



ENPAIR

**From Assessment to
Rehabilitation**

First Network Meeting and Conference

4 and 5 July 2018, Leiden University

ENPAIR

European Network
on Psychoeducational Assessment,
Intervention and Rehabilitation



Programme ENPAIR-PAIR Conference 4 July

Wednesday, July 4 – FSW, University Building Leiden	
16.00-17.00	Meeting with the editors of PAIR Faculty of Social Sciences (FSW), room number 1A33 (first floor), Wassenaarseweg 52, Leiden (see map)
17.30-19.00	Registration and networking (drinks) Café Pakhuis, Doelensteeg 8, Leiden (see map)



Summaries – key note speakers

Key note I - 09:25-10:10

Julian G. Elliott

Durham University, UK

Intelligence testing for children with learning disabilities

This presentation will examine the value of intelligence testing for the purpose of informing us how best to understand and intervene with children with a learning disability. In discussing this issue, particular reference will be made to intervention for children with reading (decoding) difficulties. While the original function of IQ testing was to ascertain whether a child was capable of profiting from schooling, there are many who now claim that cognitive assessment offers a range of diagnostic and prescriptive functions which can help teachers in delivering effective educational programs. I will examine such assertions in relation to the assessment of IQ, profiling of cognitive strengths and weaknesses, executive functions (the new 'kid on the block'), and the use of dynamic testing/assessment.

I shall argue that current evidence indicates that cognitive measures have limited relevance for instructional planning for children with learning difficulties, and cognitive training programs have yet to show sufficient academic gains. For these reasons, it is recommended that our energies should be directed to the continuing development of powerful forms of academic skills-based instruction operating within a response to intervention framework.

Key note II - 10:10-10:55

Stefan Watzke

University Hospital Halle, Germany

Dynamic assessment and prediction of functional outcome in a psychiatric context

Prediction of functional outcome in psychiatric patients – i.e. work capability, independent living, social relations – is crucial for planning therapy and interventions. Since severe mental illnesses (above all schizophrenia and other psychotic illnesses) can be understood in terms of neurocognitive disorders, and neurocognitive deficits lead to negative functional consequences, a broad range of studies addressed cognitive performance as predictor of functional outcome in schizophrenia.



Already in 2000, Green and colleagues raised the question “Are we measuring the right stuff?” and claimed that dynamic assessment would substantially add to the amount of explained variance in predicting the patients’ daily living performance. This paper by Green et al. initiated a number of studies that showed relations between learning potential from dynamic assessment and functional outcome (rehabilitation outcome, functional capacity, social functioning). However, incremental validity was not found consistently. In a 2015 revision of their work, Green et al. suggest emphasizing on patients’ social cognition in addition to neurocognitive performance.

In this talk, the use of dynamic assessment in prediction of functional outcome in psychiatric patients will be discussed. Results of outcome prediction by cognitive performance and incremental contributions of learning potential and social cognition will be presented.

Key note III – 15:45-16:30

Lianne Hoogeveen

Radboud University Nijmegen, NL

Educating the gifted

How can we educate the gifted when we do not know who they are? How can we know who they are if we do not have a univocal definition of giftedness?

There are students who do not get the education they need to develop themselves to the fullest. Not because they have a learning problem, not because they have emotional problems. The main reason for being stuck in education are their high intellectual abilities. Why is it so difficult for the environment of these students to understand their needs, to find those students, and, when we find them, to fulfill their needs?

Lianne Hoogeveen will attempt to describe the group we are talking about and discuss ways to meet their educational needs. She will make use of research in giftedness and gifted education and of her own experience in diagnosing and counseling students who experience problems at school despite of, or even due to, their high intellectual abilities. Eventually, she will challenge the necessity of ‘Educating the Gifted’ and come up with an approach, which, in her view, is more appropriate.



Key note IV – 16:30-17:15

Friedrich Linderkamp

University of Wuppertal, Germany

Training executive functioning in children/adolescents with ADHD

Attention-deficit/hyperactivity disorder (ADHD) is a highly prevalent disorder in adolescence and results in severe impairment. Few psychosocial interventions aim at ADHD in adolescence and are rarely evaluated in randomized controlled trials (RCTs). Therefore, an intervention combining adolescent-directed problem-solving and organizational skills training with behavioral parent and teacher training has been developed. Its efficacy in comparison to waiting list and active controls is reported. One hundred and thirteen adolescents (mean age 14 years) with ADHD were randomly assigned to the training, a waiting list or an active control condition (progressive muscle relaxation, PMR). Parents and teachers rated ADHD symptoms, academic enablers, and comorbid problems before and after. Results: The training significantly reduced ADHD symptoms and parent- and teacher-rated internalizing problems and increased teacher rated academic enablers compared to waiting list controls. Compared to active controls, results were in the range of small non-significant effects. To understand how the intervention facilitated the improvement of the outcome, we conducted mediation and moderation analyses. As potential mediators, improvement in academic enablers and meta- and neurocognitive functioning were investigated. Age, gender, and medication status were analyzed as potential moderators of the outcome. Results: An improvement in academic enablers partially mediated symptom reductions. There were no effects of moderation. Conclusions: Enhancing academic skills can reduce ADHD symptom severity. The training intervention examined in this study is a promising treatment for adolescents with ADHD.



Summaries – individual presentations

Presentation 1 - 11:30-11:50

Sara Mata & Francisca Serrano

University of Granada, Spain

Dynamic assessment of writing skills: Assessing the learning potential in social exclusion contexts

Social exclusion is one of the biggest challenges of modern societies, especially for one of the most affected populations: the children. Social exclusion is a complex reality that goes beyond poverty. It is a multifactorial phenomenon that results from the lack of access to basic rights such as employment, education, healthcare, housing, etc. The risk factors related to social exclusion that are most emphasized in the literature are: single-parent family, social isolation, parents' personal history and characteristics (psychopathology), domestic violence, little or no schooling, inadequate nutrition, unemployment/low-income, sub-standard housing, poor health, lack of social services, alcohol/drug use, etc. Growing up in the presence of risk factors can lead to negative consequences in mental health (emotional problems, hyperactivity, behaviour problems, social incompetence) and in school performance: little parental involvement in the educational process, absenteeism, learning problems, poor academic performance, and school dropout.

This work aims to determine how a social exclusion context affects reading-writing skills (fundamental skills to academic achievement) and to validate the Dynamic Assessment (DA) methodology in writing skills. DA methodology seeks to activate skills in the subject and improve his or her performance, through a test–training–test paradigm, where the training phase involves feedback and progressive help on tasks similar to those in the test phase. An improved score on the posttest is assumed to reflect the subject's cognitive modifiability; this also serves for prediction purposes and differential diagnosis. Moreover, a gain score that assesses change of performance from pre-to posttest in a methodologically consistent way is considered to be more sensitive and have greater practical use than scores obtained through classic standardized procedures.

Although several studies have been conducted in the area of DA and language there is not a systematic approach in the writing skills. For that reason, we have attempted to design and validate a DA test for writing skills in children with and without social exclusion condition. In this study 100 children are participating (50 with social exclusion risk/50 from non-disadvantaged contexts) from 8 to 12 years-old who are being assessed with a DA test in writing skills and other related measures (reading skills, phonological awareness, academic achievement or IQ).



We expect to find poorer results in the social exclusion group in all measures but a well-preserved learning potential determined by the DA writing skills test. Results and conclusions will be exposed at the conference.

Presentation 2 - 11:50-12:10

Christine Resch¹, Esther Keulers¹, Rosa Martens^{1,2}, Caroline van Heugten^{1,3}, & Petra Hurks¹
¹Maastricht University, NL, ²Herlaarhof, NL, ³Maastricht University Medical Center, NL

Does strategy instruction on the Rey-Osterrieth Complex Figure task lead to transferred performance improvement on the Modified Taylor Complex Figure task?

Providing children with organizational strategy instruction has previously been found to improve organizational and accuracy performance on the Rey Osterrieth Complex Figure (ROCF). It is unknown whether strategy instruction on the ROCF also leads to transferred performance improvement when copying and recalling another complex figure. Participants were 98 typically developing children (aged 9.5-12.6 years, M = 10.6). Testing and training took place in two sessions. In session one, children completed the ROCF (copy and recall) as a pretest. Approximately a month later, in session two, they were randomized into two groups to complete the ROCF either using a stepwise strategy instruction or again in the standard format. In the same session, all children then copied and recalled another complex figure, the Modified Taylor Complex Figure (MTCF). All productions were assessed on organization, accuracy and completion time.

Repeated measures mixed ANOVA showed that organizational recall performance from pretest (ROCF) to posttest (MTCF) improved more for the strategy instruction group, indicating transfer. Copy organization, accuracy and completion times did not differ between groups. Performance on all measures, except copy accuracy, improved between pretest ROCF and posttest MTCF production for both groups, suggesting practice effects. Findings indicate that transfer of strategy instruction from one complex figure to another can occur, as reflected by improved organization of recalled information. The strategy instruction is thought to aid children to apprehend the organizational framework of the complex figure by initially removing distracting details. Thereby, encoding of major organizational elements is improved, facilitating recall of these elements. The finding that improved organization did not lead to improved accuracy of the recall suggests that children were not able to effectively transfer the strategy to enhance recall accuracy. Difficulty in using or transferring the strategy may depend on the children's age. Future research should take into account the developmental stage of children when applying strategy instruction, since this might influence the instruction's effectiveness.



Presentation 3 – 12:10-12:30

Bart Vogelaar¹, Merel Bakker², Julian G. Elliott³, & Wilma Resing¹

¹Leiden University, NL, ²KU Leuven, Belgium, ³Durham University, UK

Dynamic testing and test anxiety amongst gifted and average-ability children

Dynamic testing has been proposed as a testing approach that is less disadvantageous for children who may potentially be subject to bias when undertaking conventional assessments, such as intelligence tests. For example, children who encounter high levels of test anxiety, or who are unfamiliar with standardised test procedures may fail to demonstrate their cognitive potential or capabilities. While dynamic testing has proven particularly useful for special groups of children, it has rarely been used with gifted children.

In this study, it was investigated whether it would be useful to conduct a dynamic test to measure the cognitive abilities of intellectually gifted children. It was also investigated whether test anxiety scores would be related to progression in the children's test scores after dynamic training. Participants were 113 children aged between 7 and 8 years from several schools in the western part of the Netherlands. The children were categorised as either gifted or average-ability, and split into an unguided practice or a dynamic testing condition. The study employed a pre-test-training-post-test design. The dynamic test utilised in the present study consisted of geometric analogy items. Linear mixed modelling analysis with a multilevel approach was used to inspect the growth trajectories of children in the various conditions, and examine the impact of ability and test anxiety on progression and training benefits.

Dynamic testing proved to be successful in improving the scores of the children, although no differences in training benefits were found between gifted and average-ability children. Test anxiety was shown to influence the children's rate of change across all test sessions and their improvement in performance accuracy after dynamic training.

Presentation 4 – 12:30-12:50

Jens Beckmann

Durham University, UK

***ENPAIR-ing* academia and practice: some reflections and suggestions**

The European Network on Psychoeducational Assessment, Intervention and Rehabilitation (ENPAIR) aims for bringing together "scientific researchers" and "evidence-based working practitioners". This initiative promises exciting diversity and interesting challenges. Two of



the main challenges are (1) working within academic disciplines, and (2) working across disciplines. Working within disciplines often seems to be characterised by tensions originating from the notion that research is either basic or applied. Basic research is primarily concerned with contributing to the general knowledge and understanding of nature and its laws and is less focused on practical ends. Applied research, on the other hand, is usually directed toward some individual, group, or societal need or use and is less concerned with a deeper understanding of scientific explanations. Working across disciplinary boundaries can be challenged by the notion of perceived problem ownership (e.g., “That is clearly a matter best addressed by psychologists”). Real-life problems, however, rarely are of a mono-disciplinary nature. Hence, answers or solutions that subject experts might be able to provide are likely to have limited impact. In this talk I will argue that overcoming, or better even, to avoid such unproductive divides is essential to progress both in terms of theory development and impact in real life contexts. The argument is built around Stokes’ Quadrant Model of Scientific Research and using it to encourage interdisciplinary research by bridging the so-called theory-practice gap and by overcoming the “ethnocentrism of disciplines” (Campbell, 1969).

Presentation 5 – 14:10-14:30

Simon Gibbs

Newcastle University, UK

Some thoughts on immoral educational enterprises

In this paper I will outline some questions about the purpose of education; how education is instantiated in the UK and some of the probable consequences. I will draw on the philosophical work of Appiah, Macmurray, and Parfit amongst others. Relevant psychological notions include ‘Othering’ (Levinas) and in-group bias (Tajfel). Probable consequences that I will relate to the foregoing include segregation and teacher drop-out rates.

Presentation 6 – 14:30-14:50

Iveta Kovalcikova

University of Presov, Slovakia

Domain-specific stimulation of executive function processes – stimulation potential of math and language

This presentation will focus on a cognitive stimulation model designed for the specific educational needs of low-performing pupils from the Roma ethnic group in Slovakia. The presentation will highlight a recent study that was designed to evaluate the extent to which



a domain-specific cognitive stimulation program can improve the quality of executive function processes in underperforming pupils. The sample consisted of 120 pupils, 40 in the experimental group, 40 in control group 1, and 40 in control group 2. Subjects were sampled from the population of primary school underperforming pupils attending public schools whose socio-economic background was marked by signs of poverty and whose native language was not Slovak.

The intervention program consisted of a cognitive stimulation model of a domain-specific nature. The program (EXEFUN-MATH) included metacognitive stimulation within the curriculum of math. The EXEFUN-MATH program was built on peer mediation principles. The major goal of the study was developing evidence-based information about how executive function processes in low performing children can be improved through a domain-specific intervention program.

This study was structured as a pre-post-test experimental vs. control-group design. Test measures were taken before and after the intervention in order to detect changes in children's cognitive and executive function processes. Quantitative data included measures of children's pre- and post-test performance in attention control, cognitive flexibility, inhibition, and mathematical skills

Note: This study has been financially supported by ISPA (Proposals to the International School Psychology Research Initiative) and APVV (Slovak Research Agency of Ministry of Education, under the contract APVV-15-0273).

Presentation 7 – 14:50-15:10

Dora Fanni Szabo

University of Szeged, Hungary

Development of a resilience model and diagnostic map

Research on educational resilience has increased considerably over the last decade. Both theoretical assumptions and empirical analyses have explored a wide range of school and student characteristics, which may contribute to success despite the presence of a disadvantaged socio-economic background. Our investigations focused on the development of a resilience model, which comprises individual and school-related factors equally. The current model can be divided into three major parts. Every major part is divided into further sub-units. The first main part consists of the students' individual assets (e.g. self-efficacy, self-regulation). The second contains the components of interpersonal strengths (e.g.



relationship with teachers and peers). The factors of environmental resources (e.g. instrumental support) were involved in the third main part of the model.

The objectives of the presentation were (1) to present the structure of the hypothesized model and analyze the psychometric characteristics of the investigated parts, (2) to analyse the connection between the factors and outcome variables involved, (3) to examine the differences between resilient and non-resilient students, as well as (4) to explore the possibilities of further analyses and modifications. In order to reach these goals, we present findings from several investigations. We analysed data from altogether 1542 fourth and sixth grade students. Online data collections were carried out by the Electronic Diagnostic Assessment (eDia) platform. The applied scales measured 20 different factors and worked with acceptable reliability in the case of every subsample (Cronbach- α = 0,74 or over). Data was analyzed through classical methods and the sequence of structural equation modeling (SEM) applying the Mplus program. The first results showed that the proportion of the resilient students is relatively different in the samples and depends on the identification procedure. Grade, and other subsample, differences were found. The results revealed that in the case of resilient students a couple of factors (e.g. school attachment) do not predict performance significantly. Other findings suggest that more factors are involved, which strongly related to performance and each other (e.g. perseverance, self-efficacy, academic self-concept, teachers' support of autonomy, peers' support). The results of this study contribute to a more thorough understanding of the role of individual, interpersonal and school-related factors among at-risk students. Our eventual aim is the development of a reliable online instrument and diagnostic map, which is suitable for identifying the protective factors among students, classes and schools, in order to develop and implement intervention programs targeted to socioeconomically disadvantaged students.



Summaries – poster presentations

Meike Engelhardt & Torsten Krämer

Heidelberg University of Education, Germany

Insension

People with profound and multiple learning disabilities (PMLD) often communicate at a pre-symbolic level and use unconventional behavioural signals (e.g. body movements, vocalizations) to express their needs. Since technological devices for supporting the communication between people with and without disabilities require the understanding of symbols these forms of Augmentative and Alternative Communication are not suitable for people with PMLD. Hence, the exact understanding of their needs often is not possible even for very familiar persons. This significantly restricts the participation of people with PMLD in all areas of life. The research project INSESION focuses on supporting professional caregivers and relatives of people with PMLD in better understanding the behaviour signals by using technological devices. Facilitating the communication of and towards people with PMLD could contribute to increasing their self-determination and improving the quality of their lives. This will be realized by creating a technologically supported responsive environment, which analyses and interprets various behaviour signals (facial expression, gestures, vocalization, physiological parameters). By reconciling this data with the particular context database a possible need for action can be derived and detected by the caregivers with the help of the developed system. The interdisciplinary consortium consists of six pedagogical and technological organizations from Poland, Spain, Slovenia and Germany. The testing is realized within Polish institutions for people with disabilities where six test persons with PMLD were chosen – two participants each of early childhood, school age and adulthood. The analysis is implemented both qualitatively and quantitatively. Assessing the behaviour signals by means of a questionnaire for caregivers builds the foundation of the study. The comprised scales collect information on preverbal communication, challenging behaviour, mood, pain, (dis)pleasure and general data of the test persons. In the course of first video recordings, behaviour signals are analysed focusing on communication and inner states. Further recordings serve to the successive improvement of the recognition technologies used. All technologically raised data will be analysed and interpreted in combination with the information of the questionnaire. Both system users (e.g., caregivers) and further experts of science and practice will be involved to evaluate the previous work and define application use cases. With the first full working prototype, the definition of the methodology and implementation of the trial with subsequent evaluation will take place at the end of the project. INSESION has received funding from the European Union's Horizon 2020 research and innovation programme.



Chiara Malagoli, Laura Traverso, Mirella Zanobini & Maria Carmen Usai
University of Genoa, Italy

Cognitive Flexibility in ASD: a comparison with typical development and Down syndrome

Cognitive flexibility is considered one of the core abilities of cognition, as it allows changing perspective and also shifting from one cognitive set to another (Diamond, 2013; Miyake & Friedman, 2012). Autism Spectrum Disorders (ASD) are characterized by the presence of repetitive, stereotyped behaviours, often manifested with inflexible routines and a restricted set of interests/activities. However, in an overview of studies, no consistent evidence for shifting impairment was found (Geurts et al., 2009). These inconsistencies may be due to the heterogeneous characteristics of ASD, that present non-homogeneous symptoms (American Psychiatric Association, 2000), and substantial differences in the type of difficulties they may present (Geurts et al., 2009). Research on specific cognitive processes in individuals with Down's Syndrome (DS) has led to a widespread agreement about impairments in executive function (Costanzo et al., 2013; Lee et al., 2015).

The present study aimed to investigate cognitive flexibility in low and medium functioning children with ASD in comparison with DS and TD children matched for mental age and general cognitive functioning. The general aim is investigating if difficulties in cognitive flexibility may be more connected to the characteristics of the ASD or to the level of cognitive functioning. 53 children participated in the study: 19 ASD (3 girls); 19 TD (3 girls) and 15 DS (8 girls). Mean mental age is 77.6 and 73.3 respectively. Materials used were Dimensional Change Card Sort (DCCS) (Zelazo, 2006); Leiter-R Brief IQ, (Roid & Miller, 1994). Analyses were conducted using Jamovi (Version 0.9). A series of ANCOVAs were used to explore the difference within groups in the DCCS using mental age as covariate.

Preliminary results document a difference between groups both in terms of group membership and mental age. When comparing the three groups of children with ASD, TD and DS on the DCCS task, differences were revealed in the number of correct trials in the third phase of the task, mental age and the total number of correct trials. ASD group differed both from DS and TD, as difficulties in cognitive flexibility may be a specific feature of ASD and not an outcome related to the level of functioning.



Francisca Serrano, Antonio Iniesta & Sara Mata

University of Granada, Spain

Improving writing skills: Testing the effectiveness of an integrated and intensive intervention program

The correct use of writing skills is key to school success. The aim of this study was to verify if, after the application of a writing and spelling intervention program, the processes leading to the development of writing in children with reading and writing disorders improved. Additionally the study investigates the effectiveness of the integrated and intensive intervention program for the improvement writing and spelling skills, so it can be recommended as a useful and evidence-based tool for schools and clinics. A quasi-experimental pretest-posttest design is proposed, with 100 participants, boys and girls from 3rd to 6th grade of Primary Education. Children with writing difficulties were part of the intervention group, while colleagues of the same age and academic level without difficulties were part of the control group. Writing skills plus other related abilities (reading, orthographic skills, phonological awareness [analysis and synthesis], prosodic skills) were tested. The intervention program was designed integrating the work of these skills and it was applied during a month, as part of the school curriculum. Results show the importance of writing skills training, together with related abilities, mainly phonological awareness and prosodic awareness, for improving writing ability. The relevance and suitability of an intensive and integrated writing intervention program for improving these skills are discussed.

Femke Stad¹, Carline van Heijningen¹, Karl Wiedl² & Wilma Resing¹

¹Leiden University, NL, ²University of Osnabrück, Germany

Predicting school achievement: Differential effects of dynamic testing measures and cognitive flexibility for math performance

Dynamic testing aims to assess potential for learning by measuring performance improvement as a response to training while testing. Dynamic test outcomes have been argued to be related to children's present and future achievements at school. The current study aimed to investigate whether dynamic measures of inductive reasoning would provide additional predictive value of math achievement while taking into account static inductive reasoning performance. In addition, as cognitive flexibility, one of the core executive functions, has been argued to be significantly involved in children's math performance, it was explored whether dynamic test outcomes would hold unique predictive value for math achievement while taking into account cognitive flexibility. Participants were six- and seven-



year-old children who were administered either a dynamic test of series completion comprising a pre-test – training – post-test format or a static series completion test consisting of a pre-and post-test, in combination with a test of cognitive flexibility. Children in the experimental, dynamic test condition were trained in series completion, while the children in the control condition only practiced series completion. The dynamic measures of inductive reasoning and cognitive flexibility were each found to provide additional predictive value to static pre-test performance and to hold unique predictive value for math achievement. The results underline the importance of both dynamic testing and cognitive flexibility in educational assessment and suggest that the assessment of cognitive flexibility should be an integral part of dynamic testing.

Athanasia Tziona & Dimitrios Zbainos
Harokopio University Athens, Greece

Revealing the children's creative potential by applying dynamic assessment to the evaluation of creativity

This paper focuses on providing empirical data in the field of creativity testing by investigating the possibility of applying dynamic assessment to the evaluation of primary school students' creativity. We are presenting data of a study that took place through a quasi - experimental design. Dynamic assessment was applied to the evaluation of graphic – artistic creativity. The sample consisted of ninety Greek primary school students between fourth and sixth grade, divided into two groups: thirty-seven were the dynamic assessment group and fifty-three the control group. Graphic – artistic creativity was assessed by Evaluation of Potential Creativity (EPoC). The results demonstrated the practicability of using dynamic assessment to the evaluation of creativity.

Simone Vogelaar, Jochanan Veerbeek & Wilma Resing
Leiden University, NL

Using dynamic testing to assess the influence of strategy use on performance in children

This study examined whether behavioral strategy use and verbalizations predicted accuracy in solving seriation tasks. Our research provided insight in how children solve a task and which strategies they use while solving the tasks. In this study, 176 children between 6 and 10 years old participated. Half of the children were allocated to the training condition and the other half to the control condition. The dynamic tests followed a pretest-training-posttest procedure, in which children performed a series completion task, the puppet task,



through electronic tangibles. The training condition received graduated prompts during two training sessions, while the control condition did not receive any training. We found that accuracy was positively predicted by behavioral strategy use and verbalizations at pretest. In addition, it was revealed that verbalizations and behavioral strategy use positively predicted accuracy in the control condition at posttest. In the training condition, accuracy was only positively predicted by verbalizations. This suggests that children were not trained to structure the body parts, but received a training which stimulated children to use another behavioral strategy. Further research about this topic is necessary to ease implementation of new teaching techniques within school settings, in order to address to the needs of the individual child.

