate language.

Findings – ICSQ displayed satisfactory levels of psychometric properties, retaining the psychometric properties of the original version of the instrument. A confirmatory factor analysis revealed the acceptable model–data fit of the eight-factor model. Additionally, findings supported the reliability and construct validity of the English version of the instrument. Good internal consistencies of all eight internal communication satisfaction (ICS) dimensions and the total ICSQ and an adequate level of scale homogeneity according to the inter-item and inter-total correlations were found.

Research limitations/implications – In order to generalize the study's results to other business areas and industries, the study should be replicated in other contexts. Additionally, construct validity was tested by applying cross-sectional design, and therefore, no conclusion can be drawn on the causal direction of the relationship. Finally, the discriminant validity of ICSQ was not tested and should be examined in future studies.

Practical implications – The resulting 32-item instrument, in English, can be used for empirical and practical purposes in improving internal communication.

Originality/value – The study confirms that internal communication is a multidimensional construct and should be measured as such.

Keywords Organizational communication, Internal communication, Internal communication satisfaction, Communication audit, ICSQ

Paper type Research paper

Introduction

Internal communication, repeatedly identified as a part of communication practice, is growing in significance (Welch, 2012; Zeffass *et al.*, 2010). It creates and maintains internal communication systems between employers and employees. Communication with employees begins before they

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Funding: This work has been fully supported by the Croatian Science Foundation under the project no. 3323.



Corporate Communications: An
International Journal
Vol. 26 No. 3, 2021
pp. 589-604
Emerald Publishing Limited
1356-3289
DOI 10.1108/CCIJ-01-2021-0006

join an organization and continues after they leave it. Internal communication is often perceived as a synonym for intraorganizational communication (Tkalac Verčič *et al.*, 2012), while the communication satisfaction construct (operationalized by Downs and Hazen in 1977) has become a research stream within organizational communication. In organizational communication (as in internal communication), scholars and researchers commonly agree that satisfactory and effective communication can contribute to an organization's productivity and performance and external customer orientation (Downs and Adrian, 2004; Hargie and Tourish, 2000).

A study aimed at diagnosing and clarifying organizational communication strengths and weaknesses, and identifying internal communication problems, is called a communication audit (Yamaguchi, 2017). Communication audits are used for estimating the quality of communication systems in organizations (Goldhaber, 1993; Goldhaber and Rogers, 1979; Hargie and Tourish, 2000). They cover a wide variety of methodologies and data collection approaches. However, in spite of numerous studies that have recognized how important organizational communication is for work productivity (Clampitt and Downs, 1993), scholars have paid little attention to the methodological strengths and weaknesses of the different techniques used in data collection. There are a limited number of empirical studies focused on the validity and reliability of particular communication audit techniques, highlighting the importance of further research on the topic (Zwijze-Koning and de Jong, 2007).

Within communication audits, evaluating internal communication satisfaction (ICS) has been a major part of measuring communication effectiveness (Gray and Laidlaw, 2004). ICS is a socioemotional consequence of communication interactions (Hecht, 1978) which are a result of internal communication practices (Sinčić Ćorić *et al.*, 2020). It can also be defined as satisfaction with information flow and relationship variables (Downs and Hazen, 1977) which influences organizational effectiveness (Gray and Laidlaw, 2004). Several studies have examined the dimensionality of ICS and have proposed that there can be various levels of satisfaction with different communication dimensions (Clampitt and Downs, 1993; Crino and White, 1981; Downs and Hazen, 1977; Tkalac Verčič *et al.*, 2009).

In order to further understand the relationship of internal communication with various correlating concepts such as job satisfaction, employee engagement, employer attractiveness, organizational commitment and reputation, it is important to use a reliable and valid measure of communication satisfaction (Tkalac Verčič, 2021). Such an instrument should be well constructed and produce unambiguous, valid and reliable results (Gray and Laidlaw, 2004).

This paper presents a study conducted to validate a scale for accessing ICS. The scale was originally developed in Croatian, with the aim of developing an ICS instrument beyond English-speaking countries, as well as for upgrading and modernizing ICS items. In this study, motivated by the academic community in search of a sound instrument that enables cross-cultural data comparison, it is translated into English and then validated through confirmatory factor analysis. The results present the psychometric properties of the scale; i.e. it examines the reliability and validity of the scale and reexamines its factor structure. Finally, it offers a well-needed instrument for analyzing ICS among employees who use English as their second language.

Theoretical overview

Internal communication

Communication is one of the fundamental and most pervasive management activities and represents a transfer of information, ideas, attitudes and emotions from one person to the other person or group, most often with the intention of modifying behavior (Bahtijarević-Siber and Sikavica, 2001). The increasing complexity of modern organizations and significant changes in which they operate, as well as the major advances in information technologies, all lead to a growth of interest in the area of organizational communication (Bélanger and Watson-Manheim, 2006). This rapidly changing and connected modern society has made

employees one of the most important publics for every organization (Kim and Rhee, 2011). A satisfying employee–employer relationship aids productivity, external relations and organizational reputation (Berger, 2008).

Internal communication practices encompass various communication activities, informal and formal, with the purpose of sharing information with one or more publics within the organization. These activities can be conducted with the purpose of horizontal, downward or upward communication and are typically carried out by every member of the organization. It is, however, the responsibility of management to ensure that internal communication systems are effective and efficient (Carrière and Bourque, 2009). If communication systems are managed successfully, they can improve the relationship between employees and managers (Welch, 2012). They can also lead to a higher awareness of organizational threats and opportunities, but on the other hand, they can pose a risk if ignored (Tkalac Verčič, 2019).

The role of internal communication in organizational success has been emphasized many times (e.g. George and Jones, 2006; Robbins and Judge, 2007; Tkalac Verčič, 2019). Robson and Tourish (2005) claim that there is considerable evidence in the literature that internal communication helps improve the likelihood of an organization being successful, while Ruck and Welch (2012) consider it a prerequisite of organizational success. According to Hargie and Tourish (2000), improvement in communication leads to a number of organizational benefits. Quinn and Hargie (2004) also agree that the value of superior internal communications and the relationship it has with organizational efficiency and effectiveness has been extensively recognized. Dickson *et al.* (2003) state that there is a significant body of research which links improved communication practices in organizations with a set of positive outcomes. Additionally, research has shown a positive link between the amount of time spent communicating and various work outcomes such as employee satisfaction (Yammarino and Naughton, 1988). Linking internal communication variables with indicators of organizational success is the best way to measure and establish internal communication as an organizational function.

Consequently, organizations are increasingly investing financial and human resources in developing internal communication systems which will enable communication of relevant information to all employees in the organization. According to Downs (1994), the fact that communication has been acknowledged as an important discipline in the operation of organizations by both academics and managers is a major incentive to develop instruments helpful in analyzing communication. These instruments may prove to be useful in making interventions to achieve organizational efficiency and effectiveness.

Communication audits

The main purpose of a communication audit is to evaluate an entire organization's communication system and to acquire information on its strengths and weaknesses (Goldhaber, 1993; Hargie and Tourish, 2000). According to Dickson *et al.* (2003, p. 37) an audit is “fundamentally an evaluation of some designated process.” These authors claim that historically the purpose of an audit was to assess the financial state of health in an organization. From this “general” audit, the idea of a communication audit emerged, and the universal strategy of systematically scrutinizing the performance of corporate systems and strategies was applied to communications.

Communication audits include a wide spectrum of data collection methods such as interviews, diary studies, network and episodic communications channels in organizations (ECCO) analysis, questionnaires and critical incident techniques (Zwijze-Koning and de Jong, 2007). Within organizations, communication audits can be valuable tools and efficient means for data collection, diagnosing communication and other problems (Meyer, 2002), as well as a way for employees to engage in reflective learning (Jones, 2002). The main benefits of an internal communication audit include improved productivity, reduced absenteeism, higher

quality of services and products, increased levels of innovation, fewer strikes and reduced costs (Clampitt and Downs, 1993).

Communication audits have been used in different areas including public relations (Kopeck, 1982), human resource management (Dickson *et al.*, 2003; Varona, 1996), strategic marketing (Stone, 1995) and other business areas (Gray and Laidlaw, 2004). As audits are historically associated with analyzing the financial health of an organization, communication audits share a number of characteristics with financial and accounting audits, such as acquiring information (diagnostic phase in which a series of communication episodes is assessed in order to determine key trends), creating a management system (prescriptive phase in which systems for information flow control are created) and comparing communication practice with publicly declared standards (accountability phase in which results are compared with existing benchmarks) (Hargie and Tourish, 1993).

In 1985, the Organizational Communications Division of the International Communication Association (ICA) established a research task force to identify instruments used in organizational communication research. Greenbaum and Gardner (1985, as cited in Downs, 1994) identified over 500 instruments cited in communications dissertations and journals. Among the 500 instruments, only approximately 20% have been used as many as three times, while around 80% have been designed by the researcher and used in a single paper.

Since most instruments in the area of organizational communications have only been used once, the number of routinely used instruments is finite. Downs (1994) has classified these instruments into three categories: comprehensive instruments, communication process instruments and organizational outcomes instruments. Comprehensive instruments analyze communicational practice on a macro level and include the ICA audit, the organizational communication scale, the communication satisfaction questionnaire (CSQ), the organizational communication development audit questionnaire and the organizational culture survey. Communication process instruments focus on facets of organizational communication rather than on a comprehensive view of organizational communication. A total of five areas commonly covered include conflict, mentoring, competence, load and management communication. The third category of instruments focuses on organizational outcomes such as job satisfaction, productivity and commitment and includes instruments such as the organization identification questionnaire.

Internal communication audits, including the evaluation of communication satisfaction, are used to collect information on strengths and weaknesses of internal communication systems and by that help design communication strategies which advance relationships and diffusion of information (Gray and Laidlaw, 2004).

Internal communication satisfaction

Communication audits are primarily focused on measuring communication satisfaction since this aspect of internal communication is considered one of the barometers of organizational health (Downs and Adrian, 2004; Zwijze-Koning and de Jong, 2007). Communication satisfaction has received more attention in the last few decades, which is why further research is needed to explore the relationship between ICS and organizational outcomes (Gray and Laidlaw, 2004; Tkalc Verčič, 2021).

ICS can be defined as employees' satisfaction with various aspects of communication within the organization (Tsai *et al.*, 2009). Isolating the effect of internal communication is not easy, but it is generally assumed that satisfactory internal communication leads to higher employee and organizational productivity and performance (Downs and Adrian, 2004; Hargie and Tourish, 2000). Gray and Laidlaw (2004) concluded that employees satisfied with communication have a greater influence on organizational effectiveness, while Hargie *et al.* (2002) state that low communication satisfaction leads to higher levels of absenteeism and higher employee turnover. Other consequences of higher communication satisfaction include lower levels of stress (Angle and Perry, 1981), a higher level of job satisfaction (Gregson, 1990;

Pettit *et al.*, 1997) and commitment (Gregson, 1990). Anderson and Martin (1995) conclude that employees need communication interactions with peers and superiors because of their need for inclusion and pleasure. Rubin (1993) states that satisfactory communication leads to effective relationships at work. Tkalac Verčič (2021) finds that ICS is positively related to employee engagement, perceived organizational support and employer attractiveness, while a study by Sinčić Ćorić *et al.* (2020) shows a high positive correlation between ICS and life satisfaction.

While the importance of ICS is unquestionable, it is still not completely clear how to approach its dimensionality. The multidimensional nature of communication satisfaction has been explored extensively, and the majority of academics seem to agree that individuals are not satisfied with communication as a whole but rather have different levels of satisfaction for differing aspects of communication. Even though there is some proof toward general communication satisfaction as only one dimension (Varona, 1996), there is much more support for a multidimensional solution (e.g. Clampitt and Downs, 1993; Crino and White, 1981; Gray and Laidlaw, 2004; Tkalac Verčič *et al.*, 2009).

The number of proposed communication satisfaction dimensions can vary from 2 to 10 (Sinčić Ćorić *et al.*, 2020). Hecht (1978), for example, finds three factors but with only half of the variance accounted for and proposes that communication satisfaction is a unidimensional construct. Putti *et al.* (1990) identifies two dimensions which include satisfaction with the content and flow (informational) and satisfaction with relationships (relational). Pincus (1986) defines three communication satisfaction categories (informational, relational and a general factor) and concludes that the distinction among factors is not complete and categories are not mutually exclusive. He suggests that a second-order factor structure should be considered. Gray and Laidlaw (2004) follow up and identify a second-order factor structure that includes informational and relational communication.

The increase in interest in ICS measurement underlines the need to develop standardized and psychometrically sound questionnaires for use in measuring various internal communication aspects. One of the most prominent instruments for the measurement of communication satisfaction, the CSQ, was developed by Downs and Hazen in 1977. However, not only was it developed many decades ago, but the content validity of the CSQ has not been extensively investigated, which is a significant drawback (Gray and Laidlaw, 2004; Greenbaum *et al.*, 1988; Schriesheim *et al.*, 1993). Moreover, most of the available instruments for assessing communication satisfaction and organizational communication have been constructed in America (Yamaguchi, 2017), and the empirical evidence to support their reliability and validity has been primarily derived from studies among English-speaking employees, which resulted in the need for instruments appropriate for use in international and multicultural settings. All this motivated us to construct an instrument that would update and contemporize the ICS facets and which would be adapted for use in European (i.e. Croatian) settings – a questionnaire for measuring ICS (cro. Upitnik za mjerenje zadovoljstva internom komunikacijom – UPZIK). A decade later, because of the interest expressed by foreign researchers and practitioners familiar with UPZIK and in response to a growing need for internationally comparable data on internal communication satisfaction, we decided to offer an English version of the instrument.

UPZIK offers an upgraded and modernized view of which dimensions form ICS. When we originally developed this instrument, we were aware that we needed a better understanding of how employees judge the various aspects of an organization's communication systems. Following the approach set by Downs and Hazen (1977), we focused on attitudes and perceptions of different communication practices. UPZIK, developed in 2009 (Tkalac Verčič *et al.*), went through two stages. First, the initial questionnaire, comprised of 107 items, was administered among 259 employees, factor analyzed and reduced to eight dimensions and 32 items. Items included various elements of internal communication such as interpersonal communication, organization climate and communication with supervisor but also included

items omitted from existing instruments such as satisfaction with internal communication channels and digital media.

Secondly, a new questionnaire was applied in two large organizations, comprising 225 employees in total, factor analyzed for a second time and correlated to job satisfaction. Results showed that the developed instrument was reliable and valid and applicable for future theoretical and practical research. UPZIK, applied many times (Balgáč and Borovec, 2017; Lalić *et al.*, 2012; Pološki Vokić *et al.*, 2020; Sinčić Corić *et al.*, 2020; Tkalac Verčić and Pološki Vokić, 2017; Tkalac Verčić and Špoljarić, 2020), yields reliable and unambiguous results and is easy to administer.

Because UPZIK appears to be a useful instrument for assessing ICS and has shown satisfactory psychometric properties in multiple studies, the aim of this study was to examine the psychometric properties of the English version, i.e. the internal communication satisfaction questionnaire (ICSQ). The ICSQ is designed and validated on a non-English-speaking population and takes into account employees who use English as their second language. We therefore propose the following research questions:

RQ1. Which are the dimensional properties of ICSQ?

RQ2. What are the psychometric properties of ICSQ?

Methodology

Measures

The main part of the questionnaire used in the study is the English translation of UPZIK, which is a 32-item scale consisting of eight dimensions with sound psychometric properties (Tkalac Verčić *et al.*, 2009). The standard back-translation procedure (e.g. Brislin, 1970) was used for constructing the English version of the questionnaire (see Appendix). First, two authors of the Croatian version, as the most informed about the essence of each questionnaire item, translated the instructions and items of the questionnaire into English. Next, a bilingual doctoral student, who had no previous knowledge about the UPZIK, conducted the back-translation. Finally, the back-translated version was reviewed by the first of the three authors of the Croatian version, who finalized the instrument after consultation with the translators. All items were neutrally worded and scored on a seven-point Likert-type scale ranging from 1 ("extremely dissatisfied") to 7 ("extremely satisfied"). The eight four-item dimensions that were tested are (1) satisfaction with feedback (SwF), (2) satisfaction with communication with immediate superior (SwIS), (3) satisfaction with horizontal communication (SwHC), (4) satisfaction with informal communication (SwIC), (5) satisfaction with information about the organization (SwIO), (6) satisfaction with communication climate (SwCC), (7) satisfaction with the quality of communication media (SwQM) and (8) satisfaction with communication in meetings (SwCM). The mean values of four items affiliated with each dimension were used for reporting on eight subscales, while the mean of the eight subscales produced a composite scale (the total ICSQ score).

The rest of the questionnaire consists of the instrument for measuring life satisfaction, which was used as a validation variable, and four sociodemographic variables (gender, age, educational level and the number of years working in the organization). Life satisfaction, an increasingly popular concept in social sciences (see, for example, Cerci and Dumludag, 2019; Willroth *et al.*, 2020), was used as a validation variable because it is associated with positive outcomes in many work domains, such as job satisfaction, career satisfaction, job performance, organizational citizenship behavior, organizational commitment and turnover intentions (e.g. Erdogan *et al.*, 2012; Hagmaier *et al.*, 2018; Luhmann and Hennecke, 2017). Consequently, we expected ICS (measured with ICSQ) to show a positive correlation with life satisfaction. For the assessment of life satisfaction, we used the satisfaction with life scale (SWLS) designed by Diener *et al.* (1985), frequently used by academics (e.g. Luhmann and Hennecke, 2017; Morrison *et al.*, 2011; Sinčić

Ćorić *et al.*, 2020). The instrument measured a one-dimensional construct through five items scored on a seven-point Likert-type scale ranging from 1 (“strongly disagree”) to 7 (“strongly agree”) (Cronbach’s α 0.91; 0.87 in Diener *et al.*, 1985). A mean value of five items was used for reporting on respondent’s life satisfaction.

Sample

There are limited studies focusing on respondents with business experience when devising communication measures, even though business-related concepts are explored. Commonly used student samples have a lot of drawbacks, including the fact that generalizing from students to the general public can be problematic when personal and attitudinal variables are used since students vary randomly from the general public (Hanel and Vione, 2016). Instead of the frequently used student samples for the development and validation of communication revisions (see, for example, Burgoon and Hale, 1987; Jian *et al.*, 2014; Stephens, 2012), we validated the ICSQ on an employee sample, as proposed by Miller *et al.* (2000).

Next, in order to eliminate the potential impact of external and internal environmental factors, we conducted the study in one organization and one business area – retail banking of a large Croatian subsidiary of a multinational bank, where English is the official corporate language and exclusively used for formal business communication. All employees working in the retail business area were provided with the internal link to the questionnaire, resulting in a self-selected sample of 507 employees (voluntary participants). After excluding incomplete questionnaires whereby the entire record was deleted from the analysis if a single response was missing, the final sample consisted of 389 complete cases/respondents (response rate 21.6%), which is considered sufficient for validating a communication instrument (see, for example, Burgoon and Hale, 1987; Jian *et al.*, 2014).

Among participants, 25.5% were men and 74.5% were women (corresponding to the gender workforce structure in financial and insurance industry in Croatia in 2017 (Croatian Bureau of Statistics, 2018)). The age of participants ranged from 22 to 62 years ($M = 40.42$, $SD = 8.08$). In total, 39.6% of respondents were high school graduates, 18.7% held a bachelor’s degree, 34.1% a master’s degree and 7.6% a postgraduate degree. The number of years respondents have spent working in the organization ranged from less than a year to 40 years ($M = 14.13$, $SD = 8.87$).

Data analysis

To test the psychometric properties of the ICSQ, we followed the suggested methods for instrument validation (Goetz *et al.*, 2013): factor analysis, reliability analysis (internal consistency and homogeneity analysis) and construct validity (precisely convergent validity) analysis.

A confirmatory factors analysis was used to confirm a hypothesized factor model/structure (Comrey and Lee, 1992), in other words, to examine the fit of the 32-item eight-factor model of UPZIK in the English version. The goodness of fit of the model was evaluated using the following criteria: normed fit index (NFI), comparative fit index (CFI) and Tucker–Lewis index (TLI) (range from 0 to 1, higher values indicate a better fit, the usual rule of thumb of ≥ 0.90 is indicative of a good fit), parsimonious comparative fit index (PCFI) (values > 0.50 considered acceptable) and root mean square error of approximation (RMSEA) (values < 0.10 considered acceptable) (see Fong and Ng, 2012; Hair *et al.*, 2009; Hu and Bentler, 1998; Lock and Seele, 2017; Schermelleh-Engel *et al.*, 2003), with IBM SPSS 25 AMOS used for data analysis.

To assess the reliability of the ICSQ, indicators of internal consistency and homogeneity were utilized, namely Cronbach’s α coefficients, inter-item correlations and item-total correlations. In order to compare the level of the ICSQ across gender, age, educational level

and the number of years working in the organization, we used Pearson correlation coefficients, independent samples *t*-tests and analyses of variance (ANOVA). The construct validity of the ICSQ was evaluated through correlations between the ICSQ and life satisfaction as a validation variable, after controlling for demographic characteristics. IBM SPSS 25 was used for data analysis.

Results

Factorial validity of the ICSQ

Table 1 reports the results of the confirmatory factor analysis of the ICSQ. The eight-factor model showed an acceptable fit of data, with model being significant ($p < 0.01$), NFI, CFI and TLI close to the 0.09 criterion, PCFI meeting the >0.5 criterion and RMSEA meeting the <0.10 criterion.

In the eight-factor model, all of the items were found to strongly correlate with the associated ICS dimension ($r =$ from 0.623 to 0.966, $p < 0.01$), and the eight factors were found to be strongly correlated ($r =$ from 0.729 to 0.966, $p < 0.01$), as shown in Figure 1.

The eight confirmed dimensions of the ICSQ are (1) SwF, which includes satisfaction with information on how well an employee is performing, about the consequences and contribution of his/her work to the organization's success and similar; (2) SwIS, with items oriented toward formal and informal communication with the immediate superior, as well as how much attention the superior pays to the employee, listens to the employee and similar; (3) SwHC, which encompasses different types of communication with peers, such as their availability, ease of communication with colleagues within the department and readiness of colleagues to accept criticism; (4) SwIC, such as satisfaction with the frequency of informal gatherings, satisfaction with the number of decisions based on informal communication, the amount of gossip in the organization, as well as usefulness and accuracy of information communicated informally; (5) SwIO, which contains formal information related to organizational functioning and success, like satisfaction with information on financial success, legal framework that affects organizational operations and work procedures; (6) SwCC, that includes information about the promotion of organizational values and goals, such as how communication helps employees to feel they are important for the organization and to identify with the organization; (7) SwQM, which discloses the level of satisfaction with digital media, the possibility and quality of communicating through new media, media used for communication and similar and (8) SwCM, which includes the level of satisfaction with the organization of meetings, usefulness of information given in meetings, their length and similar.

Reliability of the ICSQ

Reliabilities for both the eight subscales and the total ICSQ score support their internal consistency as higher than the standard cut-off criteria of 0.70 (Hair *et al.*, 2009) – the alpha coefficients are 0.904 for SwF, 0.928 for SwIS, 0.835 for SwHC, 0.848 for SwIC, 0.880 for SwIO, 0.950 for SwCC, 0.855 for SwQM, 0.887 for SwCM and 0.978 for the total ICSQ. High reliabilities of all dimensions demonstrate that analyzed subscales can be used as reliable measures of ICS dimensions. High reliability of the total ICSQ demonstrates that it can be used as a reliable measure of ICS.

Table 1.
Results of
confirmatory factors
analysis of the ICSQ

Scale	χ^2	df	<i>P</i>	NFI	CFI	TLI	PCFI	RMSEA
ICSQ	2,029.799	436	0.000	0.847	0.876	0.858	0.770	0.097

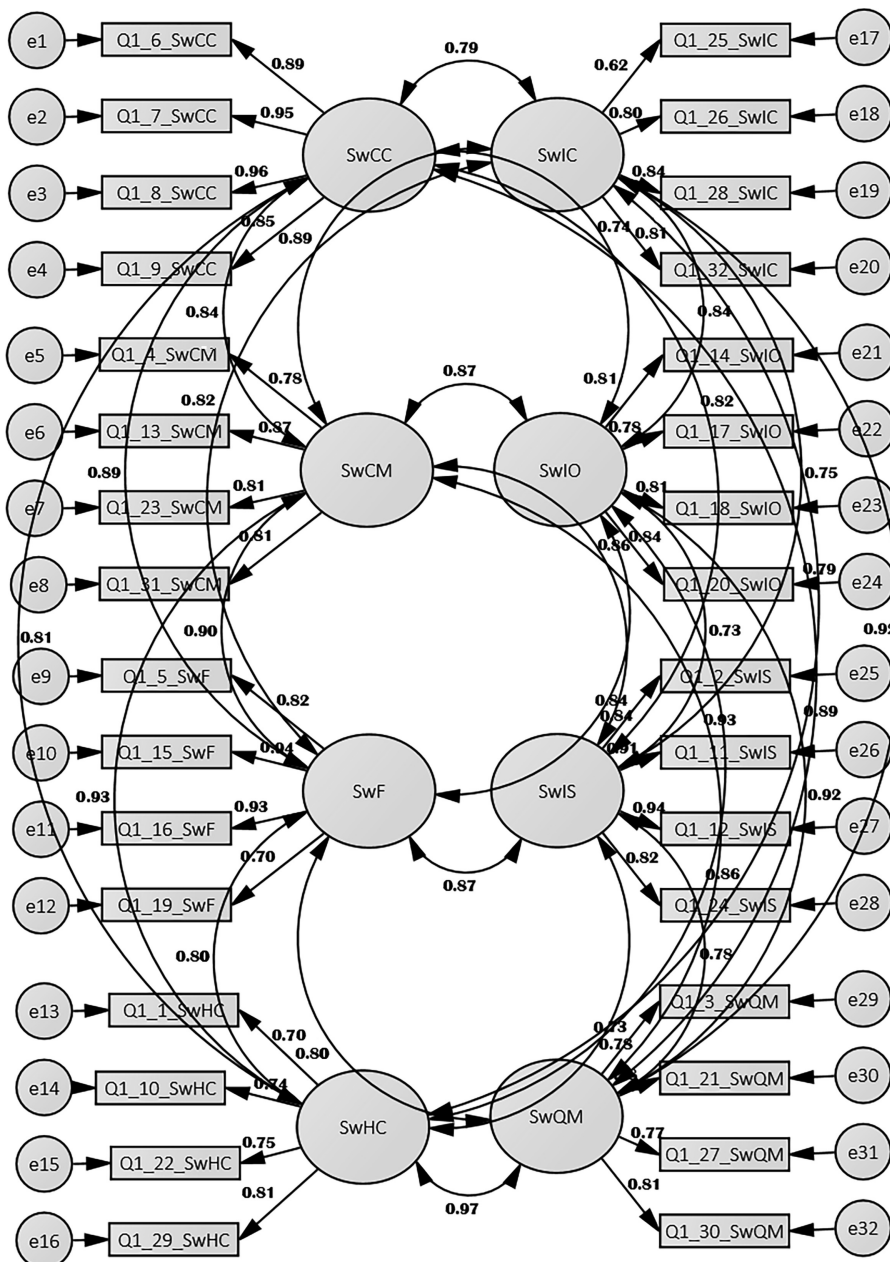


Figure 1.
Item-factor and inter-
factor correlations of
the eight-factor
ICSQ model

All of the 32 items were found to be significantly correlated ($p < 0.1$), with inter-item correlations ranging from 0.299 to 0.922. The item-total correlations ranged from 0.584 to 0.864, which is in line with the cut-off criteria of ≥ 0.4 (Nunnally and Bernstein, 1994) and were significant ($p < 0.1$).

Variance across sociodemographic variables and the construct validity of the ICSQ

The ICSQ demonstrated strong measurement invariance across gender, age, educational level and the number of years working in the organization. Sociodemographic variables including gender, age and educational level were not found to be statistically significantly related to either the total ICSQ or its eight dimensions, and the number of years working in the organization was found to statistically significantly negatively correlate only with one ICS dimension (SwHC, $r = -0.161$, $p < 0.01$). Consequently, sociodemographic variables were omitted from the construct validity analysis.

Table 2 shows the correlations between the total ICSQ score and its eight dimensions and the validating scale of life satisfaction. The ICSQ is strongly statistically significantly correlated with life satisfaction, and its dimensions are moderately positively but statistically significantly correlated with life satisfaction ($r = 0.425$ to 0.517 , $p < 0.01$). The correlation patterns were in the expected directions and magnitudes.

Discussion

UPZIK is a widely used instrument for measuring ICS. However, because of the language in which it is conceptualized, its dissemination and usage are limited to ex-Yugoslavian countries, despite the interest expressed by academics worldwide. As a result, there was a strong requirement to validate the instrument in English for the purpose of its broader application. The main goal of this study, therefore, was to investigate the dimensional and psychometric properties of the English version of UPZIK – ICSQ – by examining its reliability and validity.

Overall, the ICSQ displayed satisfactory levels of psychometric properties, retaining the psychometric properties of the original version of the instrument (see [Tkalac Verčič et al., 2009](#)). A confirmatory factor analysis revealed the acceptable model–data fit of the eight-factor model (model significant; NFI, CRI and TLI close to the >0.09 criterion; PCFI meeting the >0.50 criterion; RMSEA meeting the <0.10 criterion). Additionally, findings supported the reliability (internal consistency and homogeneity) and construct validity of the English version of the instrument. Good internal consistencies of all eight ICS dimensions and the total ICSQ ($\alpha \geq 0.70$) and an adequate level of scale homogeneity according to the inter-item and inter-total correlations (significant at $p < 0.01$) were found. After excluding the effect of sociodemographic characteristics, ICS dimensions and the total ICS score obtained using the ICSQ were found to be positively moderately (dimensions) or strongly (the total score) and significantly related with life satisfaction as a validation variable ($p < 0.01$), which provides support for the construct validity of the ICSQ. This also implies that by improving certain aspects of internal communication, which is a precedent for high internal communication satisfaction, employees' life satisfaction is enhanced, and consequently, this results in multiple positive work and life outcomes.

The obtained dimensions conformed to the validated Croatian version of the instrument, acknowledging the multidimensionality of the ICS and the ICS construct applied, as well as implying the utility of examined subscales in measuring particular facets of ICS. The results showed that the items in the ICSQ are good indicators of the initial eight dimensions explored and confirmed the factor structure of the original questionnaire. All empirical results

Table 2.

Table 2:
Correlations between the total ICSQ and its eight dimensions and the validating variable of life satisfaction

	SwF	SwIS	SwHC	SwIC	SwIO	SwCC	SwQM	SwCM	ICSQ
Life satisfaction	0.455*	0.425*	0.470*	0.486*	0.432*	0.482*	0.466*	0.474*	0.517*
Note(s): * $p < 0.01$									

presented suggest that the ICSQ is a reliable measurement scale of ICS in the English language since the results demonstrated stability in the use of the instrument when applied in English. The ICSQ can therefore be considered a useful tool in assessing ICS and its antecedents, characteristics and outcomes.

By using quantitative scores of a specific item or ICS dimension, along with the total ICSQ score, managers and organizations can detect internal communication areas that demand improvement and growth, foster areas of excellence, propose tangible suggestions for change, evaluate the benefits of actions taken and longitudinally assess internal communication actions. Furthermore, with increased usage of the ICSQ, as Fuller *et al.* (2019) suggested, for all communication audits, the instrument could be additionally utilized as a way of benchmarking, both intra and interorganizationally.

Conclusions and limitations

The presented study provides evidence that the ICSQ, a 32-item, eight-dimensional ICSQ, has good psychometric properties and is therefore a sound scale for measuring ICS in the English-speaking environment. It offers a measurement instrument that is theoretically grounded and can be used by researchers and practitioners for assessing employees' satisfaction with internal communication, both as a whole as well as related to their satisfaction with specific aspects of communication – communication during receipt of feedback and acquiring information about the organization; communication with their immediate superiors, colleagues and during meetings; quality of communication media; informal communication as well as their satisfaction with the overall communication climate.

Several limitations of the current study should be noted. Firstly, despite the satisfactory sample size, the study sample comes from one business area only (retail) and from one industry only (banking) which is heavily composed of female workers. The potential sample bias implies that in order to generalize the study's results to other business areas and industries, as well as to other countries and geographic areas, the study has to be replicated in other contexts. Next, related to the construct validity, the relationship between ICS and life satisfaction was examined by applying a cross-sectional design, which implies that no conclusions can be drawn on the causal direction of this relationship. Finally, in this study, we did not test the discriminant validity of the ICSQ, which should be examined in future studies.

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Table A1.
Internal
communication
satisfaction
questionnaire (ICSQ)

Appendix

Satisfaction with feedback

1. Information on the consequences of doing my job poorly
2. Information on how much I contribute to the organization's success
3. Information on how much my job is appreciated within the organization
4. Feedback on how well I do my job

Satisfaction with communication with immediate superior

5. Availability of my immediate superior
6. How well my immediate superior is informed about the problems that I may encounter at work
7. How well my immediate superior understands my problems
8. Recognition of my potential by my immediate superior

Satisfaction with horizontal communication

9. Availability of colleagues
10. How successfully I am able to communicate with the members of my team
11. The outcomes of communicating with colleagues
12. Readiness of my colleagues to accept critical feedback

Satisfaction with informal communication

13. The number of decisions made based on informal communications
14. The amount of gossip in the organization
15. The amount of time I spend in informal communication
16. Usefulness of information transferred through informal channels

Satisfaction with information about the organization

17. Information on work protocols
18. Information on revenues, profit and the financial status of the organization
19. Information on changes in the organization
20. Information on legal regulations that affect the organization's operations

Satisfaction with communication climate

21. How much communication within the organization helps me to feel I am an important part of the organization
22. How much communication within the organization helps me to identify with the organization
23. How much communication within the organization promotes organizational values
24. How much communication within the organization encourages me to accomplish the organization's goals

Satisfaction with the quality of communication media

25. Communication media (e.g. written announcements, intranet, oral communication)
26. The possibility of communicating through new media
27. Quality of communication through new media
28. The mode of communication others choose to communicate with me

Satisfaction with communication in meetings

29. How well organized are the meetings that I participate in
30. Usefulness of information received in meetings
31. Receiving information relevant for job accomplishment on time
32. Duration of meetings

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