



Overview of the Child Behavior Rating Scale (CBRS) and Mental Health Well-Being Items

What is the Child Behavior Rating Scale?

The Child Behavior Rating Scale (CBRS; Bronson et al., 1990) is a teacher report measure of children's self-regulation and social skills.

- **Self-regulation skills:** skills that support children to manage their attention, emotions, and behaviors to adapt to the demands of the school environment (e.g., listen to others, follow expectations and multi-step directions, and stay focused on tasks).
- **Social skills:** skills that support children to successfully navigate interactions and build relationships with peers and adults (e.g., cooperate in a group, express thoughts and emotions, and resolve conflicts in a positive way).

The Virginia Kindergarten Readiness Program (VKRP) uses the CBRS to measure these two sets of skills because it has been proven to be reliable and valid across culturally diverse contexts.

CBRS at a glance

- The CBRS is a short rating scale that teachers complete outside of instructional time.
- It assesses a teacher's perception of a child's behavior with other children, adults, and materials and tasks in the classroom.
- It includes a set of 17 items that are completed using a rating scale from one to five to determine the frequency of certain behaviors.
- It takes approximately one to three minutes to complete per child using the online system.
- It is completed in the fall and spring of pre-kindergarten and kindergarten with an option of assessing at mid-year.

CBRS Subscales and Versions

The Child Behavior Rating Scale (Bronson et al., 1990) is a teacher report measure used to gather information about "a child's task behavior and social behavior with peers and adults" (Bronson et al., 1995, p. 260). The original measure is comprised of 32 items that ask teachers to rate the frequency with which individual children exhibit specific behaviors on a scale from one (never) to five (always). Eighteen items combine to form the Mastery Behavior Scale and 14 comprise the Social Behavior Scale, which together capture children's work-related skills and social skills, respectively (Lim et al., 2010a; Son et al., 2013).

The majority of studies using the CBRS, however, have utilized shorter versions of the measure. One of the most frequently used versions was introduced by Matthews and colleagues (2009) and consists of 17 items that measure children's behavioral regulation as illustrated by two subscales. The Classroom Self-Regulation subscale is comprised of 10 items that assess teachers' perceptions of children's behavioral regulation during

academic tasks (e.g., following directions, staying on task; See [Appendix A](#) for items), and the Interpersonal Skills subscale (we will refer to this as the Social Skills subscale throughout the rest of this document) is comprised of 7 items that assess teachers' perceptions of children's behavioral regulation in social situations (e.g., respecting others, sharing; See [Appendix A](#) for items). This factor structure has been validated in other studies (e.g., Ponitz et al., 2009; Wanless, McClelland, Acock, Ponitz, et al., 2011).

Studies that assess children's behavioral regulation with the CBRS may utilize scores from the Classroom Self-Regulation subscale independently or in conjunction with those from the Social Skills subscale. VKRP falls within this latter category and reports on teachers' perceptions of children's self-regulation and social skills using the 17-item version of the CBRS, with 10 items forming the Self-Regulation subscale and 7 items forming the Social Skills subscale.

Previous Uses of the CBRS

Function of the CBRS. The CBRS has been used as a measurement tool in studies exploring a wide range of topics, including those focusing on children's academic or social-emotional development (e.g., Lee et al., 1998; McClelland et al., 2007), the assessment of early childhood programs or interventions (e.g., Bronson et al., 1995; Schmitt et al., 2015), and the testing of other measures' psychometric properties (e.g., Meisels et al., 1995; Ponitz et al., 2008). In these studies, items from the CBRS have been utilized both to measure specific constructs (e.g., task behavior, work-related social skills, goal-oriented behaviors) and to measure overall classroom behavior more broadly.

Sample characteristics. The CBRS has been used to assess adults' perceptions of the behavior of children spanning a wide range of ages and across different cultural contexts. Of the studies reviewed, children ranged between the ages of 3 and 10 years, with the majority of studies focusing on those in preschool or kindergarten (see [Table 1](#) for summary). CBRS data have been collected across different settings, including childcare centers, preschools, Head Start programs, kindergarten classrooms, and elementary schools. The CBRS has been used in the United States and has also been validated and utilized across European (e.g., Albania, England, Iceland, Germany, Norway, and Romania) and Asian countries (e.g., China, Singapore, South Korea, and Taiwan; see [Table 1](#) for summary), among others.

Association with developmental outcomes. Studies have repeatedly identified the significant association between children's CBRS scores and their development of a wide range of outcomes. For example, CBRS scores have been associated with children's overall cognitive achievement (e.g., Lee et al., 1998), math (e.g., Wanless, McClelland, Acock, Chen, and Chen, 2011), vocabulary (e.g., Gestsdóttir et al., 2014), and literacy outcomes (e.g., Ponitz et al., 2008). Studies have also identified the relationship between children's CBRS scores and other important domains of school readiness, including attentional and inhibitory control (Kim et al., 2016; Yang & Lamb, 2014).

Psychometric Properties of the CBRS

Reliability. The CBRS has demonstrated good internal consistency. Initial analysis of the original 32-item CBRS yielded a test-retest reliability of .67 and an internal consistency (Cronbach's alpha) of .96 (Layzer et al., 1990).

Additional studies using all CBRS items have produced similar results with alpha's ranging between .82 – .96 (e.g., Bronson et al., 1995; Son et al., 2013). Regarding the 17-item, two-factor structure proposed by Matthews et al. (2009) and utilized by VKRP, studies have produced Cronbach's alphas ranging between .89 – .95 (e.g., Moldovan & Bocoş-Binţinţan, 2016; Tindal et al., 2015). For the 10-item Classroom Self-Regulation subscale (e.g., Kim et al., 2016; Sung, 2014; Schmitt, 2014), studies report Cronbach's alphas greater than .92, while the 7-item Social Skills subscale has also shown relatively strong internal consistency (Cronbach's alpha = .76 – .85; Von Suchodoletz et al., 2015; Ponitz et al., 2009). In further support of this two-factor structure, factor analyses show that the majority of the CBRS's variance can be captured through the Classroom Self-Regulation and Social Skills factors (42% and 10%, respectively; Matthews et al., 2009). This two-factor structure has been replicated in multiple studies with high item loadings (.60 – .80) on factors both in the United States and abroad (e.g., Ponitz et al., 2009; Von Suchodoletz et al., 2013; Wanless et al., 2013).

Validity. The CBRS has strong construct and concurrent validity. The full 32-item measure is moderately correlated with the Bronson Social and Task Skill Profile (Bronson, 1996), an observational measure used to assess children's classroom goal-oriented and regulatory behaviors (Ponitz et al., 2009). The CBRS has also shown high correlations with the Observed Child Engagement Scale (Rimm-Kauffman, 2005), another child observation tool (Schmitt et al., 2014). Regarding direct assessment measures of children's self-regulatory skills, the CBRS has consistently produced significant correlations with the Head-Toes-Knees-Shoulders task (e.g., Ponitz et al., 2008; Wanless, McClelland, Acock, Chen, and Chen, 2011; Wanless, McClelland, Acock, Ponitz, et al., 2011) and the Head-to-Toes task (e.g., Birgisdóttir et al., 2015; McClelland et al., 2007). It has also shown a significant association with children's scores on the Preschool Inventory (PSI), a direct assessment of children's cognitive achievement (Bronson et al., 1995; Lee et al., 1998). The CBRS has been found to predict children's pre-academic school readiness skills, including math achievement (Gestsdóttir et al., 2014; Schmitt et al., 2014) and literacy outcomes such as reading comprehension, vocabulary, and letter knowledge (Birgisdóttir et al., 2015; Gestsdóttir et al., 2014; Schmitt et al., 2014).

Uses of the CBRS in VKRP

The CBRS demonstrated strong internal consistency across the 88,661 kindergarten students who were assessed in 2024-2025. Overall, the 17-items yielded a Cronbach's alpha of .96, with similar results for the Self-Regulation and Social Skills subscales (Cronbach's alpha of .96 and .92, respectively). The CBRS also demonstrated strong internal consistency across the approximately 38,016 pre-kindergarten children assessed during the spring of the 2024–2025 school year. Overall, the 17-items yielded a Cronbach's alpha of .96, and there was strong internal consistency for the Self-Regulation and Social Skills subscales (Cronbach's alpha of .96 and .90, respectively). Additionally, in kindergarten and pre-kindergarten, subscale scores were moderately correlated with one another (Pearson Correlation values ranging between .69 - .70, $p < .001$).

Mental Health Well-Being Items

In addition to completing the 17 CBRS items, teachers also report on five items that focus on children's mental health well-being (e.g., appears anxious) as well as a single item that captures teachers' overall level of concern for each child's social-emotional well-being. These Mental Health Well-Being items were generated by social-

emotional experts on the VKRP team and were developed in response to a need to better understand children’s mental health well-being during the pandemic. The items provide valuable information about children’s overall mental health that complements the CBRS Self-Regulation and Social Skills subscales. The Mental Health Well-Being items demonstrate acceptable reliability (Cronbach’s alpha of .80) in the statewide sample.

Table 1

Studies Using the CBRS (N = 39)

| Study | Study Location | Sample | Items/Scales Used |
|-------------------------------|----------------|---|--|
| Bronson et al. (1995) | United States | Preschoolers (N = 586)* | All items |
| Brock et al. (2018) | | Age: 5 – 6 (N = 87)* Kindergarten, First Grade | Self-Regulation subscale |
| Doromal et al. (2019) | | Age: 5 (N = 313)* Kindergarten | Self-Regulation subscale |
| Duncan et al. (2017) | | Age: 4 (N = 100) Preschool | Self-Regulation subscale |
| Kim et al. (2016) | | Age: 5 – 8 (N = 278) Kindergarten, First Grade | Self-Regulation subscale |
| Kim et al. (2019) | | Age: 5 – 8 (N = 117)* Kindergarten | Self-Regulation subscale |
| Lee et al. (1998) | | Age: 4 (N = 677)* Preschool | All items |
| Matthews et al. (2009) | | Age: 5 – 6 (N = 268) Kindergarten | Self-Regulation subscale |
| McClelland & Morrison (2003) | | Age: 3 – 5 (N = 72) Preschool | Mastery Behaviors subscale |
| McClelland et al. (2007) | | Age: 3 – 5 (N = 310) Preschool | Self-Regulation subscale |
| Meisels et al. (1995) | | Age: 4 – 6 (N = 86) Kindergarten | All items |
| Ponitz et al. (2009) | | Age: 4 – 6 (N = 343) Kindergarten | Self-Regulation subscale Social Skills subscale |
| Ponitz et al. (2008) | | Age: 3 – 6 (N = 445) Preschool | Self-Regulation subscale |
| Schmitt et al. (2014) | | Age: 3 – 5 (N = 247) Preschool | Self-Regulation subscale |
| Schmitt et al. (2015) | | Age: 3 – 5 (N = 276)* Preschool (Head Start) | Self-Regulation subscale |
| Tamm & Peugh (2019) | | Age: 3 – 5 (N = 243)* Preschool | Self-Regulation subscale |
| Tindal et al. (2015) | | Kindergartners (N = 1189) | Self-Regulation subscale Social Skills subscale |
| Zelazo et al. (2018) | | Age: 4 – 5 (N = 218)* Preschool | All items |
| von Suchodoletz et al. (2015) | Albania | Age: 4 – 5 (N = 150) | Self-Regulation subscale Social Skills subscale |
| Howard et al. (2019) | Australia | Age: 3 – 5 (N = 80) Preschool | Self-Regulation subscale |

| Study | Study Location | Sample | Items/Scales Used |
|---|---|--------------------------------------|--|
| Taylor & Butts-Wilmsmeyer (2020) | Canada | Age: 4 – 5 (N = 250) Kindergarten | Self-Regulation subscale |
| Yang & Lamb (2014) | England | Age: 4 (N = 67) | All items |
| Ludwig et al. (2016) | Germany | Age: 4 – 6 (N = 106) | Select items pulled |
| Gestsdóttir et al. (2014) | Germany, Iceland | Age: 5 – 6 (N = 181) Preschool | Self-Regulation subscale |
| von Suchodoletz et al. (2013) | | Age: 5 – 6 (N = 301) | Self-Regulation subscale |
| Birgisdóttir et al. (2015) | Iceland | Age: 4 – 5 (N = 111) Preschool | Self-Regulation subscale |
| Birgisdóttir et al. (2020) | | Age: 4 – 5 (N = 110) Preschool | Self-Regulation subscale |
| Keown et al. (2020) | New Zealand | Age: 3 (N = 212) Preschool | Self-Regulation subscale |
| Resaland et al. (2015) | Norway | Age: 10 (N = 1145) | Self-Regulation subscale |
| Moldovan & Bocoş-Binţinţan (2016) | Romania | Age: 7 – 10 (N = 41) | Self-Regulation subscale Social Skills subscale |
| Lim, Rodger & Brown (2010a) | Singapore | Age: 3 – 6 (N = 117)** | All items |
| Lim, Rodger & Brown (2010b) | | Age: 3 – 6 (N = 117)** | All items |
| Ahn & Kwon (2005) | South Korea | Age: 5 – 6 (N = 167) | Mastery Behaviors subscale |
| Son et al. (2013) | | Age: 3 – 6 (N = 229) | All items |
| Sung (2014) | | Age: 4 – 5 (N = 214) | Self-Regulation subscale |
| Wanless, McClelland, Acock, Chen, & Chen (2011) | Taiwan | Age: 3 – 4 (N = 152) Preschool | Self-Regulation subscales |
| Sezgin & Demiriz (2019) | Turkey | Age: 4 – 5 (N = 53) Preschool | Self-Regulation subscale Social Skills subscale |
| Wanless, McClelland, Acock, Ponitz, et al. (2011) | China, Taiwan, South Korea, United States | Age: 3 – 6 (N = 814) Preschool | Self-Regulation subscale |
| Wanless et al. (2013) | | Age: 3 – 6 (N = 814) Preschool | Self-Regulation subscale |

Note. *Indicates sample of low socio-economic status. **Indicates portion of sample with disability.

Number of studies using:

- 3-year-olds: ~15
- 4-year-olds: ~27
- 5-year-olds: ~31
- 6-year-olds: ~17
- 7-year-olds: 2
- 8-year-olds: 2



- 9-year-olds: 1
- 10-year-olds: 2



Appendix A

Factor Structure of CBRS Items (Matthews et al., 2009)

Classroom Self-Regulation

- Observes rules and follows directions without reminders
- Completes learning tasks in an organized way
- Completes tasks successfully
- Attempts new and challenging tasks
- Concentrates when working, not easily distracted
- Responds to instructions and begins appropriate task
- Takes time to do his/her best work
- Finds and organizes materials
- Sees own errors on task and corrects them
- Returns to unfinished tasks after interruption

Social Skills

- Willing to share
- Expresses hostility—Verbally
- Expresses hostility—Physically
- Cooperates with playmates
- Takes turns without being told to do so
- Complies with adult directives—With little or no resistance
- Does not fuss when doesn't get teacher's attention

Remaining Items not included in the 17-item version of the CBRS

- Joins in play with others
- Comforts peers
- Plays with other children
- Offers suggestions for play
- Suggestions for play are accepted by other children
- Engages in pretend play
- Resolves potential social conflicts
- Initiates social interaction with adults
- Can deal with normal criticism or teasing
- Tries to solve a problem before asking for help
- Shows satisfaction when completes a project
- Feels s/he can cope well with classroom situations
- Interested in trying new activities, games, etc.



- Conveys confidence about being able to succeed
- Shows enthusiasm for activities



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