

## Supplemental Material – Reviewed (SOM-R)

### Composite Variables

**Approach.** We created composite variables for preschool and adolescent levels of each outcome (academic achievement, emotion regulation, personality, problem behavior, and social skills) and average levels of self-control and social support across childhood (across observations from ages 4, 6-7, 10-11, and 15) by taking the z-scored average of eligible measures for each variable. Eligibility was determined using a systematic search and selection process (see SOM-U for details).

**Reliability, validity, and measures included.** All within-composite correlations between measures were significant. Reliability estimates for individual measures below reflect those reported by NICHD investigators in the SECCYD documentation. All variables in our composites were created and ratified by the NICHD; we did not use or access raw data from individual measures in our analysis.

**Academic achievement.** Age 4: Percentile ranks from five subscales of the Woodcock-Johnson Battery – Revised (Woodcock, McGrew, & Mather, 2001), a wide-ranging, comprehensive measure of cognitive aptitude and achievement with extensive published information on predictive validity across the lifespan for competencies in math, reading, and writing. Subscales and internal consistency estimates: Applied Problems (mathematical analysis and practical problem solving), Incomplete Words (auditory processing;  $\alpha = .89 - .92$ ), Letter-Word Identification (symbolic learning, early reading), Memory For Sentences (short-term memory, comprehension knowledge;  $\alpha = .86 - .94$ ), and Picture Vocabulary (verbal comprehension, crystallized intelligence;  $\alpha = .70 - .82$ ). Test-retest reliability ranged from .63 to .87 for the individual tests, with split-half reliability of .94 to .98 for the achievement

skills cluster. Age 15: achievement scores in English, math, and science from school transcripts (range = 0 - 6 for math and science, 0 - 1 for English).

***Emotion regulation.*** Age 4: parent-reported Internalizing on the Child Behavior Checklist (CBCL, Achenbach, 1991; reversed t-score from Withdrawn, Somatic Complaints, Anxious/Depressed syndromes), parent-reported Internalizing Problems on the Social Skills Rating System (SSRS, Gresham & Elliot, 1990; alpha = 0.56), parent-reported Negative Affectivity on the Child Behavior Questionnaire (CBQ; Rothbart, Ahadi, & Hershey, 1995; reversed t-score from Discomfort, Fear, Anger/Frustration, Sadness, Falling Reactivity and Soothability subscales).<sup>1</sup> Age 15: parent-reported CBCL Internalizing, parent-reported SSRS Internalizing Problems.<sup>2</sup>

***Personality.*** Age 4: parent-reported CBQ Surgency (proportional weighted score from Approach, Activity Level, reversed Shyness subscales). Age 15: self-reported psychosocial functioning on the Psychosocial Maturity Inventory (Greenberger & Bond, 1976; 30 items, range = 1.3 – 4, alpha = .87), self-reported Resistance to Peer Pressure (9 items, alpha = .69) on the Resistance to Peer Influence questionnaire (Steinberg & Monahan, 2007).

***Problem behavior.*** Age 4: parent-reported CBCL Total Problems (t-score of all eight syndrome scales), parent-reported SSRS Problem Behaviors (alpha = 0.69). Age 15: parent-reported CBCL Total Problems (t-score of all eight syndrome scales), parent-reported SSRS Problem Behaviors (40 items, alpha = 0.91), self-reported Total Risk-Raking on the Risky

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<sup>1</sup> The SECCYD documentation did not include alpha reliabilities for individual CBCL or CBQ subscales but states that both broad band and narrow band factors of the CBCL are highly reliable and internally consistent and that alphas for the eight CBQ subscales range from .60 to .85 for mother reports.

<sup>2</sup> The SECCYD documentation did not include alpha reliabilities for individual SSRS subscales but states alpha = 0.80 for the internalizing score for the standardization sample and ranges from 0.77 to 0.91 across subscales for the SECCYD sample.

Behavior Questionnaire (Any Risk-Taking score; measures how many times in the past year participants have engaged in 55 different risky behaviors including risky sex, tobacco use, and other safety- and violence-related behaviors; 53 items, alpha = 0.89).

**Self-control.** Age 4: Stroop impulsivity scores (child performance-based; reverse-scored percent incorrect with proportional weighting), parent-reported SSRS Self-Control (alpha = 0.79). At age 6-7: parent-reported SSRS Self-Control (alpha = .82) and teacher-reported SSRS Self-Control (alpha = .87). Age 10-11: parent- and teacher-reported SRSS Self-Control. Age 15: parent- and child self-reported SSRS Self-Control (documentation states alpha = .83 but not separately reported by parent and child), self-reported Study Child Impulse Control scores on the Weinberger Adjustment Inventory (Weinberger & Schwartz, 1990; 7 items, alpha = .82).

**Social skills.** Age 4: parent-reported SSRS Social Skills (alpha = .88), Social Competence on the Social Problem Solving Test—Revised (Rubin, 1983; child performance-based). Age 15: parent-reported SSRS Social Skills (40 items, alpha = 0.91) and child self-reported SSRS Social Skills (39 items, alpha = 0.88).

**Social support.** Age 4: parent-reported Total Positive Relationship scores on the adapted Student-Teacher Relationship Scale<sup>3</sup> (STRS; Pianta, 1992; range=15-75), parent-reported CBCL Withdrawn. Age 6-7: parent- and teacher-reported STRS Total Positive Relationship, parent- and teacher-reported CBCL Withdrawn, teacher-reported Child Peer Status on the Relationships With Peers scale (alpha range = .81 - .88 across assessment periods), child self-reported Loneliness and Social Dissatisfaction (alpha = .77) on the Loneliness and Social Dissatisfaction Questionnaire for Young Children (Cassidy & Asher, 1992). Age 10-11: parent-reported STRS

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<sup>3</sup> Alpha reliabilities were not reported for Total Positive Relationship scores but the documentation states alpha level on this scaling, derived from previous use in the SECCYD, ranged from .81 to .87.

Total Positive Relationship (alpha = .82), teacher-reported STRS Total Positive Relationship (alpha = .87), parent- and teacher-reported CBCL Withdrawn, parent- and teacher-reported Security In Relationships on the Relatedness + Security Questionnaire (alpha = 0.77 for mother, 0.73 for teacher), child self-reported Social Support from Peers on the Peer Social Support , Bullying, & Victimization questionnaire (18 items, alpha = .92), Acceptance and Responsivity on the Home Observation for Measurement of the Environment (HOME; Caldwell & Bradley, 1984; researcher observation-based), child self-reported Friendship Quality on the Friendship Quality Questionnaire (alpha = .89). Age 15: parent-reported STRS Total Positive Relationship, parent-reported CBCL Withdrawn, HOME Acceptance and Responsivity (researcher observation-based; 9 items, alpha = 0.69), child self-reported Loneliness and Social Dissatisfaction, child self-reported Friendship Quality (28 items, alpha = .92), child self-reported Parental Warmth and Support on the Parental Warmth, Support, & Hostility Questionnaire (9 items, alpha =0.92), child self-reported Secure Parental Attachment on the Behavioral Systems Questionnaire (Furman & Wehner, 1999; mean alpha =.80 for scales; .88 for composite scores).

## References

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