ACKNOWLEDGEMENTS

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- Anne-Marie Adachi (Research Manager), Knowledge Utilization Studies Program, University of Alberta, Canada
- James Doiron (Manager, Health Research Data Repository), University of Alberta, Canada
- The ACT Development Team: Carole Estabrooks, Peter Norton, Greta Cummings, Judy Birdsell, Amanda Newton, Janet Squires
CITATION INFORMATION

How to cite the ACT instrument

The Alberta Context Tool (ACT) (Copyright, Estabrooks 2007)

All copies of the ACT must include the following text:

© Carole A. Estabrooks, 2007
All rights reserved. No part of this instrument may be produced, stored in a retrieval system, or transmitted in any form or by any means without the prior written permission of the copyright owner.

How to cite this Manual


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# TABLE OF CONTENTS

**ACKNOWLEDGEMENTS** ................................................................................................................................. 1

**PREFACE** .................................................................................................................................................................. 5

**1.0 INTRODUCTION** .............................................................................................................................................. 6

  1.1 BACKGROUND .................................................................................................................................................. 6
  1.2 THE ACT: VERSIONS AND FORMS ........................................................................................................... 6

**2.0 BUILDING THE ACT SURVEY** ..................................................................................................................... 10

  2.1 PURPOSE OF THE ACT .................................................................................................................................. 10
  2.2 DEVELOPMENT OF THE ACT ..................................................................................................................... 10
    2.2.1 Guiding Principles ................................................................................................................................. 10
    2.2.2 Construction of the Index Form of the ACT ......................................................................................... 11
  2.3 MODIFICATIONS TO THE ACT ..................................................................................................................... 12

**3.0 TRANSLATING THE ACT SURVEY** ............................................................................................................. 15

  3.1 CURRENT TRANSLATIONS AVAILABLE ........................................................................................................ 15
  3.2 ACT TRANSLATION POLICY AND PROCEDURE .......................................................................................... 17

**4.0 OBTAINING PERMISSION TO VIEW AND USE THE ACT SURVEY** .......................................................... 19

  4.1 TO PREVIEW THE ACT ............................................................................................................................... 19
  4.2 TO USE THE ACT .......................................................................................................................................... 19
  4.3 CONDITIONS FOR USE OF THE ACT ........................................................................................................... Error! Bookmark not defined.

**5.0 ADMINISTERING AND SCORING THE ACT SURVEY** .................................................................................. 21

  5.1 ADMINISTERING THE ACT .......................................................................................................................... 22
  5.2 SCORING THE ACT ......................................................................................................................................... 22

**6.0 RELIABILITY AND VALIDITY OF THE ACT SURVEY** ................................................................................. 25

**7.0 WHERE TO FIND ADDITIONAL INFORMATION ABOUT THE ACT SURVEY** ........................................... 26

  7.1 DEVELOPMENT OF THE ACT ..................................................................................................................... 26
  7.2 TRANSLATION OF THE ACT ........................................................................................................................ 27
  7.3 RELIABILITY AND VALIDITY OF THE ACT .................................................................................................. 29
    7.3.1 Acute Care .............................................................................................................................................. 29
    7.3.2 Long term Care .................................................................................................................................... 34

**8.0 REFERENCES** ............................................................................................................................................... 38

**9.0 APPENDIX: PERMISSION FORMS FOR USE OF THE ACT SURVEY** ..................................................... 40

  9.1 PREVIEW AGREEMENT ............................................................................................................................... 40
  9.2 FULL PERMISSION AGREEMENT .................................................................................................................. 43
PREFACE

This manual describes the Alberta Context Tool (ACT), an eight dimension (ten concept) measure of organizational context in healthcare settings. We provide explanations of:

- The various versions and forms of the ACT that currently exist
- The conceptual structure of the ACT
- How to obtain the ACT
- Translation of the ACT into non-English languages
- How to use and score the ACT
- Reliability and validity of the ACT
1.0 INTRODUCTION

1.1 BACKGROUND
Organizational context refers to “…the environment or setting in which people receive healthcare services, or in the context of getting research evidence into practice, the environment or setting in which the proposed change is to be implemented” [1] (p. 299). More simply, context is the sum of the forces at work that give the physical environment a certain character or feeling [2]. The influence of organizational context on translation of scientific knowledge (or research) into practice is widely acknowledged by researchers [3-6]. However, limited empirical evidence supports this assumption, in part because reliable and valid measures of context are lacking. In response, the Alberta Context Tool© (ACT) was developed in 2006 to address this gap. The ACT assesses individual healthcare providers’ perceptions of context, which can then be aggregated to provide unit and/or facility level estimates of context.

1.2 THE ACT: VERSIONS AND FORMS
The ACT is a survey. There are three different versions of the ACT, a version for each of the following settings:

1. Acute care (adult hospitals and pediatric hospitals)
2. Residential long term care (nursing homes)
3. Community/Home care

Each version has multiple forms, one form for each of the following provider groups:

1. Healthcare aides
2. Nurses
3. Physicians
4. Allied health providers
5. Practice specialists
6. Care managers

The forms for healthcare aides are further separated into Version 1 – general, Version 2 - Residential long term care, and Version 3 - Community/Home care only.

All forms of the ACT contain a series of questions that tap eight unique dimensions of organizational context. The eighth dimension, organizational slack, is subdivided into three parts. Together, these dimensions and sub-dimensions comprise ten modifiable concepts. The number of questions included in each ACT form is 56 to 58 (depending on the form).
The dimensions included in the ACT are:

1. Leadership
2. Culture
3. Evaluation
4. Social capital
5. Informal interactions
6. Formal interactions
7. Structural/electronic resources
8. Organizational slack (comprising three concepts: staff, time and space)

Definitions of the dimensions and sub-dimensions that make up the ten concepts of the ACT are provided in Table 1, with a description of their measurement and sample items.
Table 1: Concepts of the ACT

<table>
<thead>
<tr>
<th>CONCEPT</th>
<th>DEFINITION</th>
<th># OF ITEMS</th>
<th>HYPOTHESIS [7]</th>
<th>SAMPLE ITEM</th>
<th>SCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>The actions of formal leaders in an organization (unit) to influence change and excellence in practice; items generally reflect emotionally intelligent leadership</td>
<td>6</td>
<td>Care providers who perceive more positive (emotionally intelligent) unit leadership report higher research use</td>
<td>Looks for feedback to ideas and initiatives even when it is difficult to hear</td>
<td>5 point Likert scale (strongly disagree to strongly agree)</td>
</tr>
<tr>
<td>Culture</td>
<td>The way that “we do things” in our organization and work units; items generally reflect a supportive work culture</td>
<td>6</td>
<td>Care providers who perceive a more positive unit culture report higher research use</td>
<td>My organization effectively balances best practice and productivity</td>
<td>5 point Likert scale (strongly disagree to strongly agree)</td>
</tr>
<tr>
<td>Evaluation</td>
<td>The process of using data to assess group/team performances and to achieve outcomes in organizations or units (i.e. evaluation)</td>
<td>6</td>
<td>Care providers who perceive a larger number of unit feedback mechanisms report higher research use</td>
<td>Our team routinely monitors our performance with respect to the action plans</td>
<td>5 point Likert scale (strongly disagree to strongly agree)</td>
</tr>
<tr>
<td>Social Capital</td>
<td>The stock of active connections among people. These connections are of three types: bonding, bridging, and linking</td>
<td>6</td>
<td>Care providers who perceive more positive unit social capital activities report higher research use</td>
<td>People in the group share information with others in the group</td>
<td>5 point Likert scale (strongly disagree to strongly agree)</td>
</tr>
<tr>
<td>Informal Interactions</td>
<td>Information exchanges that occur between individuals working within an organization (unit) that can promote the transfer of knowledge</td>
<td>7-10, depending on the form Practice Specialist: 7 Nurse: 9 Health Care Aide: 9 Physician: 9 Allied: 10 Manager: 10</td>
<td>Care providers who perceive a larger number of informal unit interactions report higher research use</td>
<td>How often do you interact with people in the following roles or positions? - Someone who champions research and its use in practice</td>
<td>5 point Likert scale (never to almost always)</td>
</tr>
<tr>
<td>Formal Interactions</td>
<td>Formal exchanges that occur between individuals working within an organization (unit) through scheduled activities</td>
<td>4</td>
<td>Care providers who perceive a larger number of formal unit interactions report higher research use</td>
<td>How often do these activities occur? - Team meetings</td>
<td>5 point Likert scale (never to almost always)</td>
</tr>
<tr>
<td>CONCEPT</td>
<td>DEFINITION</td>
<td># OF ITEMS</td>
<td>HYPOTHESIS [7]</td>
<td>SAMPLE ITEM</td>
<td>SCALE</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Structural/Electronic Resources</td>
<td>The structural and electronic elements of an organization (unit) that facilitate the ability to assess and use knowledge</td>
<td>11</td>
<td>Care providers who perceive a larger number of unit structural and electronic resources report higher research use</td>
<td>How often do you use/attend the following? - Notice boards</td>
<td>5 point Likert scale (never to almost always, with not available an option)</td>
</tr>
<tr>
<td>Organizational Slack (3 concepts)</td>
<td>The cushion of actual or potential resources which allows an organization (unit) to adapt successfully to internal pressures for adjustments or to external pressures for changes.</td>
<td>2-3, depending on the form Allied: 2 Nurses: 2 Practice Specialist: 2 Physician, Manager: 2 Health care aides: 3</td>
<td>Care providers who perceive sufficient unit staffing levels report higher research use</td>
<td>Enough staff to deliver quality care</td>
<td>5 point Likert scale (strongly disagree to strongly agree)</td>
</tr>
<tr>
<td>• Staff</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Space</td>
<td></td>
<td>3</td>
<td>Care providers who perceive having sufficient time on their unit report higher research use</td>
<td>Use of designated space</td>
<td>5 point Likert scale (strongly disagree to strongly agree)</td>
</tr>
<tr>
<td>• Time</td>
<td></td>
<td>4</td>
<td>Care providers who perceive having sufficient space on their unit report higher research use</td>
<td>Time to do something extra for patients</td>
<td>5 point Likert scale (never to almost always)</td>
</tr>
</tbody>
</table>
2.0 BUILDING THE ACT SURVEY

2.1 PURPOSE OF THE ACT

The ACT is a measure of organizational context for use in complex healthcare settings (e.g., hospitals, nursing homes, community settings). It is used with individual healthcare providers to measure their perceptions of context. These perceptions can then be aggregated (if desired and supported by individual study aggregation statistics) to provide unit and higher level (e.g., hospital, facility) estimates of context. The ACT was developed to enable researchers to determine which elements of context facilitate and/or hinder successful knowledge translation (i.e., uptake of research knowledge by healthcare providers) and patient outcomes.

2.2 DEVELOPMENT OF THE ACT

2.2.1 GUIDING PRINCIPLES

In developing the ACT we tried to balance, to the extent possible, the following three principles [7,8]:

1. **Use of a substantive theory.** We used the *Promoting Action on Research Implementation in Health Services* (PARiHS) framework to conceptualize organizational context [2,9]. The PARiHS framework provides a broad conceptualization of how research implementation occurs in organizational settings. For areas in which the framework provided no direction, we operationalized concepts from related literature (e.g., [10-13]). In the index paper for PARiHS [2] successful research implementation is proposed to result from the interplay and interdependence of three core elements: (1) evidence, (2) facilitation and (3) context. We were interested in the context domain.

Context, in the PARiHS framework, is construed generally as the work setting and more specifically embodies three domains: culture, leadership and evaluation. **Culture** is defined as “the forces at work, which give the physical environment a character and feel” [2,14]. Subsequent exploration into the concept of ‘culture’ by McCormack and colleagues [15] resulted in further refinement of the definition of culture to encompass the prevailing beliefs and values, as well as consistency in these values and a receptivity to change, among members of an organizational setting. The PARiHS framework defines **leadership** as the “nature of human relationships” [[15], p.98], with effective leadership giving rise to clear roles, involvement by organizational members in decision making and learning, and effective teamwork and organizational
Evaluation is described in the PARiHS framework as feedback mechanisms (individual and system level), sources and methods for evaluation [2].

2. Brevity. The ACT was required to be brief enough (20 minutes or less to complete) to be tolerated in busy and resource-stretched work settings. This decision made development of the ACT pragmatic by necessity.

3. Modifiability. We also chose to focus on concepts of organizational context that were potentially modifiable. Therefore we included only concepts that could be a focus of future research implementation intervention studies.

2.2.2 CONSTRUCTION OF THE INDEX FORM OF THE ACT

Construction of the index form of the ACT occurred in four phases:

1. Selection of the conceptual framework
2. Conceptual refinement
3. Item construction
4. Feasibility assessment

Members of the research team first worked in subgroups for each area of expertise and then collaboratively to generate items for each of the eight dimensions. These items formed a master version of the ACT, which then underwent feasibility testing. Time needed to complete the ACT was assessed as part of feasibility; the ACT was administered to five nurses with a documented mean completion time of 20.7 minutes [7]. Additional details on the development of the ACT are described elsewhere [7,16]. Following feasibility assessment, an index version (76 items) of the ACT covering the eight dimensions of organizational context was developed. The index ACT tool was then piloted with 453 healthcare professionals (152 nurses, 36 physicians, 181 allied health professionals, 46 educators and specialists, 38 managers) in four adult acute care teaching hospitals. Based on a psychometric assessment of this pilot, the instrument was revised and reduced from 76 to 56 items [7,16].

This reduction process involved evaluating missing value patterns, descriptive and item total statistics, and an exploratory orthogonal principal components analysis, considered in combination with existing conceptual (non-empirical) literature on “organizational context”. Twenty-five items were removed in the reduction process, as follows:

- Initial listwise deletion of items that had greater than 10% missing data resulted in removal of N=5 items.
- N=2 items were removed based on an examination of item-to-item corrections.
- N=18 items were removed for reasons such as measurement of individual/personal characteristics versus a unit-level/contextual concept, and possible redundancy with other concepts.

In addition to removal of these 25 items, five items were added to ensure that the ACT reflected the key concepts for which it was intended. This brought the final revised number of items in the index form of the ACT to 56 [7].

This revised index form of the ACT was administered to 249 pediatric nurses in two hospitals in Alberta, Canada, and was assessed for ease of completion and time to complete. The average per item completion time was 9.8 seconds for online administration and 14.7 seconds for paper administration, resulting in an estimated mean time of completion for the ACT survey of 9.1 minutes online and 13.7 minutes on paper [7].

2.3 MODIFICATIONS TO THE ACT

The index form of the ACT, created for acute care professional nurses, was adapted to:

- other healthcare settings (resulting in further versions of the ACT for residential long term care and community/home care)
- other healthcare provider groups (resulting in further forms of the ACT for allied health providers, healthcare aides, physicians, practice specialists and care managers)

First, various forms were created from the professional nurse form (the index form) for the acute care version (adult and pediatric hospitals). Then, forms were created from the index form for the remaining provider groups (allied health providers, physicians, practice specialists and care managers). The items within each form were kept consistent, with slight variations in the wordings for select items and their stems to ensure applicability to the specific provider group. Some forms also differed in the number of items within two concepts: information interactions and organizational slack – staff. This reflects the different environments and demands that each profession experiences.

Following modification of the acute care version of the ACT for the different provider groups, we modified the instrument for two new settings (residential long term care and community/home care) and one new provider group (healthcare aides). This
resulted in six ACT forms each for residential long term care and community/home care (healthcare aides, professional nurses, allied health providers, physicians, practice specialists and care managers). Some substantive and non-substantive differences exist between versions and forms.

Non-substantive differences include:

- different wording within item stems
- substituting words to make the items setting-applicable e.g., “patient” and “unit” in acute care were substituted with “resident” and “nursing home” in residential long term care
- changes in the order of items in some concepts

Substantive differences include:

- items included in one version but not another
- different items between versions
- differences in item stems
- definitions within items
- scale explanations – in some frequency scales, the healthcare forms offer additional descriptors to define e.g., ‘rarely’ as 1-2 times

Table 2 summarizes the substantive differences between versions and forms of the ACT.
Table 2: Substantive differences between acute care and long term care forms †

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>CONCEPT</th>
<th>DIFFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Items in one version but not the other</td>
<td>Informal interactions</td>
<td>Extra LTC item “interactions with HCA”</td>
</tr>
<tr>
<td></td>
<td>Structural and electronic resources</td>
<td>Extra LTC item “websites on the internet”</td>
</tr>
<tr>
<td></td>
<td>Organizational slack – space</td>
<td>Extra acute care item “do you have a designed space”</td>
</tr>
<tr>
<td></td>
<td>Organizational slack – staffing</td>
<td>Extra LTC item “best possible day”</td>
</tr>
<tr>
<td>Different items</td>
<td>Organizational slack – staffing</td>
<td>Acute care: “…deliver quality care”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LTC: “…deliver best possible care”</td>
</tr>
<tr>
<td></td>
<td>Organizational slack – space</td>
<td>Acute care: “…designated space”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LTC: “…private space”</td>
</tr>
<tr>
<td>Stem issues</td>
<td>Structural and electronic resources</td>
<td>Acute care: in-services are asked for the last typical month</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LTC: in-services asked for the past year</td>
</tr>
<tr>
<td>Definitions in items</td>
<td>Informal interactions</td>
<td>Acute care: nurse providers are defined as besides nurses</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LTC: nurse providers defined as RNs, RPNs, and LPNs</td>
</tr>
<tr>
<td></td>
<td>Organizational slack – space</td>
<td>LTC: an explanation of “private space” is given for LTC, but not acute care</td>
</tr>
<tr>
<td>Scale explanations</td>
<td>Informal interactions, structural and electronic resources</td>
<td>LTC version has scale descriptors for the aforementioned concepts while acute care does not</td>
</tr>
</tbody>
</table>

† HCA, healthcare aide; LPN, licensed practical nurse; LTC, long term care; RN, registered nurse; RPN, registered practical nurse.
3.0 TRANSLAGING THE ACT SURVEY

3.1 CURRENT TRANSLATIONS AVAILABLE
The ACT is currently being used in eight countries:

1. Canada
2. USA
3. Sweden
4. Netherlands
5. United Kingdom
6. Republic of Ireland
7. Australia
8. China

Select forms in the ACT are available in the following languages (see Table 3):

1. English
2. French
3. Swedish
4. Dutch
5. German
6. Mandarin
Table 3: Versions and forms of the ACT available (by language)

<table>
<thead>
<tr>
<th>VERSION: ACUTE CARE</th>
<th>Healthcare Aides</th>
<th>Professional Nurses</th>
<th>Allied Health</th>
<th>Physicians</th>
<th>Practice Specialists</th>
<th>Care managers</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
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<tr>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
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</tr>
<tr>
<td>Dutch</td>
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<tr>
<td>German</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Mandarin</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VERSION: RESIDENTIAL LONG TERM CARE</th>
<th>Healthcare Aides</th>
<th>Professional Nurses</th>
<th>Allied Health</th>
<th>Physicians</th>
<th>Practice Specialists</th>
<th>Care managers</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>French</td>
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<td>Swedish</td>
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<tr>
<td>Dutch</td>
<td>✓</td>
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<td>✓</td>
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<td>✓</td>
</tr>
<tr>
<td>German</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Mandarin</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VERSION: COMMUNITY/HOME CARE</th>
<th>Healthcare Aides</th>
<th>Professional Nurses</th>
<th>Allied Health</th>
<th>Physicians</th>
<th>Practice Specialists</th>
<th>Care managers</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>French</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Swedish</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Dutch</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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</tr>
<tr>
<td>German</td>
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<td>✓</td>
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<tr>
<td>Mandarin</td>
<td>✓</td>
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<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
3.2 ACT TRANSLATION POLICY AND PROCEDURE

3.2.1 TRANSLATION POLICY

Translation of the English forms of the ACT into non-English languages is not allowed without the prior consent of the copyright holder (Dr. Carole A. Estabrooks). All translations are required to be undertaken collaboratively with the ACT copyright holder or a designate of her choosing. Dr. Estabrooks will retain copyright to all translated forms of the ACT. Where more than one ACT form is requested for translation, only one translation will be approved at a time. Translation of subsequent ACT forms can commence after translation of the preceding ACT form has been approved by Dr. Estabrooks. Any costs that are incurred during the translation process are the responsibility of the individuals requesting the translation.

3.2.2 TRANSLATION PROCEDURE

Upon consent for translation from the copyright holder the translation process for all ACT forms will follow this systematic procedure:

1. **Forward translation**: From the English ACT, translations into the designated second language will be created by two individuals. These individuals will be from, or will be designated by, the project team requesting the translation and will speak and write fluently in the second language. When possible, both individuals should be familiar with the concepts within the ACT, know the setting where the ACT will be administered, and have knowledge and experience in translating and adapting survey instruments. The two forward translations will be undertaken completely independently of one another.

2. **Reconciliation of the forward translations**: The two individuals who created the forward translations in step 1 will work together to reconcile their versions.

3. **Back translation**: The reconciled second language ACT will be translated back into English by two different individuals from those who created the forward translations in step 1. These individuals will be professional translators and/or will have English as their native language. As in step 1, the two back translations will be prepared independent of each other.

4. **Reconciliation with the project team**: The project team responsible for the translation will discuss and come to a consensus on the English translation created in step 3.

5. **Harmonization**: The project team will harmonize all versions of the ACT (original ACT, two forward translations and two back translations).
6. **Reconciliation with the developers:** The resulting harmonized version, along with back translations and final consensus documents for each, will be sent to Dr. Estabrooks or her designate for further reconciliation. All comments between the ACT team and the project team will be documented in the ACT Translation Table (provided to the project team). Reconciliation will continue between both parties until a final version of the translated ACT is approved by Dr. Estabrooks or her designate.

7. **Recommended post translation activity:** The translated final version of the ACT will be administered to approximately five persons of the target population to uncover difficulties in understanding, interpreting or handling individual items. This step is for language issues only, not for the assessment of respondents’ reactions to the concepts themselves. Any issues that arise during this step will be discussed with the ACT team.
4.0 PERMISSIONS TO VIEW AND USE THE ACT

The process for obtaining and using the ACT is summarized in Figure 1.

To obtain a copy of the ACT, a request must be made by email to kusp@ualberta.ca. The request will be evaluated by Dr. Estabrooks and permission will either be granted or rejected. If permission is granted, it will be in accordance with one of three scenarios:

1. Preview only of the ACT
2. Use of the ACT
3. Translation and Use of the ACT

Details of each scenario are outlined in the following sections and in Figure 1.

4.1 TO PREVIEW THE ACT

To preview the contents of the ACT, the requestor must complete a Preview Agreement Form (to be obtained from kusp@ualberta.ca). A copy of this form is located in the appendix to this manual (section 9.1). This form outlines the requirements for use of the ACT.

Upon KUSP receiving approval of the completed agreement by Dr. Estabrooks, a KUSP delegate will forward electronic copies of the requested ACT version(s) and form(s) to the requestor.

4.2 TO USE THE ACT

To obtain Full Use Permission to use the ACT, the requestor must submit a Full Use Agreement form (to be obtained from kusp@ualberta.ca). A copy of this form is located in the appendix to this manual (section 9.2). At this stage, the requestor will be asked to provide correspondence details and some basic information on the study in which they will use the ACT (e.g., sample size, duration of study). On receipt of the completed Full Permission Agreement (which includes an checklist for the ACT surveys required) and approval of its use by Dr. Estabrooks, a KUSP delegate will forward electronic copies of the requested ACT version(s) and form(s) to the requestor.
Receipt of request to use the Alberta Context Tool, three possible scenarios:

**Preview Agreement**
1. Send papers on development and refinement of the ACT
2. Outline the requirements for “Preview Agreement”
3. Send preview agreement for completion

Signed agreement received with indication of survey version & form needed

Send ACT Survey (relevant version and form)

Requestor is added to the “Preview Tracking Sheet”

Follow up email is sent to the requestor six months after the ACT was sent

**Full Permission Agreement**
1. Send papers on the development and refinement of the ACT
2. Send “Full Permission Agreement” for completion

Requestor will be added to a “Request for Use Sheet”, which will contain all necessary correspondence information

Signed “Full Permission Agreement” received with indication of survey version and form

Send ACT Survey (relevant version and form)

Information on anticipated number of participants and data expected is entered in Tracking Sheet

Follow up will occur periodically

**ACT Translation**
- **Forward Translation**: Two translations from English to the designated second language will be completed by two individuals

- **Reconciliation**: The two second language translations will be reconciled by the two individuals who performed the forward translation

- **Back Translation**: Two additional individuals will separately translate the reconciled version back into English

- **Reconciliation**: The resulting English version will be discussed and agreed upon by the project team

- **Harmonization**: All versions of the ACT (original, two forward, two backward) will be harmonized by the project team

- **Reconciliation with Developers**: The resulting version will be sent to the ACT team for reconciliation and final approval
4.3 CONDITIONS FOR USE OF THE ACT

The Knowledge Utilization Studies Program (KUSP) will provide the researcher with a copy of the ACT. The researcher is responsible for the reproduction of the ACT, the distribution of the survey, and the collection of data.

The researcher will retain full rights to their study data for publication. On completion of the study the researcher will forward a digital copy of the ACT and demographic data from their study. These data will be used to assess the psychometric properties of the ACT and to build the ACT’s normative record on an ongoing basis. KUSP will retain rights to use these data within analyses of its larger ACT data set but will not publish analyses based on these data alone.

The researcher will not adapt or modify the ACT without permission.

Permission to use the ACT is granted solely for the project described in the Full Use Permission Agreement between KUSP and the researcher and is not transferrable to other researchers or projects.

If the ACT is to be distributed in a language other than English, professional translation and back translation from English to the second language is required. Consultation with Dr. Estabrooks during and following completion of the back translation must precede use of the tool. All costs associated with translation and back translation are the responsibility of the requesting researcher. The translated version of the ACT will become the property of Dr. Estabrooks who will provide it, when requested, to other researchers under the same conditions as have been outlined above.

All copies of the ACT must include the following text:

© Carole A. Estabrooks, 2007
All rights reserved. No part of this instrument may be produced, stored in a retrieval system, or transmitted in any form or by any means without the prior written permission of the copyright owner.
5.0 ADMINISTERING AND SCORING THE ACT SURVEY

5.1 ADMINISTERING THE ACT
The ACT may be administered online, by structured interview (personal, computer-assisted, or telephone), or in pen and paper format. If participants are completing the survey at work, we recommend using a private room, away from fellow staff and patients. Ideally, the survey should be completed without any interruptions or pauses.

5.2 SCORING THE ACT
Each ACT concept (N=10) is measured by several items. This allows for a more detailed examination of each concept than can be obtained with a single item. The items can be used in analyses individually, or a derived score can be computed for each concept and used in the analyses. Scores for the ACT concepts are derived in one of two ways (Table 4):

1. Mean Score Method: The mean value of the scores for the items within the concept is calculated.
2. Count Method: The scores of each item within the concept are recoded and then counted to obtain a final derived score.

Table 4: Scoring Methods for the Ten Concepts in the ACT

<table>
<thead>
<tr>
<th>CONCEPT</th>
<th>METHOD</th>
<th>DERIVED SCORE NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>Mean Method: The overall score for Leadership is derived by taking the average (mean) of the items</td>
<td>ACT_Leadership</td>
</tr>
<tr>
<td>Culture</td>
<td>Mean Method: The overall score for Culture is derived by taking the average (mean) of the items</td>
<td>ACT_Culture</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Mean Method: The overall score for Evaluation is derived by taking the average (mean) of the items</td>
<td>ACT_Evaluation</td>
</tr>
<tr>
<td>Formal Interactions</td>
<td>Count Method: Take a count of the items (using the recoded scores below) For the continuing education item recode 6 (not accessible) as 1 (never use) Following this initial recode of continuing education, recode ALL items as follows: - Recode 1 (never) to 0 (no interaction) - Recode 2 (rarely) to 0 (no interaction)</td>
<td>ACT_Formal_Interactions</td>
</tr>
<tr>
<td>CONCEPT</td>
<td>METHOD</td>
<td>DERIVED SCORE NAME</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Informal Interactions</td>
<td>Count Method: Take a count of the items (using the recoded scores below)</td>
<td>ACT_Informal_Interactions</td>
</tr>
<tr>
<td></td>
<td>Recode each of the raw item scores:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Recode 1 (never) to 0 (no interaction)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Recode 2 (rarely) to 0 (no interaction)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Recode 3 (occasionally) to 0.5 (interaction)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Recode 4 (frequently) to 1 (interaction)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Recode 5 (almost always) to 1 (interaction)</td>
<td></td>
</tr>
<tr>
<td>Social Capital</td>
<td>Mean Method: The overall score for Social Capital is derived by taking the average (mean) of the items</td>
<td>ACT_Social_Capital</td>
</tr>
<tr>
<td>Structural and Electronic Resources</td>
<td>Count Method: take a count of the items (using the recoded scores below)</td>
<td>ACT_SER</td>
</tr>
<tr>
<td></td>
<td>Recode each of the raw item scores:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Recode 1 (never) to 0 (no interaction)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Recode 2 (rarely) to 0 (no interaction)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Recode 3 (occasionally) to 0.5 (interaction)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Recode 4 (frequently) to 1 (interaction)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Recode 5 (almost always) to 1 (interaction)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Recode 6 (not accessible) to 0 (no interaction)</td>
<td></td>
</tr>
<tr>
<td>Organizational Slack - Staff</td>
<td>Mean Method: The overall score for Staffing is derived by taking the average (mean) of the items</td>
<td>ACT_OS_Staff</td>
</tr>
<tr>
<td>Organizational Slack - Space</td>
<td>Mean Method: The overall score for Space is derived by taking the average (mean) of the items.</td>
<td>ACT_OS_Space</td>
</tr>
<tr>
<td></td>
<td>Recode 8 (not applicable) to 1 (never use) for item 3 (how often do you use)</td>
<td></td>
</tr>
<tr>
<td>Organizational Slack - Time</td>
<td>Mean Method: The overall score for Time is derived by taking the average (mean) of the items</td>
<td>ACT_OS_Time</td>
</tr>
</tbody>
</table>

Detailed scoring sheets are available for each version from kusp@ualberta.ca for individuals who have been approved for full use of the ACT.
We do not recommend deriving an overall context score from all ten concepts.
6.0 RELIABILITY AND VALIDITY OF THE ACT SURVEY

Traditional psychometric evaluations of the ACT have been published for nurses (in acute care pediatric hospitals) [7,17] and healthcare aides (in residential long term care settings) [7,17]. The first assessment used scores obtained from pediatric nurse professionals enrolled in a national, multisite study [7,17]. In that analysis, a principal components analysis (PCA) indicating a 13-factor solution was reported. Bivariate associations between instrumental research utilization (which the ACT was developed to predict) and a majority of ACT factors as defined by the PCA were statistically significant at the 5% level. Each ACT factor also showed a trend of increasing mean scores ranging from the lowest to the highest level of instrumental research use, adding additional validity evidence. Adequate internal consistency reliability using Cronbach’s alpha coefficients was reported; alpha coefficients ranged from 0.54 to 0.91 [7,17]. A subsequent validity assessment was conducted on responses obtained from healthcare aides (unregulated nursing care providers) in residential long term care settings (nursing homes) [7,17]. The overall pattern of the ACT data (which was assessed using confirmatory factor analyses) was consistent with the hypothesized structure of the ACT. Additionally, eight of the ten ACT concepts were related to instrumental research utilization at statistically significant levels, supporting ACT validity. Adequate internal consistency reliability was again reported with alpha coefficients for eight of ten concepts exceeding the accepted standard of 0.70 [7,17]. Additional details on both of these assessments (and others) are available online (see links in section 7.0).
7.0  WHERE TO FIND ADDITIONAL INFORMATION ABOUT THE ACT SURVEY

7.1  DEVELOPMENT OF THE ACT


This paper is available free of charge online through the journal BMC Health Services Research: http://www.biomedcentral.com/1472-6963/9/234

Background. The context of healthcare organizations such as hospitals is increasingly accepted as having the potential to influence the use of new knowledge. However, the mechanisms by which the organizational context influences evidence based practices are not well understood. Current measures of organizational context lack a theory-informed approach, lack construct clarity and generally have modest psychometric properties. This paper presents the development and initial psychometric validation of the ACT, an eight dimension measure of organizational context for healthcare settings.

Methods. Three principles guided development of the ACT: substantive theory, brevity and modifiability. The Promoting Action on Research Implementation in Health Services (PARIHS) framework and related literature were used to guide selection of items in the ACT. The ACT was required to be brief enough to be tolerated in busy and resource-stretched work settings and to assess concepts of organizational context that were potentially modifiable. The English version of the ACT was completed by 764 nurses (752 valid responses) working in seven Canadian pediatric care hospitals, as part of its initial validation. Cronbach’s alpha, exploratory factor analysis, analysis of variance and tests of association were used to assess instrument reliability and validity.

Results. Factor analysis indicated a 13-factor solution (accounting for 59.26% of variance in ‘organizational context’). Composition of the factors was similar to those originally conceptualized. Cronbach’s alpha for the 13 factors ranged from .54 to .91 with four factors performing below the commonly accepted alpha cut-off of .70. Bivariate associations between instrumental research utilization levels (which the ACT was developed to predict) and the ACT’s 13 factors were statistically significant at the 5% level for 12 of the 13 factors. Each factor also
showed a trend of increasing mean score ranging from the lowest level to the highest level of instrumental research use, indicating construct validity.

**Conclusions.** To date, no completely satisfactory measures of organizational context are available for use in healthcare. The ACT assesses several core domains to provide a comprehensive account of organizational context in healthcare settings. The tool’s strengths are its brevity (allowing it to be completed in busy healthcare settings) and its focus on dimensions of organizational context that are modifiable. Refinements of the instrument for acute, long term care and home care settings are ongoing.

### 7.2 TRANSLATION OF THE ACT


This paper is available free of charge online through the journal *BMC Health Services Research*: [http://www.biomedcentral.com/1472-6963/13/68](http://www.biomedcentral.com/1472-6963/13/68)

**Background.** There is emerging evidence that context is important for successful transfer of research knowledge into healthcare practice. The ACT is a Canadian-developed research-based instrument that assesses ten modifiable concepts of organizational context considered important for healthcare professionals’ use of evidence. Swedish and Canadian healthcare have similarities in terms of organisational and professional aspects, suggesting that the ACT could be used for measuring context in Sweden. This paper reports on the translation of the ACT to Swedish and a testing of preliminary aspects of its validity, acceptability and reliability in Swedish elder care.

**Methods.** The ACT was translated into Swedish and back-translated into English before being pilot tested in ten elder care facilities for response processes validity, acceptability and reliability (Cronbach’s alpha). Subsequently, further modification was performed.

**Results.** In the pilot test, the nurses found the questions easy to respond to (52%) and relevant (65%), yet the questions’ clarity were mainly considered ‘neither clear nor unclear’ (52%). Missing data varied between 0 (0%) and 19 (12%) per item, the most common being 1 missing case per item (15 items). Internal consistency (Cronbach’s Alpha > .70) was reached for five out of eight contextual concepts. Translation and back translation identified 21 linguistic-
and semantic-related issues and three context-related deviations, resolved by developers and translators.

**Conclusion.** Modifying an instrument is a detailed process, requiring time and consideration of the linguistic and semantic aspects of the instrument, as well as understanding of the context where the instrument was developed and where it is to be applied. A team including the instrument’s developers, translators and researchers is necessary to ensure a valid translation. This study suggests preliminary validity, reliability and acceptability evidence for the ACT when used with nurses in Swedish elder care.


This paper is available free of charge online through the journal *BMC Health Services Research*: [http://www.biomedcentral.com/1472-6963/13/478](http://www.biomedcentral.com/1472-6963/13/478)

**Background.** Understanding the relationship between organizational context and research utilization is key to reducing the research–practice gap in healthcare. This is particularly true in the residential long term care (LTC) setting where relatively little work has examined the influence of context on research implementation. Reliable, valid measures and tools are a prerequisite for studying organizational context and research utilization. Few such tools exist in German. We thus translated three such tools (the ACT and two measures of research use) into German for use in German residential LTC. We report specific experiences in translating the healthcare aide instrument versions, as well as challenges and strategies for their solution unique to German residential LTC.

**Methods.** Our translation methods were based on best practices and included two independent forward translations, reconciliation of the forward translations, expert panel discussions, two independent back translations, reconciliation of the back translations, back translation review, and cognitive debriefing.

**Results.** We grouped the challenges in this translation process into seven categories: (1) differing professional education of Canadian and German care providers, (2) risk that German translations would become grammatically complex, (3) wordings at risk of being misunderstood, (4) phrases/idioms non-
existent in German, (5) lack of corresponding German words, (6) limited comprehensibility of corresponding German words, and (7) target persons’ unfamiliarity with activities detailed in survey items. Examples of each challenge are described with strategies that we used to manage the challenge.

**Conclusion.** Translating an existing instrument is complex and time-consuming, but a rigorous approach is necessary to obtain instrument equivalence. Essential components were (1) involvement of and co-operation with the instrument developers and (2) expert panel discussions, including both target group and content experts. Equivalent translated instruments help researchers of different cultures to find a common language and undertake comparative research. As acceptable psychometric properties are a prerequisite for that, we are currently carrying out a study with that focus.

### 7.3 RELIABILITY AND VALIDITY OF THE ACT

#### 7.3.1 ACUTE CARE


This paper is available free of charge online through the journal *BMC Health Services Research*: [http://www.biomedcentral.com/1472-6963/9/234](http://www.biomedcentral.com/1472-6963/9/234)

**Abstract** – see sections 2.2 and 2.3, Development of the ACT


This paper is available free of charge online through the journal PLOS ONE: [http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0127405](http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0127405)

Although organizational context is central to evidence-based practice, underdeveloped measurement hinders its assessment. The Alberta Context Tool, comprised of 59 items that tap 10 modifiable contextual concepts, was developed to address this gap. The purpose of this study to examine the reliability and validity of scores obtained when the Alberta Context Tool is completed by professional nurses across different healthcare settings. Five separate studies (N = 2361 nurses across different care settings) comprised the
study sample. Reliability and validity were assessed. Cronbach’s alpha exceeded 0.70 for 9/10 Alberta Context Tool concepts. Item-total correlations exceeded acceptable standards for 56/59 items. Confirmatory Factor Analyses coordinated acceptably with the Alberta Context Tool’s proposed latent structure. The mean values for each Alberta Context Tool concept increased from low to high levels of research utilization (as hypothesized) further supporting its validity. This study provides robust evidence for reliability and validity of scores obtained with the Alberta Context Tool when administered to professional nurses.


This paper is available free of charge online through the journal *BMC Health Services Research*: [https://www.biomedcentral.com/1472-6963/11/251](https://www.biomedcentral.com/1472-6963/11/251)

**Background.** There are few validated measures of organizational context and none that we located are parsimonious and address modifiable characteristics of context. The ACT was developed to meet this need. The instrument assesses eight dimensions of context, which comprise ten concepts. The purpose of this paper is to report evidence to further the validity argument for the ACT. The specific objectives of this paper are to: (1) examine the extent to which the ten ACT concepts discriminate between patient care units and (2) identify variables that significantly contribute to between-unit variation for each of the ten concepts.

**Methods.** 859 professional nurses (844 valid responses) working in medical, surgical and critical care units of eight Canadian pediatric hospitals completed the ACT. A random intercept, fixed effects hierarchical linear modeling (HLM) strategy was used to quantify and explain variance in the ten ACT concepts to establish the ACT’s ability to discriminate between units. We ran 40 models (a series of four models for each of the ten concepts) in which we systematically assessed the unique contribution (error variance reduction) of different variables to between-unit variation. First, we constructed a null model in which we quantified the variance overall, in each of the concepts. Then we controlled for the contribution of individual level variables (Model 1). In Model 2, we assessed the contribution of practice specialty (medical, surgical, critical care) to variation since it was central to construction of the sampling frame for the
study. Finally, we assessed the contribution of additional unit level variables (Model 3).

**Results.** The null model (unadjusted baseline HLM model) established that there was significant variation between units in each of the ten ACT concepts (i.e., discrimination between units). When we controlled for individual characteristics, significant variation in the ten concepts remained. Assessment of the contribution of specialty to between-unit variation enabled us to explain more variance (1.19% to 16.73%) in six of the ten ACT concepts. Finally, when we assessed the unique contribution of the unit level variables available to us, we were able to explain additional variance (15.91% to 73.25%) in seven of the ten ACT concepts.

**Conclusion.** The findings reported here represent the third published argument for validity of the ACT and add to the evidence supporting its use to discriminate patient care units by all ten contextual factors. We found evidence of relationships between a variety of individual and unit level variables that explained much of this between-unit variation for each of the ten ACT concepts. Future research will include examination of the relationships between the ACT’s contextual factors and research utilization by nurses, and ultimately the relationships between context, research utilization and outcomes for patients.
Background. This study set out to achieve three objectives: to test the application of a context assessment tool in an acute care hospital in South Australia; to use the tool to compare context in wards that had undergone an evidence implementation process with control wards; and finally to test for relationships between demographic variables (in particular, experience) of nurses being studied (n = 422) with the dimensions of context.

Methods. The ACT was administered to all nursing staff on six control and six intervention wards. A total of 217 surveys (62%) were returned (67% from the intervention wards and 56% from control wards). Data were analysed using Stata (v9). The effect of the intervention was analysed using nested (hierarchical) analysis of variance; relationships between nurses’ experience and context was examined using canonical correlation analysis.

Results. Results confirmed the adaptation and fit of the ACT to one acute care setting in South Australia. Context scores did not differ between control and intervention wards. However, the tool identified significant variation between wards in many of the dimensions of context. Though significant, the relationship between nurses’ experience and context was weak, suggesting that at the level of the individual nurse, few factors are related to context.

Conclusions. Variables operating at the level of the individual showed little relationship with context. However, the study indicated that some dimensions of context (e.g., leadership, culture) vary at the ward level, whereas others (e.g., structural and electronic resources) do not. The ACT also raised a number of interesting speculative hypotheses around the relationship between a measure of context and the capability and capacity of staff to influence it. We propose that context be considered to be dependent on ward- and hospital-level factors. Additionally, questions need to be considered about the unit of measurement of context in studies of knowledge implementation; is individual (micro), ward (meso) or hospital-level (macro) data most appropriate? The preliminary results also raise questions about how best to utilise this instrument in knowledge translation research.
Background. Organizational context is recognized as an important influence on the successful implementation of research by healthcare professionals. However, there is relatively little empirical evidence to support this widely held view.

Methods. The objective of this study was to identify dimensions of organizational context and individual (nurse) characteristics that influence pediatric nurses’ self-reported use of research. Data on research use, individual, and contextual variables were collected from registered nurses (N = 735) working on 32 medical, surgical and critical care units in eight Canadian pediatric hospitals, using an online survey. We used Generalized Estimating Equation modeling to account for the correlated structure of the data and to identify which contextual dimensions and individual characteristics predict two kinds of self-reported research use: instrumental (direct) and conceptual (indirect).

Results. Significant predictors of instrumental research use at the individual level included: belief suspension-implement and research use in the past. At the hospital unit (context) level, predictors included: culture, and the proportion on nurses possessing a baccalaureate degree or higher. Significant predictors of conceptual research use at the individual level included: belief suspension-implement, problem solving ability, and use of research in the past. At the hospital unit (context) level, predictors included: leadership, culture, evaluation, formal interactions, informal interactions, organizational slack–space, and unit specialty.

Conclusions. Hospitals, by focusing attention on modifiable elements of unit context, may positively influence nurses’ reported use of research. This influence of context may extend to the adoption of best practices in general and other innovative or quality interventions.
7.3.2 LONG TERM CARE


This paper is available free of charge online through the journal BMC Health Services Research:
http://www.biomedcentral.com/1471-2288/11/107

Background. Organizational context has the potential to influence the use of new knowledge. However, despite advances in understanding the theoretical base of organizational context, its measurement has not been adequately addressed, limiting our ability to quantify and assess context in healthcare settings and thus advance development of contextual interventions to improve patient care. We developed the ACT to address this concern. It consists of 58 items representing ten modifiable contextual concepts. We reported the initial validation of the ACT in 2009. This paper presents the second stage of the psychometric validation of the ACT.

Methods. We used the Standards for Educational and Psychological Testing to frame our validity assessment. Data from 645 English speaking healthcare aides from 25 urban residential long term care facilities (nursing homes) in the three Canadian Prairie Provinces were used for this stage of validation. In this stage we focused on: (1) advanced aspects of internal structure (e.g., confirmatory factor analysis) and (2) relations with other variables validity evidence. To assess reliability and validity of scores obtained using the ACT we conducted: Cronbach’s alpha, confirmatory factor analysis, analysis of variance, and tests of association. We also assessed the performance of the ACT when individual responses were aggregated to the care unit level, because the instrument was developed to obtain unit-level scores of context.

Results. Item-total correlations exceeded acceptable standards (> 0.3) for the majority of items (51 of 58). We ran three confirmatory factor models. Model 1 (all ACT items) displayed unacceptable fit overall and for five specific items (one item on adequate space for resident care in the Organizational Slack–Space ACT concept and four items on use of electronic resources in the Structural and Electronic Resources ACT concept). This prompted specification of two additional models. Model 2 used the seven scaled ACT concepts while Model 3 used the three count-based ACT concepts. Both models displayed substantially
improved fit in comparison to Model 1. Cronbach’s alpha for the ten ACT concepts ranged from 0.37 to 0.92 with two concepts performing below the commonly accepted standard of 0.70. Bivariate associations between the ACT concepts and instrumental research utilization levels (which the ACT should predict) were statistically significant at the 5% level for eight of the ten ACT concepts. The majority (8/10) of the ACT concepts also showed a statistically significant trend of increasing mean scores when arrayed across the lowest to the highest levels of instrumental research use.

**Conclusions.** The validation process in this study demonstrated additional empirical support for construct validity of the ACT, when completed by healthcare aides in nursing homes. The overall pattern of the data was consistent with the structure hypothesized in the development of the ACT and supports the ACT as an appropriate measure for assessing organizational context in nursing homes. Caution should be applied in using the items that displayed misfit in this study (one space and four electronic resource items) with healthcare aides until further assessments are made.


This paper is available free of charge online through the journal *BMC Health Services Research:*

http://www.biomedcentral.com/1471-2288/11/46

**Background.** Defining what constitutes a resident care unit in nursing home research is both a conceptual and practical challenge. The aim of this paper is to provide evidence in support of a definition of care unit in nursing homes by demonstrating: (1) its feasibility for use in data collection, (2) the acceptability of aggregating individual responses to the unit level, and (3) the benefit of including unit level data in explanatory models.

**Methods.** An observational study design was used. Research (project) managers, healthcare aides, care managers, nursing home administrators and directors of care from 36 nursing homes in the Canadian prairie provinces of Alberta, Saskatchewan and Manitoba provided data for the study. A definition of care unit was developed and applied in data collection and analyses. A debriefing session was held with research managers to investigate their experiences with using the care unit definition. In addition, survey responses from 1258 healthcare aides in 25 of the 36 nursing homes in the study, with
more than one care unit, were analyzed using a multi-level modeling approach. Trained field workers administered the ACT, a 58-item self-report survey reflecting ten organizational context concepts, to healthcare aides using computer assisted personal interviews. To assess the appropriateness of obtaining unit level scores, we assessed aggregation statistics (ICC(1), ICC(2), η², and ω²). To assess the value of using the definition of unit in explanatory models, we performed multi-level modeling.

**Results.** In ten of the 36 nursing homes, the care unit definition developed was used to align the survey data (for analytic purposes) to specific care units as designated by our definition, from that reported by the facility administrator. The aggregation statistics supported aggregating the healthcare aide responses on the ACT to the realigned unit level. Findings from the multi-level modeling further supported unit level aggregation. A significantly higher percentage of variance was explained in the ACT concepts at the unit level compared to the individual and/or nursing home levels.

**Conclusions.** The statistical results support the use of our definition of care unit in nursing home research in the Canadian Prairie Provinces. Beyond research convenience, however, the results also support the resident unit as an important Clinical Microsystem to which future interventions designed to improve resident quality of care and staff (healthcare aide) worklife should be targeted.


**Background.** To study the association between organizational context and research utilization in German residential long term care (LTC), we translated three Canadian assessment instruments: the ACT, Estabrooks’ Kinds of Research Utilization (RU) items, and the Conceptual Research Utilization Scale. Target groups for the tools were health care aides (HCAs), registered nurses (RNs), allied health professionals (AHPs), clinical specialists and care managers. Through a cognitive debriefing process, we assessed response processes validity—an initial stage of validity, necessary before more advanced validity assessment.

**Methods.** We included 39 participants (16 HCAs, 5 RNs, 7 AHPs, 5 specialists and 6 managers) from five residential LTC facilities. We created lists of
questionnaire items containing problematic items plus items randomly selected from the pool of remaining items. After participants completed the questionnaires, we conducted individual semi-structured cognitive interviews using verbal probing. We asked participants to reflect on their answers for list items in detail. Participants’ answers were compared to concept maps defining the instrument concepts in detail. If at least two participants gave answers not matching concept map definitions, items were revised and re-tested with new target group participants.

**Results.** Cognitive debriefings started with HCAs. Based on the first round, we modified four of 58 ACT items, one ACT item stem and all eight items of the RU tools. All items were understood by participants after another two rounds. We included revised HCA ACT items in the questionnaires for the other provider groups. In the RU tools for the other provider groups, we used different wording than the HCA version, as was done in the original English instruments. Only one cognitive debriefing round was needed with each of the other provider groups.

**Conclusion.** Cognitive debriefing is essential to detect and respond to problematic instrument items, particularly when translating instruments for heterogeneous, less well educated provider groups such as HCAs. Cognitive debriefing is an important step in research tool development and a vital component of establishing response process validity evidence. Publishing cognitive debriefing results helps researchers to determine potentially critical elements of the translated tools and assists with interpreting scores.
8.0 REFERENCES


9.0 APPENDIX: PERMISSION FORMS FOR USE OF THE ACT SURVEY

9.1 PREVIEW AGREEMENT

Knowledge Utilization Studies Program

Complete and return by fax or e-mail to:

Dr. Carole A. Estabrooks

Faculty of Nursing
Level 5, Edmonton Clinic Health Academy
11405 87 Avenue
University of Alberta
Edmonton, Alberta T6G 1C9

Telephone: (780) 492-6187; Fax: (780) 492-6186

Email: kusp@ualberta.ca

Alberta Context Tool (ACT): Preview Agreement

Full Name: ________________________________________________________________

Full Mailing Address: _________________________________________________________

Telephone: _______________ Fax: ________________

Email Address: ______________________________________________________________

The following constitutes an agreement between ________________________________

(Name, please print) Of ______________________________________________________

(Name and mailing address of organization) hereinafter called Researcher
And the Knowledge Utilization Studies of The University of Alberta, Edmonton, AB, Canada, hereinafter called **KUSP**.

Following completion of this agreement KUSP will provide the researcher with a copy of the Alberta Context Tool (ACT). **This copy and any reproductions made by the researcher may only be used for a research grant application (and related Human Ethics Board application).**

Once the researcher has received approval for the study, the **ACT: Full Use Permission Agreement** must be signed and completed by both the researcher and KUSP for further use of the ACT for the research project/thesis specified in this agreement.

**Note that use of the ACT in its entirety or variations thereof for data collection purposes without completion of the Full Permission Agreement constitutes copyright infringement.**

The Alberta Context Tool (ACT) will be provided for data collection purposes once the researcher agrees to the conditions of the **ACT: Full Use Permission Agreement** (conditions of use are located at the end of this document).

Name of research project or thesis: _______________________________________________

Title of research application: _____________________________________________________

The undersigned agrees to abide by the terms of this agreement:

**Signatures**

Researcher  Date

________________________________________  ________________________________

Student’s Supervisor (if applicable)  Date

________________________________________  ________________________________

KUSP  Date
**ACT survey to be sent:**

Please indicate the survey **version** that you require:

- [ ] Acute Care (Adults)
- [ ] Acute Care (Pediatrics)
- [ ] Long-Term Care
- [ ] Home Care

Please indicate the survey **form** that you require:

- [ ] Nurses (RNs/LPNs)
- [ ] Physicians
- [ ] Managers
- [ ] Practice Specialists (e.g., Clinical Educator, Quality Improvement Specialist)
- [ ] Allied Health Care Providers

**Alberta Context Tool (ACT): Conditions of Use**

*(following completion of the ACT Full Use Permission Agreement)*

The Knowledge Utilization Studies Program (KUSP) will provide the researcher with a copy of the Alberta Context Tool (ACT). The researcher is responsible for the reproduction of the ACT, the distribution of the survey, and the collection of data.

The researcher will retain full rights to the data for publication. On completion of the study the researcher will forward a digital copy of the ACT and demographic data from their study. These data will be used to assess the psychometric properties of the ACT and to build the ACT’s normative record on an ongoing basis. KUSP will retain rights to use these data within analyses of its larger ACT data set but will not publish analyses based on these data alone.

The researcher will not adapt or modify the ACT without permission.

Permission to use the ACT is granted solely for the project described in the **Full Use Permission Agreement** between KUSP and the researcher and is not transferrable to other researchers or projects.

If the ACT will be distributed in a language other than English, professional translation and back translation from English to the second language is required. Consultation with Dr. Estabrooks during and following completion of the back translation must precede use of the tool. All costs associated with translation and back translation are the responsibility of the requesting researcher. The translated version of the ACT will become the property of Dr. Estabrooks who will provide it, where requested, to other researchers under the same conditions as have been outlined above.

All copies of the ACT must include the following text:
9.2 FULL PERMISSION AGREEMENT

Knowledge Utilization Studies Program

Complete and return by fax or e-mail to:

Dr. Carole A. Estabrooks
Faculty of Nursing
Level 5, Edmonton Clinic Health Academy
University of Alberta
Edmonton, AB T6G 1C9 CANADA

Telephone: (780) 492-6187; Fax: (780) 492-6186
Email: kusp@ualberta.ca

Alberta Context Tool (ACT): Full Use Permission Agreement

Full Name: ________________________________________________________________

Full Mailing Address: _______________________________________________________

Telephone: _______________ Fax: _________________

Email Address: _____________________________________________________________

The following constitutes an agreement between __________________________________

(Name, please print) Of ______________________________________________________

(Name and mailing address of organization) hereinafter called Researcher and the Knowledge Utilization Studies Program of the University of Alberta, Edmonton, AB, Canada, hereinafter called KUSP.)
Conditions of use are located at the end of this document.

Permission is granted for the project described in this agreement only, as outlined below:

Name of research project or thesis: _______________________________________________
Anticipated start and completion date of project: _________________________________
Projected size of research sample: _____________________________________________
Number of surveys to be administered: ___________________________________________

The undersigned agrees to abide by the terms of this agreement:

Signatures

Researcher  Date
_________________________________________________________  _______________________

Student’s Supervisor (if applicable)  Date
_________________________________________________________  _______________________

KUSP  Date
_________________________________________________________  _______________________

The researcher also gives KUSP permission to list their project, in the ACT manual and/or on the future ACT website, with other projects and researchers that have used the ACT.

Researcher  Date
ACT survey to be sent:

Please indicate the survey version that you require:

☐ Acute Care (Adults)
☐ Acute Care (Pediatrics)
☐ Long-Term Care
☐ Home Care

Please indicate the survey form that you require:

☐ Nurses (RNs/LPNs)
☐ Physicians
☐ Managers
☐ Practice Specialists (e.g., Clinical Educator, Quality Improvement Specialist)
☐ Allied Health Care Providers

Alberta Context Tool (ACT): Conditions of Use

The Knowledge Utilization Studies Program (KUSP) will provide the researcher with a copy of the Alberta Context Tool (ACT). The researcher is responsible for the reproduction of the ACT, the distribution of the survey, and the collection of data.

The researcher will retain full rights to the data for publication. On completion of the study the researcher will forward a digital copy of the ACT and demographic data from their study. These data will be used to assess the psychometric properties of the ACT and to build the ACT’s normative record on an ongoing basis. KUSP will retain rights to use these data within analyses of its larger ACT data set but will not publish analyses based on these data alone.

The data should be received within one year of project completion and submitted as follows:

- in Excel format
- with documentation (i.e., codebook)
- by secure courier on a DVD (DVD-R format) OR uploaded to the KUSP secure data site (by arrangement with the KUSP Data Manager)

The researcher will not distribute the ACT to any other party. The text will not be copied in any publication, research reports, or theses arising from the research.

The researcher will not adapt or modify the ACT without permission.

Permission to use the ACT is granted solely for the project described in the Full Use Permission Agreement between KUSP and the researcher and is not transferrable to other researchers or projects.
If the ACT will be distributed in a language other than English, professional translation and back translation from English to the second language is required. Consultation with Dr. Estabrooks during and following completion of the back translation must precede use of the tool. All costs associated with translation and back translation are the responsibility of the requesting researcher. The translated version of the ACT will become the property of Dr. Estabrooks who will provide it, where requested, to other researchers under the same conditions as have been outlined above.

All copies of the ACT must include the following text:

© Carole A. Estabrooks, 2007
All rights reserved. No part of this instrument may be produced, stored in a retrieval system, or transmitted in any form or by any means without the prior written permission of the copyright owner.