Self-assessment questionnaire development for soft skills competency and core value evaluations

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Article Info

ABSTRACT

Soft skills play a vital role for providing excellent customer service in the healthcare setting. This study aims to develop and assess the instrument validity and reliability before measuring the levels of soft skills competency and core value internalization on staffs at the Sultan Ahmad Shah Medical Centre @International Islamic University Malaysia (SASMEC@IIUM). A self-assessment questionnaire was developed through three phases. The first phase involved reviewing and identifying relevant literatures and existing soft skills assessment instruments through bibliographic searches and expert consultations. A conceptual model was then established based on the selected conceptual frameworks after determining all relevant soft skill domains. The second phase involved generating relevant items, removing duplicate or irrelevant items, and appraising the content validity by three experts. The third phase was data collection, wherein the finalized instrument was distributed to 32 staff of SASMEC@IIUM via google forms. The instrument reliability was investigated through internal consistency reliability or Cronbach's alpha, with all items, except for the construct 'gratitude', achieving acceptable values by exceeding the threshold value of 0.7. Subsequently, two gratitude items were removed from the questionnaire. The current instrument and theoretical framework employed in the self-assessment questionnaire development are valid and reliable for the actual application.

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1. INTRODUCTION

The importance of soft skills, particularly in the workplace, has been extensively discussed by numerous scholars across the globe, as soft skills could assist in adapting to career challenges by exhibiting positive behaviours [1], [2]. Chavan [3] asserted that employees are required to possess adequate knowledge and skills to maximise organizational performance, competitiveness, and advancement, as the most valuable employees are generally perceived to sufficiently demonstrate hard and soft skill competencies [4], [5]. Meanwhile, soft skills are vital for delivering and providing excellent healthcare customer service to patients

[6]. For example, effective and efficient communication is considered integral to improve patient care and satisfaction [7], [8], which was ranked as the top employability skill by healthcare employers [7], [9]. Furthermore, previous studies have also identified several essential healthcare soft skills, including teamwork [10], leadership [11], [12], critical thinking and problem-solving [13]–[15].

Organizational values emanate from employee values, which significantly shape the organizational culture [16] apart from the influence of effective management. Core values could be defined as shared values, norms, and approaches created or existed in an organization, which facilitate employee collaboration and interaction to achieve organizational missions and visions while fostering interpersonal relations [17]. Nonetheless, numerous studies highlighted soft skill deficiencies among employees, predominantly communication, teamwork, and leadership skills anticipated by employers [5], [18]. Therefore, an organization is required to ensure employees possess sufficient skills to bridge the expectation gap. Accordingly, soft skill assessments among healthcare personnel are currently not put as a priority by the healthcare organization [19].

Self-assessment is the most common method used in the evaluation of competence [20] and defined as the act of monitoring one's processes to make changes that improve performance and extensively applied to measure distinctive individuals' characteristics, which reflects the convenience of collecting data from target groups [21]. Yan et al. [22] defined self-assessment as an inwards process in evaluating one's own work through the process which requires a high level of self-awareness, self-reflection and self-judgment. Employing self-assessments requires self-reflection and self-monitoring of respondents, which are important for the process of lifelong learning and continuous development. Moreover, self-assessment tends to minimize communication barriers between researchers and respondents [23]. Hsien et al. [20] highlighted other advantages of the self-assessment which enable for assessing required data and information in different aspects, without external assistance. On the other hand, researchers discovered several disadvantages of applying self-assessments in collecting data, such as limited performance by respondents and not equally effective to all respondents, specifically the higher chance of measurement errors due to unclear or ambiguous questions [20], [24]. The ambiguity would result in different interpretations between researchers and respondents or between different groups of respondents. In addition, respondents' memory or comprehension would engender measurement errors, as accurate responses are based on sufficient and pertinent comprehension while readily retrieving past information or experience from memory, regardless of the question clarity. Conversely, low comprehension levels would lead to omitting or conjecturing the question purpose by providing cursory responses [20].

Simultaneously, the anchor problem, which is inadequate clarity of the measurement scale, would arise from vague numerical scales employed to measure skills. The issue is common in personal skill self-assessments as general scales with extreme values, such as 'very low' and 'very high', are frequently applied. As the scale values are not directly associated with objective real-life characteristics, respondents would refer to respective reference frames when answering the questions, thus rendering incomparable responses between groups [25]. In relation to that, three pertinent strategies are suggested to resolve the measurement errors in self-assessments, including improving relevant research instruments, producing acceptable instrument validity, and performing validation processes, such as recalibrating the data or developing appropriate control variables [26]. Resultantly, the advantages and effectiveness in collecting data, particularly regarding individual skills, would be significantly improved, although several minor flaws might be retained.

Since the official launch of the IIUM Medical Centre (later renamed as SASMEC @IIUM) in July 2016, the SASMEC @IIUM has recruited approximately 1,700 staff at multiple hospital levels and designations. Consequently, the administration is required to develop a suitable framework for on-the-job training to enhance job skills and competencies according to Shariah compliance. Furthermore, the SASMEC @IIUM was awarded for the comprehensive quality management system (QMS; ISO MS 9001:2015) and Shariah-based QMS (ISO MS 1900:2014) in December 2020 [27]. Therefore, the leading healthcare organization serves as a role model in the country by adhering to Shariah compliance in every governance aspect.

Shariah compliant hospital (SCH) is a concept wherein individuals would consider Islamic legal principles compliance when seeking healthcare treatments and services from healthcare providers [28]. Particularly, the SCH concept provides healthcare services and environments according to *Maqasid Shariah*, which includes Islamic paradigms, values, ethics, and cultures of healthcare professionals and patients. The concept also incorporates the building designs, facilities, medical procedures, and treatments available in the hospital [29]. For instance, the Shariah-Based QMS emphasizes the development of stipulated soft skills and core values to be internalized by staff during the respective organizational performance. Nonetheless, no instrument and framework are available for the evaluation of soft skill competencies and core value internalization among the SASMEC @IIUM staff, owing to the hospital being the first SCH healthcare centre. As such, this study aimed to develop and assess the instrument validity and reliability before measuring the levels of soft skill competencies and core value internalization among the SASMEC @IIUM staff. Outcome of this study may contribute to the best practice in healthcare organization and will boost patients' satisfaction as well as improve their health quality.

2. METHOD

The current self-assessment questionnaire was developed in three phases, namely: i) conceptual model development, ii) questionnaire development, and iii) survey administration, by referring to previous studies in the healthcare care setting [30]–[32]. The study was approved by the IIUM research ethics committee (IREC 2021-162). During data collection, all participants were informed of withdrawal rights and provided with a written information sheet describing the study objectives via Google Forms. Participants were also assured of the highest anonymity level by excluding personal identifiers, including respondent names. All consent forms were collected from participants to ensure voluntary participation.

2.1. Phase 1: conceptual model development

The first phase started with conducting literature search through various credible search engines, such as Scopus, Google Scholar, PubMed Health, PubMed Central, and ScienceDirect before reviewing the existing articles and journals on the healthcare value and soft skill assessment's instruments. After identifying all pertinent domains, several research frameworks from selected developed countries, including the United States of America [33], Canada [34], and Australia [33], and established organizations including Cambridge University [35]. The european union (EU) and united nations educational, scientific and cultural organization (UNESCO) [33] were employed for conceptual model development. Concurrently, the current soft skill framework was adopted from the Ministry of Education Malaysia, which focuses on higher education students [36] and adapted to the SASMEC @IIUM context. Initially, 16 domains were generated, namely: i) empathy, ii) respect, iii) gratitude, iv) self-esteem, v) self-motivation, vi) self-discipline/self-control, vii) resilience, viii) honesty, ix) trustworthiness, x) responsibility, xi) commitment, xii) adaptability, (xiii) teamwork, xiv) leadership, xv) communication, and xvi) moral and professional ethics. Meanwhile, the survey instrument was applied as a questionnaire for data collection to garner information related to behaviors, preferences, traits, and attitudes of the target group.

2.2. Phase 2: questionnaire development

The second phase involved questionnaire development encompassing generating a pool of measurement items in relevant subdomains, removing duplicate or irrelevant items, and validating the measurement items. Specifically, the process commenced with discussing the developed items with another two researchers, which resulted in the final nine domains, including: i) teamwork, ii) leadership, iii) communication, iv) moral and professional ethics, v) self-management, vi) resilience, vii) honesty, viii) trustworthiness, and ix) gratitude from the original 16 domains. Subsequently, subdomains and items were generated from the nine domains, with 21 subdomains being identified: i) collaboration or cooperation for task completion, ii) interaction, iii) role understanding (group leaders or members), iv) role model, v) lead project, (vi) team member supervision, vii) ability to present ideas understandably, effectively, and confidently, viii) ability to listen attentively and provide relevant feedback, ix) ability to communicate effectively with healthcare professional peers, patients, and communities, x) demonstrate ethical values and professional behaviours towards patients and healthcare personnel, xi) self-discipline, xii) self-control, xiii) self-motivation, xiv) self-belief, xv) optimism and purposeful direction, xvi) adaptability, xvii) self-honesty, xviii) sincerity, xix) self-trust; xx) trusted by leaders, xxi) and trusted by other staff. Correspondingly, 102 items were developed according to the nine domains and 21 subdomains. All item statements were developed to be straightforward, intelligible, and unambiguous, with every item established in either positive or negative directions to reduce equivocation.

All selected domains, subdomains, and items were subsequently reviewed by three experts selected for the process of content and construct validity. The selection is based on their personal expertise in assessing the soft skills and core values as well have vast experience in medical education and healthcare service. The first selected expert is an educational expert, particularly in psychometrics and education evaluation, and was contributed in numerous researches related to soft skills among students and workers, while second selected expert is a clinical specialist which clinically practiced at SASMEC @IIUM and involved directly in the management of SASMEC @IIUM in developing and inculcating core values among SASMEC @IIUM staff. The third selected expert is a senior clinical specialist which has lot of experience in providing training for medical education among students, lecturers, and medical practitioners, and formerly lead medical education unit at one of the established medical schools in Malaysia.

Expert review was frequently performed for content validation in other studies, particularly related to healthcare services, before a pilot test was conducted to examine the reliability and validity of the questionnaire [37]. The experts considered factors such as item clarity, face validity, appropriateness for construct evaluation, and potential for differentiating the target groups when deciding to retain or remove an item. For instance, each expert would convey personal opinions regarding whether to eliminate, retain, or modify the item. The experts also remarked on the modified items, while removing duplicate items. Additionally, the experts assessed the relevance level of each item corresponding to the respective construct on a five-point scale, which ranged from 1 (very poor), 2 (unsatisfactory), 3 (satisfactory or average), 4 (good), and 5 (excellent) to NA (not applicable).

Upon completing content validation, 10 domains were produced by including the excellence domain while renaming the honesty domain to sincerity, 21 subdomains were finalized by removing the lead project subdomain while including the unity domain, and establishing 117 items appraised on a four-point scale ranging from 1 (poor), 2 (unsatisfactory), 3 (satisfactory), and 4 (excellent) to not applicable (NA). From the content validity index (CVI) by the the three experts reviewed the items, a two-part questionnaire was created based on the 117 items. In the first part, respondents answered questions about personal characteristics, including age, gender, department or unit, and other facts. The second part consisted of 10 domains, namely: i) teamwork, ii) leadership, iii) communication, iv) moral and professional ethics, v) self-management, vi) resilience, vii) sincerity, viii) trustworthiness, ix) gratitude, and x) excellence, with 21 subdomains.

2.3. Phase 3: survey administration

In this phase, pilot test was used as instrument for the content and face validity. Data collection was conducted among 32 SASMEC @IIUM staffs, who represented top management, specialists, medical doctors, pharmacists, science officers, administrative officers, staff nurses, and others as shown in Table 1. The selected respondents were represented the actual various designation and level of staff at SASMEC @IIUM. The data were collected through publicly accessible web-based software Google Forms, wherein a participation invitation email was delivered to the respective official IIUM emails. All respondents provided personal responses within a fortnight of receiving the invitation email. Subsequently, Cronbach's alpha of each domain was analysed, with the inter-item correlation matrix value from the SPSS output appraised for further item refinement. Two inappropriate items were eventually removed from the questionnaire.

Table 1. Pilot test respondents

Designation	Number of respondents
Top management	1
Specialist/consultant	1
Medical officer	5
Pharmacist	3
Science officer	2
Administrative officer	3
Informative technology officer	1
Matron	1
Staff nurse	3
Radiographer	1
Medical therapist	1
Assistant medical officer	1
Assistant pharmacist	2
Assistant administrative officer	2
Assistant informative technology officer	1
Administrative assistant	3
Driver	1

3. RESULTS AND DISSCUSSION

A total of 32 questionnaires were distributed to the respondents with 31 Malays and one Chinese age between 21 to 40 years old completed the form. A total of 17 respondents were male staff while 15 were females, who belonged to two categories, namely the professional and management group and the supporting group. Most respondents possessed at least 3 years of working experience, including experience in the healthcare sector. The instrument reliability and validity were elucidated in the following sections according to the evaluation dimensions (input, process, and product) of core values and soft skills, with context evaluation determining staff from either the professional and management group or the supporting group.

3.1. Validity

Three experts in core value and soft skill evaluations as well as have vast experience in medical education were involved in construct and content validity. The experts provided evidence regarding validity by measuring the targeted constructs, which allowed the instrument to be more meaningful and produced appropriate inferences and decisions from the questionnaire scores. On the other hand, pilot test was conducted for the content and face validity of the study. Hence, the instrument used in this study was validated through construct, content, and face validity.

3.2. Reliability

The evaluation dimension consisted of 10 constructs, namely: i) teamwork, ii) leadership, iii) communication, iv) moral and professional ethics, v) self-management, iv) resilience, vii) sincerity, viii) trustworthiness, ix) gratitude, and x) excellence, with each construct possessing 21, 12, 11, 7, 17, 15, 9, 10, 9,

and 6 items respectively, thus resulting in total 117 items. Table 2 presents Cronbach's alpha value of each construct, with all constructs (except for gratitude) achieving a value above 0.7, which was acceptable for research purposes [38], [39]. As Cronbach's alpha value of the construct 'gratitude' was 0.522, the corrected item-total correlation value was observed from the item-total statistics table as shown in Table 3 to identify inappropriate construct items. Accordingly, two items G3 and G5 reflected negative values of –0.031 and –0.189, respectively, which were below the acceptable corrected item-total correlation value of 0.30 [40]–[42]. Thus, the two items were deleted from the construct 'gratitude' while retaining the remaining items. The Cronbach's alpha value of the construct 'gratitude' after item refinement was 0.801 as presented in Table 4.

Table 2. Cronbach's alpha values of each construct

Input evaluation construct	Number of items	Cronbach's alpha value
Teamwork	21	.908
Leadership	12	.884
Communication	11	.870
Moral and professional ethics	7	.710
Self-management	17	.789
Resilience	15	.935
Sincerity	9	.880
Trustworthiness	10	.921
Gratitude	9	.522
Excellence	6	.872

Table 3. The item-total statistics table

Item	Corrected item-total correlation
G1	.399
G2	.550
G3	-.031
G4	.360
G5	-.189
G6	.455
G7	.516
G8	.633
G9	.415

Table 4. Cronbach's alpha values of the construct 'gratitude' after item refinement

Input evaluation construct	Number of items	Cronbach's alpha value
Gratitude	7	.801

3.3. Discussion

Core values and soft skills are vital organizational components, especially in a medical-based organization. The interactions among professional staff, between professional and supporting staff, among supporting staff, between professional staff and patients, and between supporting staff and patients are integral to SASMEC @IIUM staff's improved credibility and professionalism. The current questionnaire evaluated soft skills and core values, particularly in Asian countries with limited pertinent assessments. Therefore, the psychometric properties of the present instrument to measure staff's perception of core value and soft skill implementation were developed and assessed. Simultaneously, presenting the questionnaire reliability and validity values are pivotal to elevated academic confidence with the data quality garnered via the questionnaire [42], [43]. Specifically, the current instrument was developed based on literature reviews and past instruments investigating core values and soft skills. Cronbach's alpha values of all constructs after item refinement were between 0.710 and 0.935, which was considered acceptable by past academicians as highlighted in [38]–[42] who asserted a value exceeding 0.7 for internal consistency.

The factor loadings of all constructs were discovered to be high, hence providing sufficient information on construct validity, although meaningful interpretations by the researcher were also considered. Meanwhile, the methodology applied to self-assessment questionnaire development in this study was similar to previous methodologies through several steps, namely conceptual model development, item pool generation, a review of items, and content validity establishment. Subsequently, survey administration was performed before evaluating the psychometric structures [30]–[32]. In addition, the present study adopted another study methodology, in which the steps consisted of item refinement from literature reviews and focus group discussions, followed by content validity examination by experts from several disciplines. The item refinement was conducted on a five-point Likert scale before disseminating the questionnaire to the respondents [37]. Similarly, Cronbach's alpha was employed in previous studies for reliability assessment, which demonstrated

satisfactory overall internal consistency [39], [41], [42]. Nonetheless, focus group discussions were not performed in this study for the item generation.

The benefits of employing a self-assessment questionnaire as a data collection tool in the current study include ease of administration, due to publicly accessible online web-based survey tools, such as Google Forms. Google Forms is a popular and user-friendly cloud-based data management tool for administrators or respondents, who are only required to possess a Google account to create a questionnaire as an administrator or to participate in the survey as a respondent. Since Gmail, a free email service under Google, is one of the main communication methods to convey important messages among SffASMEC @IIUM staff, Google Forms as data collection tools are convenient for respondents, whereby only clicking on the link provided by the administrator is required [44], [45]. Furthermore, self-assessment questionnaires provide efficient assessments and insights into specific research objectives, which are the levels of soft skill competencies and core value internalization from respondents' perspectives. Concurrently, self-assessment questionnaires allow respondents to be more comfortable expressing personal opinions without others' influences [21], [32].

Several study limitations were identified, including the possibility of reporting bias of the selected respondents, although pertinent efforts were performed to reduce the limitation impact by ensuring response anonymity. Meanwhile, the lack of available questionnaires from previous studies for combining the assessment of soft skill competencies among healthcare personnel and respective internalization of organizational core values in the single questionnaire required questionnaire development without relevant references. Simultaneously, the respondents might not represent all available job designations at the SASMEC @IIUM. In the present study, respondents were categorized into two major categories, namely the professional and management group and the supporting group. The professional and management group refers to personnel from grade 41 to VK7, with various levels and designations either from the clinical or administrative department. Similarly, the supporting group encompasses employees from grade 11 to 38, with a larger and variety designation greater than the professional and management group. Hence, the diversity of SASMEC @IIUM job designations might contribute to a different study outcome when every job representative is involved in this study.

The study results provided several implications for future studies, particularly in the healthcare sector, in terms of various aspects related to soft skill competency assessment among healthcare personnel concurrently with organizational core value internalization. The present study revealed that the developed instrument measuring the levels of soft skills competencies and core value internalization in the healthcare organization are reliable and available for further expansion for other related studies, such as required training and program for healthcare workers' soft skills competency development and effective methods for organizational core value internalization. Moreover, the instrument could be adjusted for other industries. Resultantly, a holistic and structured framework developed in the current study could generate a significant impact on the most optimal practice in healthcare organizations to enhance client satisfaction and organizational reputation.

4. CONCLUSION

The study finding demonstrated sufficient validity and reliability for the current instrument and framework employed in self-assessment questionnaire development for SASMEC @IIUM staffs' soft skill competency and core value evaluations. Conceptual model development, questionnaire development, and survey administration are the three key phases used for the development of self-assessment questionnaire. After performing slight modifications on the pilot study questionnaire, the finalized instrument could proceed with the actual application to achieve relevant study objectives in the future.

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