### About the Measure

<table>
<thead>
<tr>
<th>Domain:</th>
<th>Psychosocial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure:</td>
<td>Emotional State – Adult Protocol</td>
</tr>
<tr>
<td>Definition:</td>
<td>This measure assesses positive and negative aspects of a person’s mood.</td>
</tr>
<tr>
<td>Purpose:</td>
<td>The Positive Affect and Negative Affect Schedule (PANAS) measures the two broadest dimensions of emotional state (positive and negative affect). The PANAS also includes subscales used to measure more specific emotions within these broad groupings. Positive and negative affect have been associated with mental health problems such as depression and anxiety.</td>
</tr>
</tbody>
</table>

### About the Protocol

<table>
<thead>
<tr>
<th>Description of Protocol:</th>
<th>The Positive Affect and Negative Affect Schedule—Expanded Form (PANAS-X) is a 60-item scale used to measure the respondent’s emotions during the past few weeks. The items are grouped into the following 4 subgroups and subscales; general dimension scales (negative affect, positive affect), basic negative emotion scales (fear, hostility, guilt, sadness), basic positive emotion scales (joviality, self-assurance, attentiveness), other affective states (shyness, fatigue, serenity, surprise). The respondent is asked to read several words and phrases which describe feelings and emotions and enter a number that corresponds to the value on a scale. The 5-item scale ranges from very slightly or not at all with a value of 1 to extremely with a value of 5.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selection Rationale:</td>
<td>The PANAS and the expanded PANAS-X are well-known and commonly used psychometric measures. Internal consistency is high for both the positive and negative scales (Cronbach's alpha is between .83 and .90).</td>
</tr>
<tr>
<td>Specific Instructions:</td>
<td>None</td>
</tr>
</tbody>
</table>
This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way during the past few weeks. Use the following scale to record your answers:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>very slightly</td>
<td>a little</td>
<td>moderately</td>
<td>quite a bit</td>
<td>extremely</td>
</tr>
</tbody>
</table>

- cheerful
- sad
- active
- angry at self
- disgusted
- calm
- guilty
- enthusiastic
- attentive
- afraid
- joyful
- downhearted
- bashful
- tired
- nervous
- sheepish
- sluggish
- amazed
- lonely
- distressed
- bashful
- tired
- sleepy
- bashful
- shy
- drowsy
- distressed
- with self
- calm
- alert
- alive
- interested
- relieved
- alert
- jittery
- interested
- embarrassed
- shy
- bold
- scared
- concentrating
- shy
- blue
- scared
- concentrating
- shy
- blue
- scared
- concentrating
- with self

**Scoring:**

The results are scored by summing the positive affect scale and the negative affect scales separately and then calculating the mean and standard deviation.

Negative affect scale (10 items) = afraid, scared, nervous, jittery, irritable, hostile, guilty, ashamed, upset, distressed

Positive affect scale (10 items) = active, alert, attentive, determined, enthusiastic, excited, inspired, interested, proud, strong

**Basic negative emotion scales**
- Fear (6 items) = afraid, scared, frightened, nervous, jittery, shaky
- Hostility (6 items) = angry, hostile, irritable, scorning, disgusted, loathing
- Guilt (6 items) = guilty, ashamed, blameworthy, angry at self, disgusted with self, dissatisfied with self
- Sadness (5 items) = sad, blue, downhearted, alone, lonely

**Basic positive emotion scales**
- Joviality (8 items) = happy, joyful, delighted, cheerful, excited, enthusiastic, lively, energetic
- Self-assurance (6 items) = proud, strong, confident, bold, daring, fearless
- Attentiveness (4 items) = alert, attentive, concentrating, determined

**Other affective states**
- Shyness (4 items) = shy, bashful, sheepish, timid
- Fatigue (4 items) = sleepy, tired, sluggish, drowsy
<table>
<thead>
<tr>
<th>Emotional State – Adult Protocol</th>
<th>Date of SC final approval</th>
</tr>
</thead>
</table>

Serenity (3 items) = calm, relaxed, at ease  
Surprise (3 items) = amazed, surprised, astonished

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<table>
<thead>
<tr>
<th>Participant:</th>
<th>Ages 18+ years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language of Source:</td>
<td>English</td>
</tr>
<tr>
<td>Personnel and Training Required:</td>
<td>None</td>
</tr>
<tr>
<td>Equipment Needs:</td>
<td>None</td>
</tr>
<tr>
<td>Protocol Type:</td>
<td>Self-administered questionnaire</td>
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</table>

### Requirements:

<table>
<thead>
<tr>
<th>Requirements category</th>
<th>Required (Yes/No):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major equipment</td>
<td>No</td>
</tr>
<tr>
<td>Specialized training</td>
<td>No</td>
</tr>
<tr>
<td>Specialized requirements for biospecimen collection</td>
<td>No</td>
</tr>
<tr>
<td>Average time of greater than 15 minutes in an unaffected individual</td>
<td>No</td>
</tr>
</tbody>
</table>

| CDE: | To be completed by the PhenX team. |

### General References: