

college age, has been collected. The college-age sample is recommended for use with test takers between the ages of 17 and 20 because of elevated scores on the excitement-seeking scale for this age group.

Evidence of validity and reliability has been collected for the NEO PI-R. Extensive research about the structure of the factors (construct validity), as well as correlational data with other measures of personality (convergent validity) and theoretically unrelated constructs (discriminant validity), has been published.

Short-term test-retest reliability coefficients are around .80 for each of the five domains. A 6-year test-retest study found stability coefficients of .68 to .83 for neuroticism, extroversion, and openness. Another study, spanning 7 years, found stability coefficients ranging from .63 to .81 for all five domains. Interitem reliability alpha coefficients for the facet scales range from .86 to .92 for Form S and from .89 to .95 for Form R.

The NEO PI-R has many uses for clients, counselors, and researchers, including increasing clients' self-awareness and helping counselors develop appropriate treatment plans. Additionally, results from a self-report that diverge from a significant other's ratings can give clients insight into the way in which others see them. Coupled with vocational assessments, the NEO PI-R can help clients and counselors discuss possible career decisions on the basis of clients' personality and interests. Furthermore, researchers can benefit by including a measure of personality in their studies.

—Melanie Leuty and Jo-Ida C. Hansen

Further Reading

Costa, P. T., Jr., & McCrae, R. R. (1992). *Revised NEO Personality Inventory and NEO Five Factor-Inventory Professional Manual*. Odessa, FL: Psychological Assessment Resources.

NEONATAL BEHAVIORAL ASSESSMENT SCALE

The Neonatal Behavioral Assessment Scale (NBAS, published by MacKeith Press) assesses the full range

of neonatal behavior by describing infants' competencies and identifying potential areas of difficulty. The scale was originally developed in 1973 by T. Berry Brazelton on the premise that rather than being passive recipients of their environments, infants actively contribute to the parent-infant relationship. In addition, the scale was designed not only to identify abnormal infant behavior but also to describe the full range of normal infant behavior—a departure from most assessments of neonatal behavior at the time, which focused on identifying developmental delays.

The most recent edition of the NBAS scale takes 20 to 30 minutes to administer and is used to assess full-term infants up to the end of the second month of life. The scale may be adapted to assess preterm and at-risk infants as well. The NBAS is administered by a trained individual, who scores 53 items based on infants' behavior and state. These items assess infants' level of functioning in seven primary domains: (a) infants' reflexes, including the sucking reflex, the plantar reflex, and the rooting response, are assessed; (b) the motor system is assessed by, for example, examining the range of motion and the resistance of infants' limbs; (c) the autonomic system is assessed by examining the degree to which infants are startled during the procedure, how much they tremble during the procedure, and the color of their skin; (d) the capacity of infants to habituate to disturbing stimuli is assessed by shaking a bell nearby or shining a light in the eyes and examining how long it takes infants to disregard the stimulus; (e) infants' state organization is assessed by examining how irritable and excited they are during the procedure, as well as how much their state changes during the procedure; (f) the degree to which infants are capable of state regulation is assessed by examining how cuddly they are in response to being held, how consolable they are while crying, and how well they can quiet themselves while crying; and (g) the social interaction of infants is assessed by examining how well they track both auditory stimuli (e.g., an adult voice) and visual stimuli (e.g., a face).

The NBAS has proven to be a valid and reliable measure of infant behavior in early life and has been used extensively in both research and clinical contexts. Researchers, for example, have used the NBAS

to investigate the effects of maternal substance abuse, cross-cultural differences in infant behavior, the possible developmental outcomes of children, the effects of tactile stimulation on preterm infants, and the effects of obstetric medication on later development. In clinical settings, the NBAS has been administered in the presence of parents to help them better understand the capacities of their infants. By administering the scale in the presence of parents, clinicians can stress the uniqueness of an infant, share concerns about the infant, and foster a positive relationship between the family and themselves. In sum, the NBAS is a valid assessment of infant behavior that has been used widely in both research and clinical contexts.

—*Matthew J. Hertenstein and Jennifer L. Porter*

Further Reading

Brazelton, T. B., & Nugent, J. K. (1995). *Neonatal Behavioral Assessment Scale* (3rd ed.). London: MacKeith Press.

Neonatal Behavioral Assessment Scale and T. Berry Brazelton description: <http://www.brazelton-institute.com>