CLINICAL UTILITY OF THE PEDIATRIC SYMPTOM CHECKLIST*

Emily Trask, Ph.D.
Child and Adolescent Services Research Center
March 10, 2020

*©1988, M.S. Jellinek and J.M. Murphy, Massachusetts General Hospital
OVERVIEW

❖ PSC overview
❖ Clinical utility of PSC
❖ Evaluating outcomes at the program and systemwide level
PEDIATRIC SYMPTOM CHECKLIST

TWO VERSIONS

❖ **PSC:** Parent/Caregiver report on youth who are ages 3-18

❖ **PSC-Y*: Youth Self-Report for ages 11-18

*Not state-mandated*
ELEMENTS OF THE PSC

❖ Individual items – 35 items rated as:

<table>
<thead>
<tr>
<th>Never (0)</th>
<th>Sometimes (1)</th>
<th>Often (2)</th>
</tr>
</thead>
</table>

❖ Subscale scores:

- **Externalizing**: “Does not listen to rules”
- **Internalizing**: “Feels sad, unhappy”
- **Attention Problems**: “Has trouble concentrating”

❖ Total Scale Score
PSC SUBSCALES AND CLINICAL CUTOFF SCORES

❖ **Externalizing:**
  - Scores of 7 or higher may reflect significant problems with conduct

❖ **Internalizing:**
  - Scores of 5 or higher are suggestive of significant impairments with anxiety and/or depression

❖ **Attention Problems:**
  - Scores of 7 or higher are indicative of impairments in attention
# PSC TOTAL SCALE SCORE

- **PSC Total Scale Score:** Range = 0-70
  - If four or more items left blank = INVALID

<table>
<thead>
<tr>
<th>PSC (Parent/Caregiver Completed)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ages 6-18</td>
<td>Ages 3-5</td>
</tr>
<tr>
<td>• Score of <strong>28</strong> or above = indicates psychosocial impairment</td>
<td>• Score of <strong>24</strong> or above = indicates psychosocial impairment</td>
</tr>
<tr>
<td></td>
<td>➢ IGNORE ITEMS 5, 6, 17, AND 18 FOR THIS AGE GROUP</td>
</tr>
</tbody>
</table>

- **PSC-Y (Youth Self-Report)**
  - Score of **30** or above* = indicates psychosocial impairment

*Pagano et al., 2000*
CLINICIAN ENGAGEMENT WITH THE PSC

❖ Track treatment progress
❖ Engage families in treatment
❖ Jointly identify treatment goals
❖ Identify clients’ strengths and weaknesses
TRAIN CLINICIANS WHO USE THE PSC TO:

❖ Identify broad and specific treatment goals

❖ Identify appropriate interventions

❖ Track treatment progress
PSC Parent

Client ID: 900000001
Unit: 9000
CCBH Intake Date: 9/18/2017

**PSC Parent Subscales**

- Attention Problems Subscale
- Externalizing Problems Subscale
- Internalizing Problems Subscale

<table>
<thead>
<tr>
<th></th>
<th>Initial</th>
<th>Reassessment</th>
<th>Discharge</th>
</tr>
</thead>
</table>
| Attention Problems Subscale (0-10)
| 6                   | 3        | 3 (AT-RISK) |
| Internalizing Problems Subscale (0-10)
| 3                   |          | 5 (AT-RISK) |
| Externalizing Problems Subscale (0-14)
| 8 (AT-RISK)         |          | 6         |
| Total Score (0-70)
| 36 (IMPAIRED)       |          | 26        |

- **AT RISK** - Children with scores of 7 or higher on this subscale usually have significant impairments in attention.
- **AT RISK** - Children with scores of 5 or higher on this subscale usually have significant impairments with anxiety and/or depression.
- **AT RISK** - Children with scores of 7 or higher on this subscale usually have significant problems with conduct.
- **IMPAIRED** - Children ages 6-18 with scores of 28 or higher and children ages 3-5 with scores of 24 or higher usually have psychological impairment.
EVALUATING TREATMENT PROGRESS

- Examine the graph

<table>
<thead>
<tr>
<th>Question</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do the lines go up?</td>
<td>Indicates an increase in symptoms</td>
</tr>
<tr>
<td>Do the lines go down?</td>
<td>Suggests a reduction in symptoms</td>
</tr>
<tr>
<td>Are the lines flat?</td>
<td>Indicates no change</td>
</tr>
</tbody>
</table>

The graphs show the level of symptoms for different subscales over initial and reassessment 1 assessments.
❖ Have the at-risk/impairment categories changed?
❖ Does the client now fall in the not ‘at-risk’ or not ‘impaired’ range at follow-up?

<table>
<thead>
<tr>
<th></th>
<th>Initial</th>
<th>Reassessment</th>
<th>Discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attention Problems</td>
<td>6</td>
<td>3</td>
<td>5 (AT-RISK)</td>
</tr>
<tr>
<td>Subscale (0-10)&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internalizing Problems</td>
<td>3</td>
<td>5 (AT-RISK)</td>
<td></td>
</tr>
<tr>
<td>Subscale (0-10)&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Externalizing Problems</td>
<td>8 (AT-RISK)</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Subscale (0-14)&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Score</td>
<td>36 (IMPAIRED)</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>Subscale (0-70)&lt;sup&gt;d&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Published literature, statistical analysis, and developer guidelines were used to establish tracking outcomes.

- Outcomes
  - Amount of improvement
  - Reliable improvement
  - Clinically significant improvement
AMOUNT OF IMPROVEMENT

- Calculated Cohen’s d-effect size to determine:
  - No Improvement (i.e., 0 or 1-point reduction on the PSC Total Scale Score)
  - Small
  - Moderate
  - Large
  - Increase in Impairment
“A change score of six or greater on the total score is considered a reliable change” (Murphy, et al., 2016)

Example: What percentage of clients reported reliable change on the PSC at the end of treatment?

Reported for each program and the entire system
"A change score of six or greater on the total score is considered a reliable change, and changes this large that also involve a change from risk to non-risk (or vice versa) are considered to indicate clinically significant change" (Murphy, et al., 2016).

Example: What percentage of clients reported clinically significant change on the PSC at the end of treatment?
EXAMPLE OF SAN DIEGO SYSTEM-LEVEL DATA

FY 2018-19

N = 1,743 discharged clients with two timepoints of data

❖ Amount of change
  - No change: 8%
  - Small: 13%
  - Medium: 15%
  - Large: 40%
  - Increase in impairment: 24%

❖ Reliable Change: 51%
  - Context: 33% of Mass General clients reliably improved after 3 months of treatment (Murphy et al., 2015)
Clinically Significant Improvement

- N = 1,108 Discharged clients who started above the clinical cutpoint on at least one PSC Scale
- 58% of these clients had clinically significant improvement at the end of therapy

- **Context:** 23% of Mass General parents reported clinically significant improvement at 3 months (Murphy et al., 2015).
More information can be found on the developers’ website:

- [https://www.massgeneral.org/psychiatry/treatments-and-services/pediatric-symptom-checklist/](https://www.massgeneral.org/psychiatry/treatments-and-services/pediatric-symptom-checklist/)

PSC Clinician Training Powerpoint:

- [https://medschool.ucsd.edu/som/psychiatry/research/CASRC/resources/SOCE/Pages/CYFmHOMS-DES.aspx](https://medschool.ucsd.edu/som/psychiatry/research/CASRC/resources/SOCE/Pages/CYFmHOMS-DES.aspx)