







Cultural adaptation and validation of the General Practice Nurse Satisfaction Scale

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ABSTRACT

Objective: To culturally adapt and validate the General Practice Nurse Satisfaction Scale for the Brazilian context.

Method: Methodological study performed according to guidelines provided in the international scientific literature and validation of the Australian instrument for the Brazilian context. The sample consisted of 199 patients admitted from August 2017 to January 2018 in a public university hospital in the south of Brazil. Data were analyzed using factor analysis and Cronbach's alpha.

Results: According to factor analysis, 21 questions were validated and divided into four dimensions: interpersonal relationship and communication, confidence, credibility, and dedication. The instrument presented satisfactory internal consistency, with Cronbach's alpha equal to 0.93, and ranging between 0.87 and 0.66 for the dimensions.

Conclusion: The instrument's Brazilian version is valid and reliable to assess the satisfaction of patients with nursing care.

Keywords: Validation study. Patient satisfaction. Patient-centered care. Nursing.

RESUMO

Objetivo: Adaptar culturalmente e validar o instrumento *General Practice Nurse Satisfaction Scale* para o contexto brasileiro.

Método: Estudo metodológico, realizado segundo recomendações da literatura científica internacional e validação do instrumento australiano para sua utilização no contexto brasileiro. A amostra foi constituída de 199 pacientes internados no período de agosto de 2017 a janeiro de 2018 em um hospital público e universitário no sul do Brasil. A análise dos dados ocorreu por meio de análise fatorial exploratória e alfa de Cronbach.

Resultados: A partir da análise fatorial exploratória, foram validadas 21 questões divididas em quatro dimensões: relacionamento interpessoal e comunicação; confiança; credibilidade e dedicação. O instrumento apresentou consistência interna satisfatória, com alfa de Cronbach 0,93 e variando entre 0,87 e 0,66 para as dimensões.

Conclusão: A versão brasileira do instrumento tem validade e fidedignidade para ser utilizada na avaliação da satisfação do paciente com o serviço de enfermagem.

Palavras-Chave: Estudo de validação. Satisfação do paciente. Assistência centrada no paciente. Enfermagem.

RESUMEN

Objetivo: Adaptar y validar culturalmente el instrumento de la *General Practice Nurse Satisfaction Scale* para el contexto brasileño.

Método: Estudio metodológico, realizado a través de los pasos de traducción, síntesis, retrotraducción, evaluación por el comité de expertos, pre-prueba y revisión del proceso de adaptación por parte de los investigadores. La muestra consistió en 199 pacientes ingresados desde agosto de 2017 hasta enero de 2018 en un hospital público y universitario en el sur de Brasil. El análisis de los datos se realizó mediante análisis factorial y alfa de Cronbach.

Resultados: Del análisis factorial, 21 preguntas se dividieron en cuatro constructos: relación interpersonal y comunicación; confianza, credibilidad y dedicación. El instrumento presentaba una consistencia interna satisfactoria, con alfa de Cronbach de 0,93 y entre 0,87 y 0,66 para las construcciones.

Conclusión: La versión brasileña del instrumento tiene validez y confiabilidad para ser utilizada para evaluar la satisfacción del paciente con el servicio de enfermería.

Palabras clave: Estudio de validación. Satisfacción del paciente. Atención dirigida al paciente. Enfermería.

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INTRODUCTION

Patient satisfaction within a hospital context refers to the reaction of individuals to the most salient aspects of care delivery, a behavioral and subjective response to the aspects that involve care⁽¹⁾. Thus, specific instruments are needed to assess patient satisfaction accurately⁽²⁻³⁾.

Identifying satisfaction from the perception of patients enables decision-making and health actions to be directed to the patients' real needs⁽⁴⁾, especially actions and decisions concerning hospitalized patients because the expectations of these patients and their perceptions of intra-hospital care are aspects that define their level of satisfaction⁽⁵⁾. Even though adult patients are not always considered vulnerable individuals, the combination of being hospitalized and requiring the care provided by a health staff may become a situation that prevents patients from fully expressing their opinions and choices⁽⁵⁾.

It is believed that the tasks performed by the nurses in hospital facilities need to be investigated due to technological advancement, a growing need for health care, and the demand on the part of the community toward health care⁽⁶⁾.

From this perspective, investigating the satisfaction of patients with nursing care can support improved care planning by identifying attributes that either contribute or hinder patient satisfaction and have the potential to transform the practice of managers as the results of patient satisfaction can be used as indicators of the quality of care delivery, guiding the managers' decision making⁽⁶⁾.

Nurses can support this process because they are considered the main link between patients and hospital and constitute the largest group of workers in contact with patients uninterruptedly, being able to promote the maintenance, recovery, and rehabilitation of health through nursing care⁽⁶⁾.

Patient satisfaction is a subject investigated in various countries through different methodologies, both quantitative and qualitative, and even mixed methods⁽³⁻⁴⁾. The main findings characterize patient satisfaction with nurses from the perspective of issues that pervade clinical care, characterizing patient-driven care, as well as care based on the functioning and organization of health services^(2,7-8).

Additionally, Brazilian and international studies show that the main findings of studies addressing patient satisfaction support the assessment of quality^(5,9), as well as the identification and understanding of the correlation between care delivery and patient satisfaction through the delivery of integral care that is shared between patients and health workers^(2,8-9).

International researchers have developed numerous instruments since the 1970s to assess patient satisfaction with hospital healthcare. These include the Patient Satisfaction Questionnaire⁽¹⁰⁾ and the SERVQUAL (Scale for Measuring Consumer Perceptions of Service Quality)⁽¹¹⁾, among others. In France, for instance, inpatient satisfaction has been addressed, since 2015, in every hospital using the *I-Statist*⁽³⁾.

In Brazil, research addressing patient satisfaction with nursing services provided in a hospital context is still incipient. Few instruments addressing this subject have been validated, especially in terms of relational dimensions. In this context, the literature shows that the relational dimensions of care, focused on patients and workers, influence patient satisfaction because these are the dimensions patients most frequently value⁽⁸⁾, which justifies this study. The validation of instruments is also intended to identify and minimize measurement bias and improve the consistency of findings⁽¹²⁾.

The validated instruments most frequently used in Brazil are the Patient Satisfaction Instrument (PSI), which is composed of 25 items measuring patient satisfaction with the professional, educational, and trust domains⁽¹³⁾ and the Newcastle Satisfaction with Nursing Scales (NSNS), an instrument with more than 30 questions measuring patient satisfaction with nursing care and experiences with the care delivered during hospitalization⁽¹⁴⁾. Therefore, other instruments emphasizing interpersonal aspects in the relationship established between nurses and patients⁽⁷⁾, need to be validated to contribute to the identification of factors that promote satisfaction⁽³⁾.

The Australian General Practice Nurse Satisfaction Scale (GNPS)⁽⁷⁾, designed to analyze patient satisfaction based on two dimensions, has been used, especially in Australia. The first domain addresses interpersonal relationships and (verbal and non-verbal) communication, while its second domain addresses confidence and credibility. It can be used in different health facilities, evidencing the role of nurses beyond clinical and instrumental aspects⁽⁷⁾.

From this perspective, the GNPS⁽⁷⁾ proved to be valid and reliable to collect data from the perspective of patients concerning nursing care in the Australian context and is an effective and essential instrument for the management and improvement of the quality of nursing care. In this sense, the use of an instrument adapted for the Brazilian context can provide additional reliability and validity evidence, being a useful and relevant tool to identify the implication of nursing services for patients and the establishment of strategies intended to advance in the quality of care.

Given this context, we ask: Is it possible to obtain an instrument that takes into account the satisfaction of patients with nursing care provided in hospital settings and which can be used at the national level? Thus, the objective was to culturally adapt and validate the General Practice Nurse Satisfaction Scale (GNPS) to the Brazilian context.

■ METHOD

Methodological study in which the GNPS⁽⁷⁾ was culturally adapted, according to the guidelines provided in the international scientific literature⁽¹⁵⁾, and validated for the Brazilian context. The process included the translation and back translation of 21 items from the original version in English into Portuguese from Brazil, face and content validity, and the description of psychometric properties related to its construct validity and reliability using factor analysis and Cronbach's alpha.

Ethical aspects followed the guidelines provided by Resolution 466/12, *Conselho Nacional de Saúde*, while the Institutional Review Board approved the study (No. 76/2017).

The original Australian scale is composed of 27 items addressing the nurses' interpersonal communication skills, knowledge, and competencies. Statements concerning health status and satisfaction were rated on a 5-point Likert scale ranging from "totally disagree" to "totally agree". The items are scored from 1 to 5, in which higher scores indicate higher levels of satisfaction⁽⁷⁾.

The GNPS was implemented in the Australian context among 739 patients cared for by nurses from a general practice clinic. Six items were excluded after the exploratory factor analysis, improving the Cronbach's alpha, 0.97. A total of 21 items was established to measure Satisfaction. The first 14 items measure Credibility and Confidence, and the remaining 7 items measure Interpersonal Relationship and Communication. These two factors explained 71.9% of the variance.

This instrument brings important contributions to the science of nursing as it presented acceptable psychometric properties⁽⁷⁾ and can be adapted for both research and clinical practice to assess the satisfaction of patients with nursing care in a general practice context. Thus, its application in other geographical contexts is needed.

The GNPS⁽⁷⁾ was adapted to the Brazilian context after the authors provided their consent via e-mail. The scale was fully adapted through six stages. The semantic, idiomatic, experimental, and conceptual adaptation was performed between the original and adapted versions.

The six stages consisted of stage I- first translations; stage II- reconciliation of translations; stage III- back translation;

stage IV- expert panel; stage V- pretest; stage VI- the authors reviewed the adaptation process⁽¹⁵⁾.

In the first stage of the GNPS adaptation⁽⁷⁾, the instrument was sent to two bilingual translators to translate the instrument from English to Portuguese. One of the translators received information regarding the instrument's objectives and subject, while the other translator did not. The two translated versions were reconciled to achieve a single version⁽¹⁵⁾.

The reconciled version was back translated, that is, two other translators translated the instrument back to English, its original language. Only this time, none of the translators received any information concerning the instrument's content or purpose in order to avoid mistaken meanings⁽¹⁵⁾.

An expert panel composed of professors with experience in the field, with quantitative research, and the development of instruments for nursing research assessed the back-translated version, considering its semantic, cultural, idiomatic, and conceptual equivalences as well as face validity. The translated version was approved for pretest; thus, the pre-final version of the instrument was achieved at this point.

A pretest was conducted to confirm whether the scale's items represented the content it was intended to analyze. This version was applied in a sample of 30 patients hospitalized in three hospitalization units: general practice (GP), surgical unit (SU), and Trauma (T). The scale was individually applied so everyone would be able to report how easy or potentially difficult it was completing the scale and feel free to suggest changes in the redaction of statements if they deemed appropriate⁽¹⁵⁾.

After the pre-test, the authors reviewed the scale to make adjustments necessary to facilitate understanding when applying it to the selected sample. The authors verified the need to include a new dimension, dedication, as well as to adopt the expression "nursing services" to refer to the care provided by nurses. The reason is that the patients in this hospital understood it better when this expression was used to refer to the care provided by nurses.

After performing the procedures necessary to culturally adapt the instrument, the final Brazilian version of the GNPS was approved for the Brazilian context. It was composed of 21 items that measure satisfaction, organized according to the dimensions: interpersonal relationship and communication (nine items); credibility and confidence (nine items); and dedication (three items).

The scale's Brazilian version was applied in a public Federal university hospital located in the south of Brazil with 216 beds. A convenient sample was selected through non-probabilistic sampling.

Inclusion criteria were: being 15 years old or older (the parents or legal guardians should authorize the participation

of minors); being hospitalized in the units selected for more than 24 hours. It is believed that 24 hours of hospital stay is sufficient to become familiar with the standards and routine of the nursing service; and having received nursing care during hospitalization.

Exclusion criteria were restricted to: patients who left or were transferred to another hospital during data collection, were sedated, bedridden or non-responsive, or did not report nursing care during hospitalization.

The sample was calculated using a mathematical formula, which took into account the number of up to 40 patients per hospital unit surveyed in two months of data collection, in addition to statistical tests that were going to be performed. Thus, a minimum of 175 participants was obtained.

An interviewer applied the adapted scale to patients individually, reading each of the scale's items. A pictorial scale was also used in the adapted version to facilitate the patients' understanding of the pattern of answers. The time estimated to complete the instrument ranged between 10 and 15 minutes.

One of the researchers and a previously trained team of students receiving scholarships collected data from August 2017 to January 2018. Data were collected with patients on their beds, respecting their privacy by offering the possibility of using a screen.

The questionnaire was applied as patients were admitted to the units selected for this study. A scale was developed to organize the collection of data, and the units were visited during the week to check whether new patients had been admitted, and data were collected according to inclusion criteria.

Data were analyzed using SPSS (Statistical Package for Social Sciences) version 22.0, which facilitated the visualization and interpretation of results.

After the questionnaires were applied, two tests were performed to ensure the instrument's construct validation: factor analysis and Cronbach's alpha. The data were summarized by identifying common factors between questions, grouping them into dimensions using the mean of answers.

The principal component analysis was the method of extraction, and Varimax orthogonal rotation was applied to better discriminate the pertinence of the variables to the components identified. The definition of factors met two criteria: the degree of association between variables as measured by the corresponding factor loadings ($>.400$), and degree of subjectivity⁽¹⁵⁾. Cronbach's alpha was used to assess the reliability of the instrument and its dimensions, verifying whether these dimensions convey sound measurement of the subject in question⁽¹⁵⁾.

■ RESULTS

The assessment of all the items was pertinent and the expert panel achieved consensus regarding the scale's semantic, cultural, idiomatic, and conceptual equivalence, ensuring its face validity. Regarding content validity, the pretest was implemented with 30 patients hospitalized in different units: 10 from the General practice clinic, 10 from the Surgical unit, and 10 from the Trauma unit. The conclusion is that the scale's items represent content analyzed; only small adjustments were suggested regarding the language, verbal placement, and the inclusion of a new dimension.

Two statements were complemented to facilitate the patients understanding. The verbal tense of Statement 1, "I feel confident in the nurse" was suggested to change and a complement was added. Thus, statement 1 was changed to: "You trust the nurses providing care during your hospitalization". Statement 3 was also complemented and changed "I would recommend this nurse to my family and friends" to "You would recommend this nurse providing care during your hospitalization to your family and friends".

Statement 8, "I would like this nurse to perform this procedure again in the next consultation" was changed. The expression "next consultation" was replaced by "next time", so that it remained "You would like this nurse to perform the procedures next time". This change was implemented because the interviewers read the statements since many of the patients were illiterate.

After the expert panel assessed the scale and the pre-test was implemented, the culturally adapted instrument was applied in the sample. The sample presented the following sociodemographic data: a total of 199 patients participated in the study, 104 (52.03%) of them were women and 95 (47.7%) were men. Regarding age, the patients were 51.54 years old on average, ranging from 15 to 92 years old; 62 years old was the mode.

Regarding socioeconomic data, most patients attended only primary education/incomplete middle school 112(56.3%); followed by 27(13.6%) who completed high school; 12(6%) with some undergraduate studies; 12 (6%) completed middle school; 11(5.5%) were illiterate; 9(4.5%) were able to read/write; 8(4%) had incomplete high school; 7(3.5%) had a bachelor's degree; and 1(0.5%) had attended graduate school. Regarding income, most patients 96 (49.5%) reported up to one times the minimum wage; followed by 64 (33%) who received from 1 to 3 times the minimum wage; 28 (14.4%) reported no income, 4(2.1%) from to 3 to 6 times the minimum wage; and 2 (1%) from 6 to 9 times the minimum wage.

The instrument's 21 questions were submitted to factor analysis, Varimax orthogonal rotation, to check for construct/dimension validity, which revealed four dimensions with high commonality and factor loading, both greater than 0.400 in all the items.

Regarding the reliability of the four dimensions, a reliability test was performed using Cronbach's alpha, which was 0.93 for the instrument. The coefficients of dimension 1 and 2 were between 0.87 and 0.85, and of dimensions 3 and 4 were between 0.70 and 0.66, which are considered acceptable values for exploratory studies. Thus, showing the scale's reliability for the sample selected.

The instrument's four dimensions explain 61.4% of the items' variation, which represents an appropriate degree of data synthesis, facilitating its handling and interpretation. The measure of sampling adequacy obtained (KMO) was 0.927. Table 1 presents the factor loadings of each dimension according to the factors, explained variance, along with Cronbach's alphas.

Thus, the instrument's final version presented 21 items distributed into four dimensions: interpersonal relationship and communication; confidence; credibility; and dedication, as shown in Chart 1.

■ DISCUSSION

This study's results show that the GNPS Brazilian version measured the satisfaction of hospitalized patients with nursing care, thus, provided valuable information on the perception of patients concerning their experience with their hospitalization, as well as understanding of their perspectives, favoring the development and valorization of care delivery^(5,18).

In terms of the instrument's reliability, the results present very satisfactory indexes, especially when compared to the validation of the original instrument⁽⁷⁾, in order to ensure the reliability of the validated instrument for future studies.

As the results show, the application of the Brazilian version of the GNPS revealed four dimensions, which in terms of structure and conceptual definition, present some differences from the results presented by the validation study of the original instrument, the items of which were grouped into two dimensions⁽⁷⁾.

These differences mainly refer to the commonality and differences in factor loadings in all the items, which allowed establishing new dimensions and reorganizing the adapted instrument. The four dimensions, as well as the instrument as a whole, present theoretical adherence to the literature addressing patient satisfaction, showing the association of its dimensions with nursing care.

It is also noteworthy that the GNPS Brazilian version is the first made available in Brazil, so there are no other versions of this instrument available for the specific context of hospitalization units, considering the original GNPS⁽⁷⁾ was applied in the context of public primary health care.

The differences between the studies show specificities of the application of the GNPS⁽⁷⁾ in different settings and cultures, showing that the way patients perceive the factors that promote satisfaction with nursing care may vary in different contexts⁽⁸⁾. Differences in the health systems, society, culture, and values, as well as the expectations of patients with the quality of health services, may influence the psychometric structure of measures, as well as validation processes in different contexts, so that different versions of the same instrument are possible to exist⁽¹⁹⁾.

Regarding the dimensions, relational issues reported by the patients in the hospitalization units addressed here, influence their perceptions of satisfaction with nursing care both in the Australian and Brazilian versions, and show the influence of interpersonal relationships allied with communication, which is in line with other Brazilian and international studies indicating that communication is an essential element in care delivery, being the basis of interpersonal relationships⁽¹⁶⁾.

These items grouped statements related to the support nurses provide to patients, helping them to understand their health conditions by providing clear and complete explanations, being friendly, respectful, and attentive. This dimension is pertinent, considering that difficulties concerning communication and interpersonal relationships establish with patients may harm the delivery of care⁽¹⁶⁾.

The following three dimensions were divided in order to make the statements concerning confidence and credibility more clear. Additionally, the dimension "Dedication" was added to the Brazilian version. According to the literature, the distinction between trust and credibility is clear. Trust is required for credibility to occur. Thus, these are different attributes that need to be treated differently⁽⁴⁾.

International studies report that patients trust on the nurses' ability to provide care and observe when nurses are updated^(4,20), similar to a study that asked whether patients would recommend the nursing staff to families and friends. It shows that nurses establish a relationship of trust when they understand the wishes of patients concerning their individual needs⁽⁴⁾.

The third dimension "credibility" presents 3 statements that concern the opinion of patients regarding nurses, that is, whether their opinions were positive or not, whether they would accept or would like nurses to perform procedures again if necessary, and considerations regarding the care provided by nurses. This dimension was consistent with

Table 1 – Exploratory Factor Analysis (Varimax rotation). Rio Grande, RS, Brazil, 2018

Indicators	Block	F1	F2	F3	F4
Interpersonal relationship and Communication (F1) – Cronbach's alpha= 0.87					
q21 The nurse helps you understand what the physician says.	.625	.752	.178	.16	-.053
q20 The nurse explains everything clearly.	.661	.693	.347	-.019	.245
q17 The nurse is patient with your questions and concerns.	.629	.639	.287	.334	.166
q15 The nurse is friendly and courteous.	.638	.623	.428	.253	.038
q11 The nurse and the doctor work very well as a team.	.655	.609	.006	.417	.333
q16 The nurse respects you.	.601	.602	.378	.245	.186
q18 The nurse pays attention to what you say.	.502	.571	.282	.223	.216
q19 The nurse encourages you to ask questions.	.426	.537	.155	.129	.312
q14 The nurse is attentive and cares about you.	.652	.458	.399	.323	.423
Confidence (F2) - Cronbach's alpha= 0.85					
q2 You feel confident in the nurse.	.671	.244	.765	.159	.044
q4 You will follow the nurse's recommendations.	.611	.247	.677	.113	.281
q13 The nurse is confident in her/his ability to take care of your health.	.634	.349	.539	.383	.272
q7 The nurse seems up to date with health information.	.527	.309	.529	.094	.378
q3 You would recommend the nurses providing care during your hospitalization to family and friends.	.561	.330	.506	.268	.352
Credibility (F3) - Cronbach's alpha= 0.70					
q9 If the doctor asked your opinion about the nurse, it would be positive.	.747	.180	.142	.764	.332
q8 You would like the nurse to perform the procedures next time.	.597	.173	.208	.703	-.171
q10 The nurses providing care to you are very careful.	.696	.370	.290	.646	.241
Dedication (F4) - Cronbach's alpha= 0.66					
q6 The nurse provided useful information.	.574	.045	.167	.190	.713
q5 You consult the nurse.	.568	.229	.223	-.069	.679
q12 The nurse devotes enough time to you.	.689	.468	.113	.447	.507

Source: Study's data, 2018.
 Note: % explained variance – rotated (61.4%)
 Cronbach's alpha (instrument 0.93).
 KMO sampling adequacy measure (KMO = 0.927).
 Bartlett's test: Chi-square = 2197.877.

Dimensions	Dimensions composition
Interpersonal relationship and communication	Statements concerning how helpful nurses were to facilitate the understanding of patients regarding their health, clear and complete explanations, patience, cordiality, teamwork, respect, attention, and encouragement ⁽¹⁶⁾ .
Confidence	Statements confirming whether patients trusted information the nurses provide, trusted the care provided, if they would follow the nurses' recommendations, trusted the ability of nurses to provide care, observe how updated nurses were, and whether patients would recommend the nursing staff to families and friends ⁽¹⁷⁾ .
Credibility	Statements concerning the positive opinion of patients regarding nurses, whether the patients wanted the nurses to perform the procedures again, and whether the nurses provided careful care ⁽⁸⁾ .
Dedication	Statements concerning useful recommendations provided by nurses to patients, nursing consultation, time devoted during care delivery ⁽²⁾ .

Chart 1 – Composition of the dimensions through items that concerned patient satisfaction based on factor analysis. Rio Grande, RS, Brazil, 2018.

Source: Study's data, 2018.

which is reported in the literature, showing that credibility, even though it is not a closed concept, is directly linked to the opinion of patients and their acceptance⁽⁸⁾.

Therefore, it is directly related to the satisfaction of patients with nursing services and will only occur after patients feel confident in what nurses say or do. Credibility, however, may take some time after a patient feels confident, and it may not happen with all the patients, because these are subjective attributes⁽⁸⁾.

Three statements addressed by the dimension dedication refer to useful recommendations provided by nurses to patients, nursing consultations and duration of service. It is also aligned with the literature considering that the continuity of care over time, useful and quality information and guidance are essential in terms of monitoring and valuing patients, contributing to their satisfaction toward nursing care⁽⁸⁾.

■ CONCLUSION

Based on the objective proposed here, the conclusion is that the Brazilian version of the GNPS adapted and validated in this study is a valid and reliable instrument to assess the satisfaction of patients with nursing care, thus, contributes to the understanding of the dimensions that interfere in

satisfaction. Four dimensions were identified that explain the satisfaction of patients with nursing care, namely: Interpersonal Relationship and Communication, Confidence, Credibility, and Dedication.

Identifying the satisfaction of patients is extremely useful for nursing practice, especially because it can support professional development and improve the care provided to patients.

Thus, the validation of the GNPS Brazilian version is an innovating technology, presenting indicators with the potential to measure interpersonal relationships, communication, credibility, and confidence, providing relevant information regarding the care provided by nurses and interaction established with patients during hospitalization in the Brazilian context.

This study's limitations include the fact the instrument was applied in a single context and that the GNPS has not being applied in other contexts or countries, hindering comparisons.

This adapted instrument can be used in other Brazilian regions to verify whether there are different meanings that may affect the perception of satisfaction of patients with nursing services, and also serve as an instrument for university hospitals to measure patient satisfaction in their hospitalization wards and develop strategies to maintain or change their contexts.

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