1

The NEPSY
Second Edition

CHAPTER 1 – Introduction to the NEPSY-II

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Overview

Introduction to the NEPSY–II

The NEPSY Second Edition (NEPSY–II) is the revision of the NEPSY (Korkman, Kirk, & Kemp, 1998), a comprehensive instrument designed to assess neuropsychological development in preschool and school-age children. The name NEPSY is formed from the word neuropsychology, taking NE from neuro and PSY from psychology. Results obtained from a NEPSY–II assessment inform diagnoses and aid in intervention planning for a variety of childhood disorders. In particular, the NEPSY–II provides the clinician with insight regarding academic, social, and behavioral difficulties. A comprehensive understanding of a child's cognitive strengths and weaknesses can facilitate the development of appropriate Individual Education Plans (IEPs) and guide placement and intervention decisions.

The NEPSY–II consists of a series of neuropsychological subtests that can be used in various combinations according to the needs of the child and the experience of the examiner. A broad range of subtests is included to assess neuropsychological development across six functional domains: Attention and Executive Functioning, Language, Memory and Learning, Sensorimotor, Social Perception, and Visuospatial Processing.

Several features of the NEPSY–II make it particularly useful for assessing children and adolescents. First, the subtests were designed specifically for children between the ages of 3 and 16, providing the clinician with age-appropriate assessments of cognitive functioning. Second, the subtests were normed on a single, well-stratified sample. This provides a comprehensive view of neuropsychological processes in children and patterns of age-related quantitative and qualitative changes in neuropsychological performance. Third, it was developed using four different subtest administration orders to limit the effects of subtest order on the normative data. This allows for flexibility in subtest selection and administration order. Fourth, the NEPSY–II was standardized in conjunction with a number of validity measures, including the Wechsler Intelligence Scale for Children–Fourth Edition (WISC–IV; Wechsler, 2003), the Differential Abilities Scales–Second Edition (DAS–II; Elliott, 2007), the Wechsler Individual Achievement Test–Second Edition (WIAT–II; Harcourt Assessment, 2005), the Children's Memory Scale (CMS; Cohen, 1997), and the Delis- Kaplan Executive Function System (D-KEFS; Delis, Kaplan, & Kramer, 2001). Comparisons between these assessments and the results obtained with the NEPSY–II will allow an examiner to evaluate relationships among the neuropsychological, intellectual, memory, and achievement performances of children or adolescents. Finally, the NEPSY–II is designed to help identify cognitive deficits related to disorders that are typically first diagnosed in childhood and that may limit a child's academic success.

The most common types of assessment using the NEPSY–II are a **General Assessment** for an overview of a child's neuropsychological status, a **Diagnostic Assessment** based on the primary diagnostic concerns or referral questions, a **Selective Assessment** with the examiner selecting subtests based on clinical needs, and a **Full Assessment** for a comprehensive neuropsychological evaluation. The results of the assessment are expressed in scaled scores or percentile ranks. A performance profile of the primary scaled scores represents the patterns of relative strengths and weaknesses that may be evident in a child's performance on the NEPSY–II subtests within and

across the six domains. These patterns can be compared to those that were evident in children with various diagnoses. Additionally, many of the subtests have process and contrast scores that allow further analysis of a child's performance by examining the component parts of the subtest. Qualitative analysis of the child's behavior during the assessment, in combination with observations from home and school, can help clarify the nature of a child's problems and provide a basis for developing an appropriate plan for intervention. Behavioral observations on the NEPSY–II can be quantified and compared to the frequency with which these behaviors were present in the normative and clinical samples. The various levels of scores at which a child's performance can be evaluated give the examiner the ability to fine tune an assessment to the degree that is most useful.

Purpose and Use

The NEPSY–II is designed to provide an assessment centered on specific diagnostic or referral questions and to allow for extended testing to provide more detailed or comprehensive information regarding the child's neuropsychological functioning.

Subtest scores are organized around the six functional domains to assist in the differential diagnosis of childhood disorders such as Attention-Deficit/Hyperactivity Disorder (ADHD), Pervasive Developmental Disorders (e.g., Asperger's Disorder, Autistic Disorder), Language Disorder, Mathematics Disorder, and Reading Disorder, among other developmental and acquired disorders. The NEPSY–II enables the clinician to focus on specific cognitive abilities related to general referral questions (e.g., school readiness). The examiner is not required to administer every subtest, only those relevant to the current referral question. Subtest scores, rather than global index or domain scores, are used to determine a child's strengths and weaknesses. This enables the examiner to customize the assessment to each child's needs and to shorten or lengthen testing as desired. In addition to primary and process scores, information about the frequency of clinically indicative behaviors will allow for quantitative observations of behavior.

The NEPSY–II was revised with four interrelated goals: (1) to increase domain coverage by adding and improving measures of attention and executive functioning, visual memory, and visuospatial processing, and creating measures of social perception; (2) to improve clinical sensitivity through the use of subtest-level primary and process scores, development of clinically sensitive subtests, and collection of data for various clinical groups; (3) to improve the psychometric properties, including the ceilings and floors of subtests and the reliability and validity of the instrument; and (4) to enhance usability through increased flexibility of subtest administration and incorporation of referral batteries. For more information about the revisions of the 1998 NEPSY for the NEPSY–II, see the Clinical and Interpretive Manual.

Scores Provided

Scores on NEPSY–II are classified as primary, process, or contrast scores, or as behavioral observations. Primary scores are available on all subtests and describe the overall or main abilities involved in the subtest. Process scores provide more specific information on the component skills required to complete or influence the performance on the task. Contrast scores apply a scaled score metric to score comparisons within or between subtests, providing information on the performance of a higher-level skill or ability controlling for a lower-level or more basic skill. Behavioral observations provide quantitative data on common behaviors observed in children.

Most NEPSY–II subtests yield multiple scores. These scores may reflect overall performance, speed of performance, error rates, or measures of subcomponent skills required to complete a task. These multiple scores enable the clinician to fully understand the underlying cognitive processes affecting task performance. Scores are presented as scaled scores, percentile ranks, cumulative percentages, or percent of the normative sample. Primary and process scores are presented as either scaled scores, percentile ranks, or cumulative percentages. Percentile ranks are used for error scores and scores with restricted range or skewed distributions of raw scores. In some situations, an examiner may wish to report a single total score for a subtest with multiple measures (combined score) or to compare performance between measures (contrast score). Combined scores are derived

from two scores within a subtest and describe performance across two variables. Contrast scores are scaled scores describing the difference between scores within or between subtests. Cumulative percentages and percent of the standardization sample are used in the behavioral observations and some process scores.

Information about the interpretation of the scores is provided in the Clinical and Interpretive Manual.

User Qualifications and Test Security

Because of the complexities of test administration, interpretation, and diagnosis, examiners who use the NEPSY–II should have graduate-level training and experience in the administration and interpretation of standardized clinical instruments. Such training should consist of an overview of assessment principles, including establishing and maintaining rapport, eliciting optimum performance, following standardized administration procedures, understanding psychometric statistics, scoring and interpreting tests, and maintaining test security. Although a trained technician or a research assistant can administer the subtests and score them under supervision, the test results should be interpreted only by those who have appropriate graduate or professional training in assessment. Examiners should also have experience testing children whose ages; linguistic backgrounds; and clinical, cultural, or educational histories are similar to those they are testing.

When the NEPSY–II is to be used for a neuropsychological assessment, the examiner should have appropriate training in neuropsychology and neuropsychological assessment. Examiners should be familiar with the Standards for Educational and Psychological Testing (Standards; American Educational Research Association [AERA], American Psychological Association [APA], & National Council on Measurement in Education [NCME], 1999). It is also the responsibility of the test user to ensure that the test materials, including the Record Forms, remain secure and are released only with written permission from parents or guardians to professionals who will safeguard their proper use.

Review of test results with clients and their parents or guardians is appropriate and is encouraged as proper clinical practice. This review should not include disclosure or copying of test items, record forms, or other test materials that might compromise their security and the validity and value of the test as a measurement tool or violate copyright law. This does not apply to copying a completed Record Form to convey a client's records to another qualified professional. These user qualifications, copyright restrictions, and test security issues are consistent with the guidelines set forth in the Standards.

Assessment of Children Using the NEPSY–II

Before the Assessment

Prior to beginning the assessment, it is important to evaluate three aspects of a child's development:

1. The child's developmental, medical, social, and educational history and current level of performance in school (see appendix G in the Clinical and Interpretive Manual);
2. Genetic risk factors, as well as pre- and perinatal risk factors; and
3. The environment in which the child is developing and the demands that are placed on the child at home and at school.

This evaluation requires gathering a comprehensive history, test results, and behavioral observations from home and school, as well as from medical or psychological professionals, tutors, occupational therapists, physical therapists, and speech pathologists, as appropriate. This kind of information provides a more complete picture of the child's functioning in different environments than would be available from a single source or from the testing sessions alone.

An important part of a comprehensive history is a statement of the referral problem as described by parents, teachers, and medical or psychological professionals. To assist in obtaining

a comprehensive history, a reproducible clinical history form can be found in appendix G of the Clinical and Interpretive Manual. An initial interview with the parents is essential to review the child's presenting problem and to learn about his or her particular abilities, hobbies, leisure activities, and peer relations. The child's birth history; developmental milestones; developmental risk factors, including exposure to teratogens; as well as stressful or traumatic events or positive experiences that may have affected the child's functioning need to be reviewed, along with the family history of neurological, developmental, social, psychological, and learning problems. Additional background information about the composition of the family, parent education and occupation, and the child's relationship to, and behavior within, the family can also be helpful for understanding the child. An outcome of the interview with the parents can be an informed decision about the assessment procedures that will be undertaken based on the referral question, comprehensive history, and interview.

It is equally important to interview the child to obtain his or her perspective on why an assessment is being undertaken, to clarify the personal goals he or she may have for the assessment, and to establish the climate for the assessment as one in which you and the child will work together to understand what he or she is good at (strengths), what is hard and what seems to make it hard (deficits), and what can be done to overcome or work around these problems (accommodation).

An appraisal of the child's intellectual level is also important because it provides a baseline for interpreting the results of the NEPSY–II. If a recent appraisal is not available, the inclusion of an intelligence test as part of the assessment is recommended. Similarly, giving selected achievement tests in combination with the NEPSY–II can help to relate the results of the assessment to the child's performance in school.

During the Assessment

Assessment involves more than administering, scoring, and interpreting test performance. It is an ongoing process that provides many opportunities to capture in a microcosm the situations, behaviors, and tasks that either lead to successful outcomes or create problems for the child at home and at school. This requires close attention to what the child does (performance) and how the child goes about doing what he or she does (process).

Continuing the working partnership established with the child during the preassessment interview is an important part of the process. Maintaining a relaxed, informal manner and speaking in a conversational tone can help to elicit optimal performance. Encouraging the child to describe both what was "easy" about some subtests and what the child did to make it easy, and what was "hard" about other subtests can provide insight into the nature of the difficulties with which the child struggles. Asking "What would make it easier?" or proposing modifications to the tasks can provide insight into the kind of adaptations or cuing that the child would find helpful. Information obtained in this way can be useful for identifying areas for intervention and determining what kind of interventions may be needed.

An equally important part of the ongoing assessment involves observing the child at work and during breaks, as well as noting one's own responses to the child's behavior. This dual awareness can be a significant source of information about the child. Space is provided on the NEPSY–II Record Forms to note specific behavioral observations, but recording additional observations can also be important in understanding the child's performance. Such observations could be related to the way the child approaches the tasks. For example, does the child rush to begin a task without taking time to plan, or does the child work so slowly that there is not enough time to complete an item or a task? Does the examiner need to change tasks with unusual frequency to keep the child's attention, or does the child fatigue easily and require frequent breaks? Does the child attempt to pull the examiner off task by introducing extraneous topics of conversation? Does this occur more often on some kinds of tasks than others, or does it occur throughout the testing? How difficult or easy is it for the child to return to the task at hand?

Other observations could be related to the ease or difficulty a child has with novel and unfamiliar tasks. For example, does the child understand what a task requires with minimal teaching and practice, or does the child need repeated teaching and practice to understand what is to be done?

What strategies does the child use to solve novel problems? What behaviors are related to success or failure on an item or task? Does the examiner have to speak extremely slowly and enunciate carefully to be understood?

Observations relating to the child's social and emotional behavior can also be useful. For example, does the child persist or give up in the face of failure? Does the child make appropriate eye contact? Is the child at ease with the examiner or does he or she appear tense or withdrawn? Does the child "invade" the examiner's personal space? Self-awareness in such circumstances will enable the examiner to assess the quality of the child's interactions relative to his or her personal baseline (Holmes-Bernstein & Waber, 1990).

After the Assessment

Once the assessment is complete, the next steps are to score and interpret the results; to share the results with parents, schools, and other professionals involved; and to make recommendations for intervention. Principles and guidelines for interpretation are presented in the Clinical and Interpretive Manual. Communicating the results of the assessment should go beyond what will be contained in the report. A postassessment session with the child can be helpful. During this session, conversation about the assessment can focus on the goals that were discussed during the preassessment interview, insights the child may have had during the assessment with regard to the problems with which he or she struggles, and the behaviors that contribute to success or failure. The child may make suggestions about what might help, and the examiner can indicate the steps or plans that are being recommended. Having a session of this type is important if the child is to become an active participant in the plans and recommendations that are being made. A similar postassessment session with the parents is also recommended to ensure their understanding of the results, to respond to their questions, and to address issues that may arise as a result of either the assessment or the recommendations.