

## Descriptions for the PMBS & AMBS

*Parent Medication Barriers Scale (PMBS).* The PMBS (Simons & Blount, 2007) is designed to assess parent perceived barriers to their child's medication taking. Each item is rated on a 5-point Likert-like scale from 1 = 'strongly disagree' to 5 = 'strongly agree.' The PMBS consists of 16 items with strong internal consistency ( $\alpha = .87$ ) and stability over time (Simons, McCormick, Devine & Blount, 2010). There are 4 factor-analytically derived subscales: Disease Frustration/Adolescent Issues with 7 items ( $\alpha = .84$ ), Regimen Adaptation/Cognitive with 5 items ( $\alpha = .82$ ), Ingestion Issues with 3 items ( $\alpha = .69$ ), and Parent Reminder with 1 item. For criterion-related validity, adolescents with solid organ transplants who were classified as nonadherent had significantly higher barrier scores than those classified as adherent (Simons & Blount, 2007). For predictive validity, Regimen Adaptation/Cognitive barriers were associated with poor adherence at 18 month follow-up and parent perceived Ingestion Issues reported at baseline were associated with medical complications and mortality at 18 month follow-up (Simons et al., 2010).

*Adolescent Medication Barriers Scale (AMBS).* The AMBS (Simons & Blount, 2007) assesses adolescent perceived barriers to medication taking. All items are rated on a 5-point Likert-like scale from 1 = 'strongly disagree' to 5 = 'strongly agree.' The AMBS consists of 17 items with strong internal consistency ( $\alpha = .86$ ) and stability over time (Simons, McCormick, Devine & Blount, 2010). There are 3 factor-analytically derived subscales: Disease Frustration/Adolescent Issues with 8 items ( $\alpha = .84$ ), Ingestion Issues with 5 items ( $\alpha = .70$ ), and Regimen Adaptation/Cognitive with 4 items ( $\alpha = .76$ ). With regards to construct validity, frequency and intensity of perceived side effects was significantly associated with the AMBS total score, Disease Frustration/Adolescent Issues score, and Regimen Adaptation/Cognitive Issues score whereas lower parent and adolescent medication knowledge was associated with higher Ingestion Issue scores. For family functioning, greater conflict and lower family cohesion was associated with higher barrier scores on the total AMBS scale score, the Disease Frustration/Adolescent Issues, and the Ingestion Issue score (Simons & Blount, 2007). For predictive validity, Disease Frustration/Adolescent Issues barriers were associated with poor adherence at 18 month follow-up and Ingestion Issues reported at baseline were associated with medical complications and mortality at 18 month follow-up (Simons et al., 2010).

### **Scoring for the PMBS & AMBS**

To score each measure, simply sum the items for subscale scores and all items for an overall scale score. Item numbers are from the measure, not the article.

#### **PMBS**

Disease Frustration/Adolescent Issues: item # 4, 7, 9, 11, 12, 14, 16

Regimen Adaptation/Cognitive: item # 5, 6, 8, 10, 13

Ingestion Issues: item # 1, 2, 3

Parent Reminder: item # 15

#### **AMBS**

Disease Frustration/Adolescent Issues: item # 5, 6, 7, 9, 10, 12, 13, 14

Regimen Adaptation/Cognitive: item # 8, 11, 15, 17

Ingestion Issues: item # 1, 2, 3, 4, 16

**To cite development of measure:** Simons LE & Blount RL. (2007). Identifying barriers to medication adherence in adolescent transplant recipients. *Journal of Pediatric Psychology, 32*, 831-44.

**Further validation:** Simons LE, McCormick ML, Devine K, & Blount RL. (2010). Medication Barriers Predict Adolescent Transplant Recipients' Adherence and Clinical Outcomes at 18-Month Follow-up. *Journal of Pediatric Psychology, 35*, 1038-48.