

# Psychological Assessment Center

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AMERICAN UNIVERSITY of BEIRUT MEDICAL CENTER  
المركز الطبي في الجامعة الأميركية في بيروت

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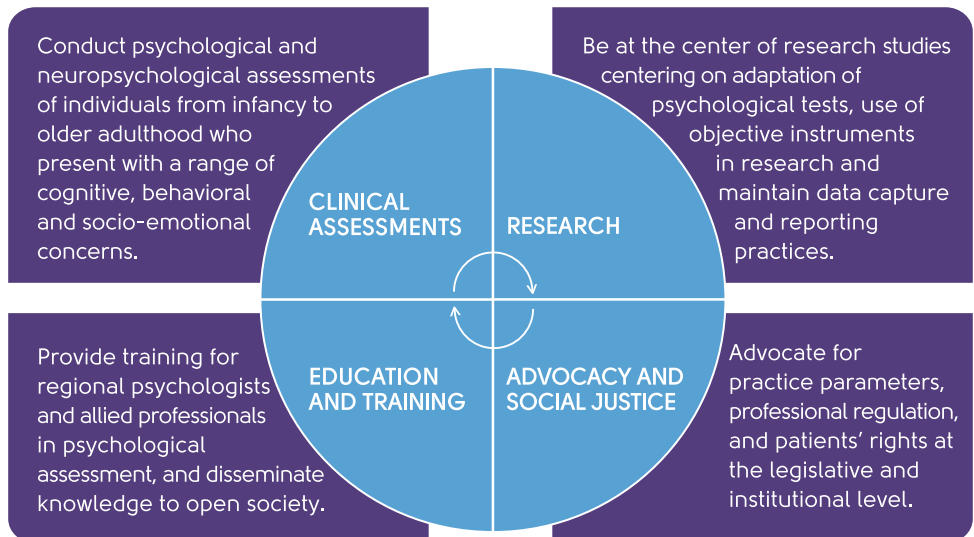
# About the PAC

The Psychological Assessment Center, housed within the Department of Psychiatry at the American University of Beirut Medical Center (AUBMC), provides services in psychological and neuropsychological assessments spanning clinical, educational, research and social avenues.

In 2012, the PAC launched a training affiliation with the Baltimore-based Kennedy Krieger Institute (KKI) at the Johns Hopkins University School of Medicine. The KKI, and specifically its neuropsychology department, serve as a model of practice throughout the United States in their approach to diagnosing and treating complex neurological and neurodevelopmental disorders. Being the first regional center to launch such an affiliation, PAC is steadily expanding its expertise in psychological/neuropsychological assessment and developing its scope of practice to serve a wide range of patients and adhere to evidence-based standard of care.

The PAC houses the largest library of up-to-date tests in English, Arabic, and French. Instruments are utilized clinically within the PAC, made available to trained researchers throughout AUBMC, and are also used for clinical training of psychology interns.

## Mission of PAC



## Core Staff



**PIA ZEINOUN,  
MS, LCPC, PHD CANDIDATE**

Ms. Zeinoun is a clinical psychologist specializing in psychological assessments for children and young adults presenting with a wide range of developmental and neuropsychiatric disorders. Ms. Zeinoun joined the Department of Psychiatry in 2008, soon after graduating with summa cum laude from Illinois University with a master's degree in Clinical–Counseling Psychology. In 2013, Ms. Zeinoun completed a post-graduate residency in psychological/neuropsychological assessment at the KKI. She is currently pursuing doctoral research at Tilburg University, where she is investigating new methods in test development and adaptation, aimed to develop culturally-appropriate tests in Arabic. Within the Department of Psychiatry, she has published research on test development in Arabic, and cross-cultural psychology. Ms. Pia Zeinoun is a Fulbright alum, an international member of the American Psychological Association (APA), and serves on the executive board of the 2011-2013 Lebanese Psychological Association (LPA).



**MARYSE MAROUN,  
MSc, PHD CANDIDATE**

Ms. Maroun is a clinical psychologist who specializes in neuropsychology. She received her professional master's degree in Clinical Neuropsychology from the University of Angers in France, and she holds a bachelor's degree in Communication Disorders from Saint-Joseph University in Beirut. In 2013, Ms. Maroun completed a post-graduate residency in neuropsychological assessment at the KKI. Currently, she is conducting doctoral research in psychology at the University Of Essex in the United Kingdom.

Joining the PAC in 2012, Ms. Maroun conducts evaluations for children and adults with a wide range of neuropsychological presentations. She holds memberships in the International Neuropsychological Society (INS), the National Academy of Neuropsychology (NAN), the Lebanese Psychological Association (LPA), and she is the vice-president of the Lebanese Speech and Hearing Association (ALO).



### **JANETTE ZOUKY, BA**

Joining the PAC in 2013, Ms. Janette Zouki is a psychologist-assistant who provides integral support in test administration and scoring, and administrative support. She holds a Bachelor's Degree in Psychology from Notre Dame University, and is currently pursuing graduate studies in Psychology. Ms. Jane has field-work experience in working with children with special needs, and vulnerable populations. She is an active member of the Psychology Society at NDU, and a student-member of the Lebanese Psychological Association (LPA).



### **HALA RAAD, Med**

Ms. Hala Raad joined the Department of Psychiatry at AUBMC in 2012 as a special education teacher. In her role at the Child and Adolescent Psychiatry Program (CAP), she provides intervention services to children with special educational needs. In 2013, Mrs. Raad completed a clinical training seminar in the administration of the Autism Diagnostic Interview Schedule (ADOS), at the Center for Autism and the Developing Brain at Weill Cornell Medical College in New York. Currently, Mrs. Raad administers the ADOS – considered the gold standard for the diagnosis of Autism - for toddlers and children undergoing evaluations at the PAC.

Mrs. Raad is a graduate of the University of Leeds in the United Kingdom with a master's degree in Special Educational Needs. She is an alumna of the Said Foundation scholarship program, and is a founding member and member of the Syndicate of Special Education Teachers in Lebanon.

# Clinical Services

Through its clinical services, PAC serves as a critical node to various departments within AUBMC.

- Pediatrics
- Oncology
- Neuro surgery
- Neurology
- Psychiatry
- Family Medicine

## What is an evaluation?

A psychological/neuropsychological evaluation refers to the formal process of systematically measuring a sample of cognitive functions and behaviors, in order to answer key questions about a person's functioning, and aid in making diagnostic, rehabilitative, educational, and treatment-relevant decisions.

This center offers comprehensive psychological and neuropsychological evaluations for infants, children, adolescents, adults, and older adults presenting with a spectrum of psychological and medical conditions that might be impacting their cognition and behavior.

## How is the evaluation conducted?

The evaluation process involves meeting with the patient and/or family over an extensive outpatient visit. The evaluation consists of several steps that include:

### 1. Referral

- Referral by a clinician.
- Triage by the Department of Psychiatry.

### 2. Interview

- Interview with the patient and/or his/her family that centers around current concerns and history.

### 3. Standardized Procedures

- Administration of standardized tests.
- Testing typically takes 2 to 6 hours.
- Tests are usually administered one-on-one with the patient and involve familiar activities such as puzzles and questions.

### 4. Feedback

- A post-evaluation feedback session is held with the patient and/ or the patient's family.
- A written report of the findings and recommendations are sent to the patient or his/her family and the referring clinician within a month of the evaluation.

### Why are patients referred?

Most commonly, patients are referred by their primary physicians, neurologists, psychiatrists, psychotherapists, and rehabilitative therapists in order to:

- improve diagnostic accuracy.
- characterize a cognitive profile of strengths and weaknesses.
- establish a baseline of cognitive functioning.
- objectively measure cognitive change across time.
- measure response to surgical, pharmacological, psychological, or other interventions.
- plan treatments that accommodate functional deficits.

The below table identifies how psychological/neuropsychological evaluations are applied to a variety of patient conditions.

Condition	Application of evaluation
Neurodevelopmental disorders	<ul style="list-style-type: none"> <li>• Patients include children and adults with intellectual disabilities, learning disabilities, attention deficit and hyperactivity disorder, and autism spectrum disorders, referred from multiple settings and clinicians such as psychiatrists, pediatricians, and psychotherapists, and school settings.</li> <li>• Evaluations establish diagnosis, identify intellectual strengths and weaknesses, and aid in devising home-based and school-based interventions.</li> <li>• The PAC staff is trained in the clinical use of the Autism Diagnostic Observation Schedule (ADOS), the “gold standard” in the diagnosis and treatment planning of autism spectrum disorders.</li> </ul>
Neurocognitive disorders: Mild cognitive impairment and dementias	<ul style="list-style-type: none"> <li>• Differentiate between normal ageing, depression, mild cognitive impairment, and various dementia subtypes.</li> <li>• Repeated measures detect change in cognitive function across time, and response to medication.</li> </ul>
Stroke and vascular disorders	<ul style="list-style-type: none"> <li>• Yield a detailed profile of cognitive and functional abilities to guide interventions and rehabilitation.</li> </ul>
Traumatic brain injury	<ul style="list-style-type: none"> <li>• Predict the functional status of the patient after the injury.</li> <li>• Guide rehabilitation by clarifying the pattern of cognitive strengths and weaknesses.</li> </ul>

Condition	Application of evaluation
Epilepsy	<ul style="list-style-type: none"> <li>• Predict the cognitive consequences of surgery, and map the location of cognitive functions in the brain.</li> <li>• Measure post-surgical cognitive and functional outcomes.</li> <li>• Inform medication management by measuring the cognitive effects of medications.</li> </ul>
Parkinson's disease	<ul style="list-style-type: none"> <li>• Predict and measure post-surgical cognitive outcomes of deep brain stimulation.</li> <li>• Define the neuropsychological strengths and weaknesses of patients.</li> </ul>
Brain tumors	<ul style="list-style-type: none"> <li>• Identify cognitive baseline and cognitive outcomes related to tumor resection and immediate and late-effects of radiation and chemotherapy.</li> </ul>
Other central nervous system disorders	<ul style="list-style-type: none"> <li>• Detect cognitive impairment and guide treatment in other central nervous system disorders such as multiple sclerosis, Huntington disease, hydrocephalus, and intracranial aneurysms.</li> </ul>
Psychiatric disorders	<ul style="list-style-type: none"> <li>• Aid in diagnosis and treatment-planning of psychiatric disorders.</li> <li>• Evaluate the nature and severity of cognitive dysfunction, especially when a decision has to be made for the patient's independent living.</li> </ul>
Non-central nervous system medical conditions	<ul style="list-style-type: none"> <li>• An assessment is useful in many non-central nervous system conditions, including acute respiratory distress syndrome, cancer, chronic kidney disease, chronic obstructive pulmonary disease, cardiac disorders, hypertension, obesity, obstructive sleep apnea, and type II diabetes.</li> <li>• It detects the presence, nature, and severity of brain dysfunction, and helps guide clinical management and rehabilitation to improve several aspects of daily functioning.</li> </ul>

# Educational and training services

Part of PAC's mission is to provide AUBMC and the community with educational and training services. The PAC trains internship students in the Clinical Psychology Training program, conducts lectures and presentation to students and professionals in AUB and the community at large, and acts as a link for continuing education resources with the Kennedy Krieger Institute in Maryland. Additionally, the PAC trains relevant clinical and research staff at AUBMC in the use of instruments and tests.

## Research

As psychology, behavioral science, and neuropsychology continue to be emerging fields in the Arab region, the psychometric measurement tools that underpin these disciplines continue to be imported from developed countries into the Arabic language and population. However, the blind application of psychological tools from one culture and language to another, results in biased measurements which in turn may lead to false conclusions in research and clinical practice. For these reasons, PAC supports research efforts that center on the development of culturally applicable and psychometrically-sound tools. The core PAC staff is involved in ongoing adaptation and validation of psychiatric scales, personality tests, structured interviews, cognitive screeners, and memory tests.

Additionally, as research becomes more trans-disciplinarian, an increasing number of studies in neuroscience, pediatrics, OBG/YN, public health, nutrition, and family medicine, are incorporating psychological outcome measures in their procedures. In response, PAC offers its library of tests, resources, and expertise, to support the use of standardized and culturally appropriate psychological tools in research.



# Largest libraries of up-to-date tests in the region

- Wechsler Intelligence Scale for Children (WISC-IV), Wechsler Adult Intelligence Scale (WAIS IV), Wechsler Preschool and Primary Scale of Intelligence (WPPSI IV), Test of Nonverbal Intelligence (TONI 3), Kaufman Assessment Battery for Children (K-ABC), Woodcock Johns Tests of Cognitive Abilities and Achievement III (WJ III), Differential Abilities Test (DAS), (and others).
- Repeatable Battery for the Assessment of Neuropsychological Status (R-BANS), NEPSY II, NAB.
- Test of Variables of Attention (TOVA), Test of Evaluation of Attention (TEA & TEA-CH).
- Delis-Kaplan Executive Function System (D-KEFS), Wisconsin Card Sorting Test (WCTS), Behavioral Assessment for Dysexecutive Syndrome (BADS/C).
- Wide Range Assessment of Memory and Learning (WRAML 2), Wechsler Memory Scales (WMS IV), California Verbal Learning Test (CVLT/C).
- Receptive /Expressive One-Word Picture Vocabulary Tests (EOWPVT IV), Token, Boston Diagnostic Aphasia Examination (BDAE-3).
- Beery VMI, Rey Complex Figure and Recognition, Symbol Digit Modality (SDM).
- Grooved Pegboard, Dean Woodcock Sensorymotor Batter (D-WSB).
- Vineland II, ADL, Adaptive Behavior Assessment System (ABAS II).
- Minnesota Multiphasic Personality Inventory (MMPI-2), Children's Apperception Test (CAT).
- Autism Diagnostic Observation Schedule (ADOS 1,2,3,4), Autism Diagnostic Interview (ADI-R).

