Exercise 6: Screening & Cohen’s kappa exercise instructions

- **Step 1: Pair up with a partner.**
  - Review the aims & exclusion criteria on page 2.
  - Decide who will be Screener 1 and who will be Screener 2.

- **Step 2: Put your exclusion criteria in priority order**
  - Write them on the Exclusion Criteria in Order worksheet
    - Be sure both of you fill in the list as you will each need a copy of the criteria.

- 5 minutes
Cohen’s kappa/screening exercise instructions

- **Step 3: Screen the titles & abstracts based on the exclusion criteria on page 2 & in priority on page 3**
  - Work independently (i.e. do not confer with your partner!),
  - Determine the eligibility of each title/abstract
  - Record your decision in the **Exclusion Criteria Score Sheet**
  - If the item is excluded, assign a reason.
  - Total the “maybe” and “no” columns.
- 10 minutes
Cohen’s kappa/screening exercise instructions

- **Step 4: Compile the title/abstract screening results**
  - Use the **Title/Abstract Screening Compiled** to compile your data.
  - Put a hash mark under the column that represents the answers of **Screener 1 (S1)** and **Screener 2 (S2)**.
    - Ex:
      - If both of you said “maybe”, a hash mark would go in the 1st column.
      - If **Screener 1** said “maybe” but **Screener 2** said “no”, a hash mark would go in the 2nd column.
  - Total each column.

- **5 minutes**
Cohen’s kappa/screening exercise instructions

- **Step 5: Calculate your Cohen’s kappa**

- Data for **Screener 1** from Step 3 are put in cells C5 & D5.

- Data for **Screener 2** from Step 3 are put in cells C6 & D6.

- Data from **Page 4** are put in cells D11 through E12 of the same worksheet.

- Can you work through any of the calculations for the other cells?
  - What was your basic level of agreement (cell H5)?
  - Who tended to be more inclusive (cells I5 and I6)?

- 5 minutes
Kappa worksheet

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Observed Agreement</td>
<td>Raw of Maybe's</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Both S1 and S2 said MAYBE to same records or NO to same records</td>
<td>Raw of Maybe's</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pr(a) = (# both said &quot;maybe&quot; and &quot;no&quot;) / (total number screened), i.e., raw agreement</td>
<td>Raw of NO's</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&quot;Pr(e)&quot; = Probability of random agreement = (I6 X I7) + (J5 X J7)</td>
<td>Cohen's Kappa</td>
</tr>
<tr>
<td></td>
<td>Screen 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(H5-K6)(I-K8)</td>
<td>(H6-K8)/(1-K6)</td>
</tr>
<tr>
<td>7</td>
<td>Screen 2</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>D7/20</td>
<td>D7/20</td>
</tr>
<tr>
<td>8</td>
<td>Put the numbers from Page 4 here</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SEₖ = [ \sqrt{\frac{p(1-p)}{n(1-p_e^2)}} ]</td>
<td>Standard error of Kappa</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Confidence interval low</td>
<td>Confidence interval high end</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sqrt(((H6 X 1-H6)) / ((20 X 1-K6) X (20 X 1-K6)))</td>
<td>Sqrt(((H6 X 1-H6)) / ((20 X 1-K6) X (20 X 1-K6)))</td>
</tr>
<tr>
<td></td>
<td>Screen 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Maybe</td>
<td>No</td>
</tr>
<tr>
<td>11</td>
<td>Screen 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Maybe</td>
<td>No</td>
</tr>
</tbody>
</table>

Cohen’s kappa intrarater reliability