ORIGINAL ARTICLE

Development of a Scale Measuring Organizational Readiness to Change and Psychological Safety using a Sequential Exploratory Mixed Methods Approach in a Health Professions Education Setting

Evangeline Bascara dela Fuente, MD, MHA, MHPEd, DrHPEd,[1] Kevin Carl P. Santos, PhD[2] and Erlyn A. Sana, PhD[3]

[1]*College of Medicine, University of the Philippines Manila, Manila, Philippines*
[2]*College of Education, University of the Philippines Diliman, Quezon City, Philippines*
[3]*National Teacher Training Center for the Health Professions, University of the Philippines Manila, Manila, Philippines*

ABSTRACT

Background and Objective. There is a call for changes in health professions education to help address current and future challenges. For the effective management of change in institutions involved with health professions education, it is important to consider organizational readiness for change and psychological safety. In organizations, the presence of psychological safety facilitates learning that is integral in organizational development, especially those undergoing changes. There are tools available to measure organizational readiness to change and psychological safety but they are separate and tend to be lengthy. The study developed and validated a brief, straightforward tool that integrates psychological safety in the measurement of organizational readiness for change. It can be useful in the assessment of academic organizations undergoing change in order to facilitate implementation and promote effective change.

Methods. The study used a sequential exploratory mixed methods design. A conceptual framework on organizational readiness to change which included psychological safety was developed from a review of literature. Relevant constructs were defined and corresponding questions were constructed and scaled. Five content experts qualitatively assessed the scale and removed items which were redundant, lacked clarity, or were irrelevant. The items were then reviewed by selected participants to ensure face validity. Finally, the questionnaire was administered to members of a unit (N=89) which was undergoing organizational change to ensure construct validity. Construct validity, internal consistency, convergent validity, and discriminant validity were determined using PLS-SEM and yielded acceptable results.

Results. The scale developed addressed components of organizational readiness to change and psychological safety. The scale was deemed to have good content validity by five experts, good face validity as tested by a small pilot group, and acceptable construct validity, internal consistency, convergent validity, and discriminant validity.

Conclusion. The quantitative scale developed for measuring readiness to change was assessed qualitatively and quantitatively, and deemed to have relevance and validity. It can be used by academic units embarking on change initiatives to assess organizational readiness with due consideration for psychological safety. Quantitative results from the tool can be supplemented with qualitative measures such as observations, interviews or focused group discussions to better identify and address areas needing attention. The study has the potential to make a significant contribution to both the theory and practice of change management.

Keywords: organizational development, readiness to change, psychological safety

Corresponding author:
Evangeline Bascara dela Fuente, MD, MHA, MHPEd, DrHPEd
College of Medicine
University of the Philippines Manila
Taft Avenue, Ermita, Manila 1000, Philippines
Email: ebdelafuente@up.edu.ph
ORCiD: https://orcid.org/0000-0001-9214-1107

INTRODUCTION

Significant gaps and inequities in health service provision continue to be a challenge despite the exponential increase in medical knowledge and technology. The situation calls for responsive changes in health professions education to help augment health service provision.[1] For the effective management of change, it is important to consider factors that enhance the likelihood of participation in change-related activities. Two such factors are readiness to change and psychological safety.[2-4]

Studies have shown that organizations with high readiness for change are twice as likely to achieve successful change outcomes. They adopt new processes faster, have fewer disruptions, and experience smoother implementation.[2,5,6] At the organizational level, *readiness to change* refers to a shared sentiment by members that they are psychologically and behaviorally prepared to take relevant action. The quality of being shared is given emphasis because organizational development usually involves complex changes that require collective action among individuals and units. Simply put, organizational readiness to change means that members are collectively willing and able to participate.[2]

As a construct, it can be said that readiness to change consists of two subconstructs: change commitment and change efficacy. *Change commitment* has been defined as a force that binds a person to a course of action deemed necessary for the successful implementation of change initiatives. The mindset may reflect a belief in its benefits, a recognition of its necessity, or a sense of duty or obligation.[7,8] In an organization, it is a shared resolve to implement a change. Change commitment is affected by change valence.[2] *Change valence* is a set of assessments regarding the perceived value of the change for the organization. Parameters include need, benefit, urgency, and appropriateness in relation to the change.[9]

Change efficacy is an extension concept of Bandura's social learning theory regarding the impact of a belief in the ability to produce results by their own actions. It is related to how a person feels about the potential outcome if he follows a certain path of action or behaves in a certain way.[10,11] In an organization, it refers to a shared belief in the collective capability to engage in change-related initiatives or courses of action necessary to implement a change.[12] It is affected by their appraisal of three key determinants of implementation capability, namely, task demands, resource availability, and situational factors.[2] *Task demands* pertain to the courses of action, the resources, the time, and the sequencing of activities needed in order to implement the change. *Resource availability* looks into the human, financial, material, and informational resources necessary to implement the change well. Meanwhile, *situational factors* refer to whether there is sufficient time or whether the political environment or organizational culture supports the implementation of change.[2]

Psychological safety, on the other hand, has been recognized as an important attribute which promotes change readiness in a group.[13] Psychological safety refers to the shared belief of members that it is okay to engage in voice behavior, that is, to speak up with ideas, questions, concerns, or mistakes without being humiliated or punished. The presence of psychological safety increases the likelihood for members to engage in learning behaviors which is integral in organizational development.[3,4,14]

Figure 1 illustrates the antecedents of organizational readiness to change and the potential outcomes as defined above. Theoretically, the higher the change valence and the more positive the assessment of the key determinants of implementation capability, namely, task demands, resource availability, and situational factors, in the presence of psychological safety, then the greater the readiness for change and the more likely that the members will participate in change-related initiatives thereby leading to implementation effectiveness.

In the local context, particularly in health professions education settings, psychological safety may need to be teased out between what is experienced in relation to peers and what is experienced with persons in authority. This is due to various factors that may affect voice behavior and consequently, psychological safety. Two of these factors are conflict avoidance and power distance.

Filipinos are generally depicted to be highly concerned with the value of "smooth interpersonal relationship" or *pakikisama*, implying a penchant for avoiding conflict at all cost. More recent literature attribute conflict avoidance to the value of *kapwa*, a "reciprocal being", secured through *pakikipagkapwa* or give-and-take over time between the parties involved. Part of *pakikipagkapwa* is quiet tolerance

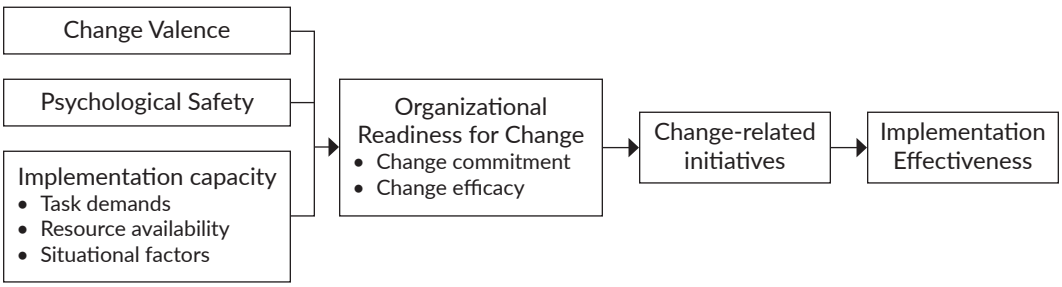

Figure 1. Antecedents and outcomes of organizational readiness to change.

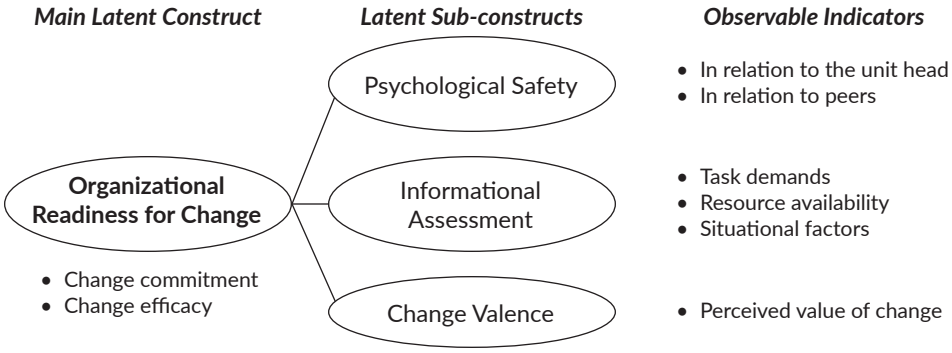

Figure 2. Organizational readiness to change in a health professions education setting.

which can be tantamount to overlooking transgressions thereby dampening voice behavior.[15]

On the matter of power distance, in a study across 40 countries, Hofstede identified power distance to be among the dimensions of culture that have impact on management practices.[16] Power distance is defined as the degree to which members of a unit accept differences in power and authority. The Philippines was seen to be very high on power distance. In cultures with high power distance, power inequality and therefore hierarchy is accepted and those in charge hold power and have special entitlements. This is because persons in charge are expected to have earned authority due to the possession of special knowledge and skills gained through long years of training or experience. Age and seniority are often equated with wisdom. This attitude can be traced back to early socialization in the family and in school. Children must never answer back nor question authority. They are taught to respect and obey their parents and elders. When these children enter school, the superior role is ascribed to teachers. When these individuals take on work roles, the superior role is transferred to the person they report to. They obey directives from and seldom question people in authority. The use of voice behavior can be considered risky behavior insofar as it might show lack of respect for elders and seniors.[16] The impact of power distance is particularly apparent in healthcare organizations which remain characteristically hierarchical.[17]

The proponent of psychological safety describes the role of context support and team leader coaching but does not specifically refer to the impact of conflict avoidance and power distance on team members.[18] These two factors may respectively affect how members relate with peers and with persons in authority, particularly in a healthcare professional education setting.

Conceptual Framework

Figure 2 illustrates a conceptual framework on organizational readiness to change developed from review of literature.[4,12,14] It is consistent with the content of Figure 1 with observable indicators of the subconstructs teased out.

Organizational readiness assessments are important support tools for successful implementation. A systematic review of available readiness instruments found that assessments with greater inclusivity tended to have numerous items or be imprecise and most assessments were developed with a particular setting or intervention in mind.[6] There were no instruments that specifically included psychological safety in a health professions education setting.[4,6,13,14]

The objectives of this study were (1) to develop a scale on organizational readiness to change for an academic setting for health professions education that includes psychological safety and (2) to determine the content validity, face validity, and construct validity of the scale.

METHODS

Design

This study used a sequential exploratory mixed methods design consistent with the MEASURE Approach for instrument development.[19] The process involved several phases: review of literature to establish a theoretical framework, construction of a conceptual framework, development of content and scale with expert reviewers, pilot testing with a small sample, and then evaluating validity with a larger sample.

Study Setting

Given that the instrument is mainly intended for use in an academic setting for health professions education, the study was conducted in a higher education institute in Metro Manila.

Population and Sampling Technique

Five professionals with sufficient training and experience to qualify as survey and questionnaire experts and subject matter experts were purposely selected from various academic institutions to ensure content validity. The experts consisted of two psychologists with doctorate degrees who were teaching in the academe, one physician with a Master's degree in Bioethics, and two psychiatrists, one of whom had a doctorate degree.

To ensure face validity, members of the academe from various disciplines who approximated the educational back-

ground and ages of the intended participants were invited using convenience sampling. This involved faculty members from various disciplines, college students, and recent college graduates affiliated with the same academic institution.

For construct validation, all the members of a clinical department that was undergoing change initiatives were invited to participate. The department had a total population of 92 members.

For a quantitative instrument validation study, the generally accepted "rule of thumb" is 10 to 20 participants per item in the instrument. The use of such rules of thumb, or absolute numbers like 100, or 1000, have already been widely questioned, given the differences in characteristics of participants and factors being considered.[20] Their use has been shown to yield imprecise estimates.

An alternative method recommended for the intended data analysis method was utilized. The alternative method was based on the inverse square root method and in the mathematical equation, what is required is an estimate of the smallest coefficient in the resulting path diagram, called the minimum beta coefficient. For a minimum beta coefficient of 0.3, the minimum sample size is 69 participants.[21] A similar study by Cabatan et al. had 90 participants, five constructs, and 100 items.[22]

Data Collection

Informed consent was secured from all potential participants by research assistants at the start of the study.

The five experts were contacted by electronic mail. The eight constructs identified from review of literature and the proposed items were sent to each of them for assessment of relevance to the construct being measured (content) and for appropriateness of the phrasing (structure). Based on qualitative feedback, the questionnaire was revised over several rounds until saturation was reached.

The approved version was sent to selected groups of participants who were requested in person and by electronic mail to review the questionnaires for comprehensibility. Based on feedback, the questionnaire was revised over several rounds until saturation was reached. The resulting questionnaire was sent to the experts for final approval.

The approved questionnaire was sent in both digital (Google form) and hard copies (Microsoft pdf format) to members of a unit that was undergoing organizational change to measure construct validity.

Data Processing and Analysis

For the quantitative phase of the study, the partial least squares-structural equation modeling (PLS-SEM) was chosen. PLS-SEM has been deemed widely applicable in many social science disciplines, including organizational management, when analyzing complex interrelationships between observed and latent variables. The PLS-SEM allows estimation of models with several constructs and a large number of indicator variables. The use of PLS-SEM is recommended when the path model involves one or more constructs which have been formatively measured, when the structural model is complex and includes many constructs, indicators and model relationships, when a small population restricts the sample size, when distribution issues are a concern, such as lack of normality, and when the study requires latent variable scores for follow-up analyses.[23] It was deemed particularly appropriate for this study because a small population restricts the sample size and there is a lack of normality.[23] The PLS-SEM is considered to have a remarkable ability to achieve acceptable power even with very small sample sizes.[21] The SEMinR R package was used for this study.[24]

Ethical Considerations

The study was approved by the Research Ethics Board of the University of the Philippines Manila with UPMREB code 2023-0525-01. Informed voluntary consent was obtained by research assistants. Participants were informed that they could withdraw from the study anytime. The privacy of the participants were protected and any personal information shared was kept confidential.

RESULTS

Content and Scale Development

The eight variables from the framework (Figure 2) were defined (Table 1). There were two dependent variables, namely, change commitment and change efficacy while the rest were independent variables. A table of specifications (Table 1) was developed to ensure that all variables were adequately represented. A pool of 100 questions was constructed and scaled. The items were presented as statements to be rated for agreement using a 10-point Likert scale with options ranging from 1 (strongly disagree) to 10 (strongly agree).

Of the 100 items, many items were found to be redundant while some were not as relevant. The difference between some terms used such as "committed," "determined," and "motivated" was not clear. Some statements needed clarification, such as "adjust to these initiatives."

The statement "the objectives of the department project are clear to me" was revised to "the expected outputs of the department project are clear to me" in keeping with the outcome-based approach.

The statement "the department project promotes the interests of our department and our stakeholders" was expanded to two statements:

The department project addresses the needs of our department.

The department project addresses the needs of our stakeholders such as our trainees, students and patients.

Instead of "We are doing all that we can to implement the department project," it was modified to "We are doing all that we can to accomplish the outputs of the department project."

Table 1. Table of Specifications

Variable/Definition	Original pool of items	Items left after qualitative assessment	Items left after quantitative validation	Sample questions
Change valence An assessment that the change initiative is of value to the organization.	12	7	6	• The department project is aligned with our department's mission, vision and goals. • The department project has significant value for our department. • I understand why we are undertaking this initiative at this time.
Task demands An objective assessment of the course of action necessary to implement the change initiative.	12	6	5	• The expected outputs of the department project are clear to me. • I know what specific tasks are needed to accomplish the outputs.
Resource availability An objective assessment of the resources necessary to implement the change initiative.	12	8	7	• I know what resources are needed in order to accomplish the outputs. • I know the amount of time required to accomplish the outputs. • Our department has the human resources needed to accomplish the outputs.
Situational factors An objective assessment of the suitability of the internal political environment to the implementation of the change such as Consistent leadership messages and actions, Information sharing through social interaction, and Shared experiences including experience with past change efforts.	12	8	7	• A clear plan has been developed regarding this department project. • Our department has recently experienced some success in meeting department targets and expectations. • The department project can be discussed openly.
Psychological safety with unit heads A shared belief held by members that the team is safe for interpersonal risk taking in relation to the unit head.	14	7	7	• If I had a question or was unsure of something in relation to work, I can ask my unit head.
Psychological safety with peers A shared belief held by members that the team is safe for interpersonal risk taking in relation to peers/the other members of the unit.	14	7	7	• If I made a mistake in my unit, I would feel safe about discussing it with my peers.
Change commitment An assessment of the level of commitment of the members in the implementation of the change initiative, regardless of their individual reasons.	12	5	4	• We are doing all that we can to accomplish the outputs of the department project.
Change efficacy The shared belief in the collective capability of members to engage in the course of action necessary to implement a change.	12	5	4	• We are confident in our capacity to perform the tasks needed in completing this department project.
Total	100	53	47	

Table 2. Distribution of Survey Respondents according to their Demographic Characteristics (N=89)

Demographic Characteristics	Frequency (Percent) (N=89)
Sex	
Female	45 (50.57)
Male	44 (49.44)
Age (years)	
Mean	36.91
Standard Deviation	9.28
Range	40
Minimum	24
Maximum	64
Educational Attainment (N=89)	
Some college, but no degree	4 (3.26)
Associate degree (e.g., Associate in Office Administration)	2 (2.24)
Bachelor's degree (e.g., BA, BS)	23 (25.84)
Master's degree (e.g., MA, MS)	2 (2.24)
Professional degree (e.g., MD, JD)	57 (64.04)
Doctorate degree (e.g., PhD, EdD)	1 (1.12)

Table 3. The Model's R^2, Adjusted R^2 Values and Path Coefficients

Variable	Change Commitment	Change Efficacy
R^2	0.704	0.695
Adjusted R^2	0.682	0.673
Change Valence	0.016	0.049
Task Demands	0.247	0.285
Resource Availability	0.129	0.111
Situational Factors	0.460	0.489
Psychological Safety with Head	-0.107	-0.040
Psychological Safety with Peers	0.210	0.036

Over several consultations, the items were revised and gradually pared down to a total of 53 items for eight constructs. For the independent variables, there were seven items for change valence, six items for task demands, eight items for resource availability, eight items for situational factors, seven items for psychological safety with unit heads, and seven items for psychological safety with peers. For the dependent variables, there were five items for change commitment, and five items for change efficacy.

Face Validity

Informal consultations were conducted with members of the intended participant categories to ensure that the phrasing of the questionnaire was in keeping with the context. This involved introducing the topic, providing a relatable reference point when responding to the items, and ensuring awareness of and involvement with the topic.

The English version was then submitted to UP Manila Sentro ng Wikang Filipino for Tagalog translation of the tool. The Tagalog translated statements were paired with the English statements so that only one questionnaire would be utilized instead of an English and a Tagalog version.

To ensure face validity, members from different disciplines and levels of the academe who approximated the educational background and ages of the intended participants were invited to review the items for comprehensibility. The shared feedback was that the questionnaire content and phrasing in English were fairly easy to understand and respond to. The Tagalog statements were not as easy to understand and were rephrased into more conversational versions to improve comprehensibility. The questionnaire was finalized and shown to the content experts to secure final approval.

Construct Validity

Quantitative data was collected from members of a department which had been involved in recent change initiatives. The entire population, numbering 92, was invited to participate. Ninety members consented to participate while two declined representing 97.83 percent response rate. Among the 90 members who gave their consent, 89 completed the questionnaire representing 98.89 percent response rate. Table 2 shows the profile of respondents who participated in the study.

The quantitative data from the survey questionnaire was encoded and cleaned. The negatively stated items were reverse scored and all responses were checked and cross-checked for accuracy in encoding. A structural model was generated using the SEMinR R package to yield path coefficients and adjusted r square (R^2) values for the two dependent variables, change commitment and change efficacy. The R^2 values describe the percentage in which the total responses for each of the independent constructs collectively contribute to the responses on the dependent variables. An adjusted R^2 value takes into consideration the total number of independent variables to yield information on whether there may be too many independent variables that may not be relevant to the dependent variables.

There were 89 observations for each of the items on the eight constructs. For quantitative instrument validation, the first run performed on the data set for 53 items using the SEMinR package checked on the factor loadings of items of each construct. Reflective measurement models are used to yield indicator loadings. Indicator loadings quantify the reliability of the construct in explaining the variance in the dependent variable. It provides values similar to confirmatory factor analysis. Indicator loadings above 0.70 correspond to an explained variance or indicator reliability of at least 50%.

Table 4. Evaluation of Reflective Measurement Models on Indicator Reliability

	Change Valence (CV)	Task Demands (TD)	Resource Availability (RA)	Situational Factors (SF)	Psychological Safety with Head (PSH)	Psychological Safety with Peers (PSP)	Change Commitment (CC)	Change Efficacy (CE)
CV1	0.550	-	-	-	-	-	-	-
CV2	0.723	-	-	-	-	-	-	-
CV3	0.778	-	-	-	-	-	-	-
CV4	0.673	-	-	-	-	-	-	-
CV5	0.865	-	-	-	-	-	-	-
CV6	0.775	-	-	-	-	-	-	-
TD1	-	0.648	-	-	-	-	-	-
TD2	-	0.848	-	-	-	-	-	-
TD3	-	0.836	-	-	-	-	-	-
TD4	-	0.451	-	-	-	-	-	-
TD5	-	0.802	-	-	-	-	-	-
RA1	-	-	0.484	-	-	-	-	-
RA2	-	-	0.652	-	-	-	-	-
RA3	-	-	0.624	-	-	-	-	-
RA4	-	-	0.608	-	-	-	-	-
RA5	-	-	0.695	-	-	-	-	-
RA6	-	-	0.642	-	-	-	-	-
RA7	-	-	0.629	-	-	-	-	-
SF1	-	-	-	0.771	-	-	-	-
SF2	-	-	-	0.777	-	-	-	-
SF3	-	-	-	0.733	-	-	-	-
SF4	-	-	-	0.661	-	-	-	-
SF5	-	-	-	0.761	-	-	-	-
SF6	-	-	-	0.611	-	-	-	-
SF7	-	-	-	0.676	-	-	-	-
CC1	-	-	-	-	-	-	0.773	-
CC2	-	-	-	-	-	-	0.855	-
CC3	-	-	-	-	-	-	0.815	-
CC4	-	-	-	-	-	-	0.847	-
CE1	-	-	-	-	-	-	-	0.747
CE2	-	-	-	-	-	-	-	0.874
CE3	-	-	-	-	-	-	-	0.891
CE4	-	-	-	-	-	-	-	0.850
PSH1	-	-	-	-	0.767	-	-	-
PSH2	-	-	-	-	0.823	-	-	-
PSH3	-	-	-	-	0.854	-	-	-
PSH4	-	-	-	-	0.513	-	-	-
PSH5	-	-	-	-	0.806	-	-	-
PSH6	-	-	-	-	0.702	-	-	-
PSH7	-	-	-	-	0.741	-	-	-
PSP1	-	-	-	-	-	0.555	-	-
PSP2	-	-	-	-	-	0.603	-	-
PSP3	-	-	-	-	-	0.568	-	-
PSP4	-	-	-	-	-	0.721	-	-
PSP5	-	-	-	-	-	0.782	-	-
PSP6	-	-	-	-	-	0.495	-	-
PSP7	-	-	-	-	-	0.670	-	-

CC – Change Commitment, CE – Change Efficacy, CV – Change Valence, TD – Task Demands, RA – Resource Availability, SF – Situational Factors, PSH – Psychological Safety with Head, PSP – Psychological Safety with Peers

Indicators with loadings between 0.40 and 0.70 should be considered for removal. Indicators with very low loadings (below 0.40) should be removed.[25]

There were six items with loadings below 0.40, which were removed. These items came from each of the constructs except for psychological safety involving the unit head and psychological safety involving peers. There remained a total of 47 items for eight constructs. For the independent variables, there were six items for change valence, five items for task demands, seven items for resource availability, seven items for situational factors, seven items for psychological safety with unit heads, and seven items for psychological safety with peers. For the dependent variables, there were four items for change commitment, and four items for change efficacy.

A second run was done on the data set of 47 items using the SEMinR package after the removal of the 6 items with low reliability.[24] Based on the model's R^2 values (r square values) for the two dependent variables (Table 3), 70.4 % of the total responses on commitment to change (CC) can be explained by the different constructs and for change efficacy (CE), about 69.5% can be explained by the constructs. These values show that the independent variables can predict a substantial variation of change commitment and change efficiency. The adjusted R^2 values are not very different from the R^2 values, suggesting that the independent variables are indeed relevant to the model.

Factor loadings of the remaining items on the constructs were assessed and all the remaining indicators had loadings above 0.40, indicating construct validity (Table 4). For Table 4, all blank cells have zero.

Internal consistency for reliability testing using Cronbach's alpha is the extent to which indicators measuring the same construct are associated with each other.[26] The recommended values are 0.80 to 0.90 with minimum values of 0.60 in exploratory research. All constructs satisfied the 0.6 threshold, hence showing that the indicators measuring the same construct are associated with each other (Table 5).

Convergent validity is the extent to which the construct converges in order to explain the variance of its indicators. It was evaluated using the average variance extracted (AVE) which is the mean of a construct indicators' squared loadings. The minimum acceptable AVE is 0.5 or higher.[27] All values of AVE satisfied the 0.5 threshold. Hence, we can say that the construct converges in order to explain the variance of its indicators (Table 5).

Meanwhile, discriminant validity was assessed using the heterotrait monotrait (HTMT) method (Table 6). Discriminant validity is the extent to which each construct is correlated with the other constructs. The heterotrait monotrait (HTMT) method is the average value of the indicator correlations across constructs relative to the geometric mean of the average correlations for the indicators measuring the same construct. HTMT values should not exceed 0.9 for constructs that are conceptually very similar and 0.85 for constructs that are conceptually more distinct. If they exceed, then they seem to be the same construct.

Psychological safety involving peers and psychological safety involving unit heads exceeded the threshold of 0.6, indicating conceptual similarity. This is acceptable since both refer to psychological safety. Change commitment and change efficacy also exceeded the threshold of 0.6 and can be deemed to be conceptually similar. This is acceptable because both refer to readiness to change. Others are below the threshold of 0.6 so they measure conceptually more distinct constructs.

DISCUSSION

The current tool addresses the need for a measure of organizational readiness for change which includes psychological safety and is suitable for use in an academic unit undergoing change. It is brief, comprehensible, and will not take much time to answer. The tool has been qualitatively and quantitatively validated. The results showed that the items had construct validity, internal reliability, convergent validity, and discriminant validity.

There are two main constructs and three subconstructs teased out into six observable indicators. These constructs are

Table 5. Internal Consistency and Average Variance Extracted (AVE)

Variable	Cronbach's alpha	AVE
Change Valence	0.924	0.727
Task Demands	0.897	0.717
Resource Availability	0.898	0.619
Situational Factors	0.933	0.713
Psychological Safety with Head	0.942	0.744
Psychological Safety with Peers	0.900	0.628
Change Commitment	0.928	0.822
Change Efficacy	0.936	0.841

Table 6. Discriminant Validity

Variable	CV	TD	RP	SF	PSH	PSP	CC	CE
CV	0.853	-	-	-	-	-	-	-
TD	0.692	0.847	-	-	-	-	-	-
RA	0.525	0.710	0.787	-	-	-	-	-
SF	0.752	0.643	0.684	0.844	-	-	-	-
PSH	0.540	0.443	0.356	0.615	0.862	-	-	-
PSP	0.600	0.509	0.376	0.653	0.852	0.792	-	-
CC	0.668	0.704	0.667	0.789	0.518	0.602	0.907	-
CE	0.673	0.713	0.673	0.784	0.484	0.538	0.873	0.917

CC – Change Commitment, CE – Change Efficacy, CV – Change Valence, TD – Task Demands, RA – Resource Availability, SF – Situational Factors, PSH – Psychological Safety with Head, PSP – Psychological Safety with Peers

supported in literature and are consistent with what is covered by other scales.

The distinctive feature of this scale is the inclusion of psychological safety and its delineation in relation to peers and in relation to persons in authority. This is particularly relevant in consideration of the potential impact of factors such as the Filipino trait of kapwa and the hierarchical nature of organizations in the local setting. Their widespread practice may be a hindrance to voice behavior and consequently to psychological safety. The tool provides a more nuanced assessment which can help identify concerns that may need attention.

The scale is meant to serve as an implementation assessment tool. The constructs and corresponding questions can provide administrators with a checklist of areas that need to be addressed to promote participation in change-related activities and enhance implementation effectiveness. The quantitative results of the scale can provide administrators with feedback as to what areas are contributing to organizational readiness and therefore being adequately addressed versus what areas do not contribute to readiness and may therefore need to be reinforced. A qualitative assessment through the use of interviews or focused group discussions based on the answers to the scale can provide more guided approaches.

Limitations

The study has a small sample size from a single academic unit. While the choice of statistical analysis may allow for small sample sizes, the limitation in the context may restrict generalizability across other organizations. All members of the small department were included to ensure that the composition of participants reflected the categories found in larger units with administrators, faculty members, trainees, and support staff but in larger numbers.

Self-report surveys are susceptible to acquiescence and social desirability bias but they provide access to phenomenological data which may not be obtainable in any other way. The potential bias was mitigated by careful phrasing and the provision of a safe space for responding. To enhance the value of the quantitative data, collection of qualitative data through observation, interview, and focused group discussions are recommended.

The experts opted to perform a qualitative review. A concurrent quantitative review could have increased the robustness of the content validity process. The conceptual similarity between some constructs may reduce the tool's ability to distinctly measure those constructs and their particular contribution to organizational readiness.

Despite the limitations noted, the scale can still be of value in helping users understand and address the constructs included. The phrasing of the questionnaire will still need to be adapted to the context of the intended users. Useful data can be gathered by looking not just at the composite scores but also at the average of the individual ratings to discern the relevance of each item to the users. These items can then be further explored through observation, interviews, and focus group discussions.

CONCLUSIONS

The quantitative scale developed for measuring readiness to change was assessed qualitatively and quantitatively and deemed to have relevance and validity. It can be used by academic units embarking on change initiatives to assess organizational readiness with due consideration for psychological safety. Quantitative results from the tool can be supplemented with qualitative measures such as observations, interviews or focused group discussions to better identify and address areas needing attention. The study has the potential to make a significant contribution to both the theory and practice of change management.

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Statement of Authorship

All authors certified fulfilment of ICMJE authorship criteria.

Author Disclosure

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