



## Introduction to the Delis Rating of Executive Functions (D-REF)

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Q-global™ Web-based Administration,  
Scoring & Reporting System

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## Agenda

### Product features and digital use:

- overview of D-REF
  - development and structure
    - \* core indices and total EF index
  - Q-global
  - administration options
  - reporting options
- Case report illustration



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## Executive functioning

- Executive functioning represents a diverse set of cognitive abilities.
- Executive functions reflect the ability to manage and regulate one's behavior in order to achieve desired goals.
- The behavioral problems associated with executive functioning deficits are well established therefore, it is possible to identify potential executive functioning deficits through behavior ratings.
- The D-REF is designed to quantify behavioral evidence for executive functioning deficits from parent, teacher, and self reports.

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## Quick Overview

- Individual Self, Parent, and Teacher response forms with 36 questions each
- Top "5" Stressors for prioritizing interventions
- On-screen administration, scoring, and reporting
  - Remote administration
  - Audio option
  - Hardcopy option
- Three core indices and a Total EF Index
  - Behavioral Functioning
  - Emotional Functioning
  - Executive Functioning
- Three Reporting Options
  - Single Rater
  - Multiple Rater
  - Progress Monitoring

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## Quick Overview

- **Behavioral rating scale designed to assess behaviors that may reflect difficulties with executive functioning.**
- **Norm Groups: Age-Adjusted or Age-and-Gender Adjusted**
- **Minimum Reading Level**
  - 3<sup>rd</sup> grade for Self form
  - 4<sup>th</sup> grade for Parent and Teacher forms
- **Administration Time: Approximately 10 minutes**

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## Content and Structure of the D-REF

- Executive functions that have a high probability of frequently interfering with functioning and likely a source of stress.
- Behaviors frequently observed in commonly diagnosed developmental disorders.
- Easy to read and understandable for children, adolescents, and adults with low educational attainment.
- Items designed for rapid administration to quickly identify symptoms for further evaluation.

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## Development and Structure

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## Standardization Sample Size by Age

Age	Parent Form	Teacher Form	Self Form
5-6 years	100	76	N/A
7-8 years	100	76	N/A
9-10 years	70	40	N/A
11-12 years	70	50	50
13-15 years	60	50	50
16-18 years	100	50	120

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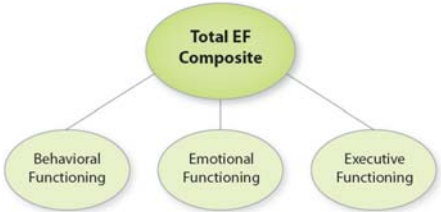
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## Structure of the D-REF



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## Scales

Core Indexes	Abbreviation	Description
Behavioral Functioning	BF	Assesses the child/adolescent's ability to regulate his/her behavior to meet the demands of the environment.
Emotional Functioning	EMF	Assesses the child/adolescent's ability to regulate his/her emotions relative to the demands of the environment.
Executive Functioning	EXF	Assesses the child/adolescent's higher-level cognitive ability to effectively adapt and function within the demands of the environment.
Total Composite	TC	Assesses the child/adolescent's ability to plan, execute, and regulate his/her cognitive, emotional, and behavioral functions to adapt to the demands of the environment.

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## Scales continued

Clinical Indexes	Abbreviation	Description
Attention/Working Memory	AWM	Assesses symptoms of inattention, deficient multi-tasking, forgetfulness, poor working memory, and disorganization.
Activity Level/Impulse Control	AIC	Assesses symptoms of hyperactivity, impulsivity, and poor self-monitoring.
Compliance/Anger Management	CAM	Assesses symptoms of mood lability, sensitivity to criticism, frustration tolerance, and rule breaking.
Abstract Thinking/Problem-Solving	APS	<b>Parent and Teacher forms only.</b> Assesses symptoms of concrete thinking, cognitive rigidity, and poor decision-making and problem-solving skills.

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## Parent Form

- Good internal and retest reliability.
- Shows expected sensitivity to disorders with known executive functioning impairments.
- Clinical scales yield additional diagnostically relevant information.
- Top 5 stressor model yields different therapeutic targets compared to most frequently occurring behavior.
- Correlates in expected ways with other rating of executive functioning although there is some behavioral divergence across specific measures.

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### Teacher Form

- Very good internal and retest reliability.
- Shows expected sensitivity to disorders with known executive functioning impairments.
- Clinical scales yield additional diagnostically relevant information.
- Teacher and Parent scales show a high degree of concordance in clinical samples.
- Top 5 stressor model yields different therapeutic targets compared to most frequently occurring behavior.
- Correlates in expected ways with other rating of executive functioning although there is some behavioral divergence across specific measures.

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### Self Form

- Moderate to good internal and retest reliability.
- Shows expected sensitivity to disorders with known executive functioning impairments.
- Self, Teacher, and Parent scales show a high degree of concordance in clinical samples.
- Top 5 stressor model yields different therapeutic targets compared to most frequently occurring behavior.
- Correlates in expected ways with other rating of executive functioning although there is more behavioral divergence across the self form than was observed in the Parent and Teacher forms.

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### Applications

- Assesses behavioral, emotional, and cognitive symptoms in individuals ages 5–18 years.
- One part of a comprehensive psychological, psychoeducational, developmental, or neuropsychological evaluation.
- Can be used to screen for executive functioning deficits in anyone suspected of having problems in these areas, including but not limited to individuals suffering from a traumatic brain injury, neurological condition, metabolic disorder, prenatal exposure to neurotoxins, infectious disease, neoplastic disorder, psychiatric disorder, or congenital disorder.
- Useful in evaluations where behavioral, emotional, and executive functioning deficits are being evaluated.
- Identifies behaviors that interfere with functioning at home, school, or in other psychosocial environments.

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### Diagnosis and Classification

- Help clinicians identify symptoms consistent with a variety of developmental disorders.
- Useful in psychoeducational evaluations in which special education classification is an important goal.
- The D-REF should not be used in isolation to make diagnostic or classification decisions. It is designed to facilitate these processes in the context of a comprehensive evaluation.

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### Research and Evaluation

- Studies evaluating executive functions in a variety of medical, neurological, psychiatric, and developmental disorders can use the D-REF to identify specific profiles of executive functioning deficits.
- Item-level analysis can reveal even more specific types of executive functioning deficits that can be further evaluated with standardized cognitive measures.
- Treatment outcome studies.

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### Progress Monitoring

- Track changes in behavior over time.
- Tracking the effects of medication therapy.
- The D-REF online scoring and reporting provides comparison data between time 1 and time 2 evaluations

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### Self Form ADHD-Combined Versus Matched Controls

Index	ADHD-C		Matched Controls		Sig	Effect Size
	Mean	SD	Mean	SD		
Behavioral Functioning	61.4	11.1	47.1	10.5	< .01	-1.33
Emotional Functioning	61.1	12.5	45.6	9.2	< .01	-1.42
Executive Functioning	63.4	11.9	48.5	10.7	< .01	-1.32
Total Composite	62.7	11.3	46.5	10.4	< .01	-1.49
Attention/Working Memory	65.2	12.4	48.4	10.5	< .01	-1.47
Activity/Impulse Control	61.3	13.1	46.7	10.1	< .01	-1.25
Compliance/Anger Control	63.1	12.9	47.2	9.7	< .01	-1.39

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### Parent Form ADHD-Inattentive Versus Matched Controls

Index	ADHD-I		Matched Controls		Sig	Effect Size
	Mean	SD	Mean	SD		
Behavioral Functioning	56.2	9.5	48.5	9.2	<.01	-0.81
Emotional Functioning	53.8	7.7	49.0	9.3	0.08	-0.57
Executive Functioning	61.8	8.4	50.2	10.5	<.01	-1.22
Total Composite	57.8	7.2	49.0	11.6	<.01	-0.91
Attention/Working Memory	63.9	9.6	49.8	11.4	<.01	-1.34
Activity/Impulse Control	56.8	9.3	49.3	9.7	<.01	-0.79
Compliance/Anger Control	53.0	7.3	48.7	9.0	0.07	-0.52
Abstract/Conceptual Reasoning	58.9	9.8	49.1	10	<.01	-0.99

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### Reporting and Describing D-REF Performance

- Three types of scores
  - Total Composite Score
  - Core Index T scores
  - Clinical Index T score

T Score	Percentile	Classification
90	>99.9%	Severely Elevated
85	>99.9	Severely Elevated
80	99.9	Severely Elevated
75	99	Severely Elevated
70	98	Severely Elevated
65	94	Moderately Elevated
60	84	Mildly Elevated
55	70	Within Normal Limits/Borderline Elevated
50	50	Within Normal Limits
45	32	Within Normal Limits
40	16	Within Normal Limits
35	7	Within Normal Limits
30	2	Within Normal Limits
<25	<2	Within Normal Limits

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## Administration and Reporting Options

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### Ease of Assessment and Scoring

- The D-REF is administered on-line via connection to the D-REF on-line scoring and reporting site
  - Parent, teacher, or child can be sent a link via e-mail to complete the form
  - On-line administration can be setup to be administered in the office
  - A paper form can be downloaded and given to the rater to complete and later entered into the website by the clinician
- Problem or stressful behaviors identified by the D-REF can become the focus of early interventions, and those children showing a high level of executive function symptomatology can be referred for more comprehensive evaluation and intensive treatment

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### Report Options

- Individual Score Report
- Multi-Rater Score Report
  - Child / Parent / Teacher (3 max)
    - Can run multiple times with additional parent/teacher combos
- Progress Report
  - The D-REF online scoring and reporting provides comparison data between time 1 and time 2 evaluations
  - Track changes in behavior over time
  - Tracking the effects of medication therapy

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## Report Options

- Choose gender based norms or general norms
- Responses to items printed in report can compare across raters
- Time elapsed per item and total time elapsed
  - Identify problem items for review
  - Identify “very quick” protocols
- Top “5” Stressors printed out for review

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## Q-global platform

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## Q-Global Platform

A screenshot of the Q-Global Platform interface. At the top, there is a navigation bar with the Pearson logo and the name 'Anna Maria Kimball'. Below this is a 'Resource Library' section with a tree view. The tree view shows a folder named 'D-REF' which contains a sub-folder 'General' with several PDF files listed, including 'About the D-REF.pdf', 'D-REF Record Form Teacher.pdf', 'D-REF Record Form Self.pdf', 'Input/Review\_Template\_Q2.rtf', 'D-REF Manual.pdf', 'Q-global\_Quick\_Chain.pdf', and 'D-REF Record Form Parent.pdf'. The interface is clean and professional, with a white background and blue accents.

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## Manual

- The manual to accompany D-REF can be downloaded or referenced in the Resource Library section of the Q-global web site. The manual includes:
  - Introduction
  - General testing, Administration and Scoring Guidelines
  - Development of the D-REF
  - Evidence of Reliability and Validity
  - Interpretation
  - Appendices
    - Inclusion/Exclusion Criteria for Clinical Sample
    - D-REF Index Intercorrelations by Age
    - Examiners

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Introducing Q-global™ – Pearson's new web-based platform for test administration, scoring and reporting. It houses the industry's gold standard in assessment tools and is accessible from any computer connected to the Internet. Secure and affordable, Q-global helps you quickly and efficiently organize sensitive information, generate scores, and produce accurate, comprehensive reports.

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## Thanks for Coming!

D-REF REPORT USAGE (online) – \$2.00

- \* A usage includes the administration, scoring and reporting of a self, parent, or teacher form
- \* Once administered and scored, multiple reports can be run at no additional cost.

Visit

[www.psychcorp.com/DREF](http://www.psychcorp.com/DREF)

to obtain your 6 complementary trials

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