Supplementary Table 1

Five stages of locally adapting the UCLA 3-item Loneliness Scale into spoken Chinese (Cantonese)

<table>
<thead>
<tr>
<th>Stage</th>
<th>Task</th>
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</table>
| 1 | • A working group was established comprising two experienced researchers in the fields of psychology and gerontology respectively, two clinical psychologists, and one translator.  
• The standard “forward-backward” method was applied to translate the questionnaire from English to Chinese. One clinical psychologist translated the items and the response categories and created a provisional version of the Cantonese scale. |
| 2 | • The provisional version was back translated into English by the researcher in gerontology, and the linguistic validity of the forward and backward translated versions of the scale was examined by the translator.  
• Consensus was achieved in the working group on the translation of items 1 and 2; however, the group disagreed on the translation of item 3, specifically regarding the word ‘isolated’, which is an ambiguous term in Chinese and a literal translation from English sounds inauthentic in Chinese without a passive voice.  
• Working group members consulted other stakeholders. |
| 3 | • Cultural adaption of the word choice was done through review within the working group, consultation with older adults, and final modification by the working group.  
• The other clinical psychologist and psychology researcher who were not involved in the translation reviewed the draft and made suggestions. Take into consideration the low education level of the Hong Kong cohort, they provided two alternatives other than the literal translation to test which wording is more comprehensible: 1) paraphrase “isolated” to a Chinese term similar to “lonely”, and 2) use more colloquial language to express “isolated”. |
| 4 | • Cultural adaption was done with the response categories. The working group reviewed the response categories, and considered a 3-point scale (1 = hardly ever; 2 = some of the time; 3 = often) versus a 4-point scale (0 = never; 1 = rarely; 2 = sometimes; 3 = always).  
• The 4-point Likert scale was used in the R-UCLA from which UCLA 3-item was derived, and the reason for narrowing it originally was to fit the telephone interview protocol and to ensure that participants could remember the categories. The working group adopted the 4-point responses in the current study, which did not involve telephone survey. |
| 5 | • The working group consulted potential participants of the study. A convenient sample of 11 older adults with normal cognitive ability (one man and 10 women; mean age = 79.8±6.5; average years of education = 3.5±4.2) were recruited from the community aged care centres to provide their opinions on the translated versions of the scale.  
• From consultation with these participants, it was found that four people (36%) perceived the three translated versions of item 3 to be similar or identical, five people (45%) preferred the word “lonely” because it was more comprehensible, and two people (18%) perceived slight differences in the three versions, whereas “isolated” was more objective and “lonely” was their subjective feeling. They all preferred the 4-point scale over the 3-point scale because it enabled more precision in answering, and six (55%) mentioned explicitly that they needed the category “never” to be at least one item in the scale.  
• The working group made a collective decision on the translation of item 3, using the Chinese term similar to “lonely”, and expanding the number of response categories to four. |
**Supplementary Table 2**

Analysis of the UCLA 3-item Chinese version (n =1,653)

<table>
<thead>
<tr>
<th>How often do you feel: [frequency (%)]</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Always</th>
<th>Item-total correlation</th>
<th>Factor loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) lack of companionship</td>
<td>553 (33.5)</td>
<td>367 (22.2)</td>
<td>411 (24.9)</td>
<td>322 (19.5)</td>
<td>.78</td>
<td>.87</td>
</tr>
<tr>
<td>(ii) left out</td>
<td>659 (39.9)</td>
<td>364 (22.0)</td>
<td>382 (23.1)</td>
<td>248 (15.0)</td>
<td>.74</td>
<td>.82</td>
</tr>
<tr>
<td>(iii) isolated</td>
<td>491 (29.7)</td>
<td>316 (19.1)</td>
<td>422 (25.5)</td>
<td>424 (25.7)</td>
<td>.74</td>
<td>.81</td>
</tr>
</tbody>
</table>

SD, standard deviation.