9th Conference
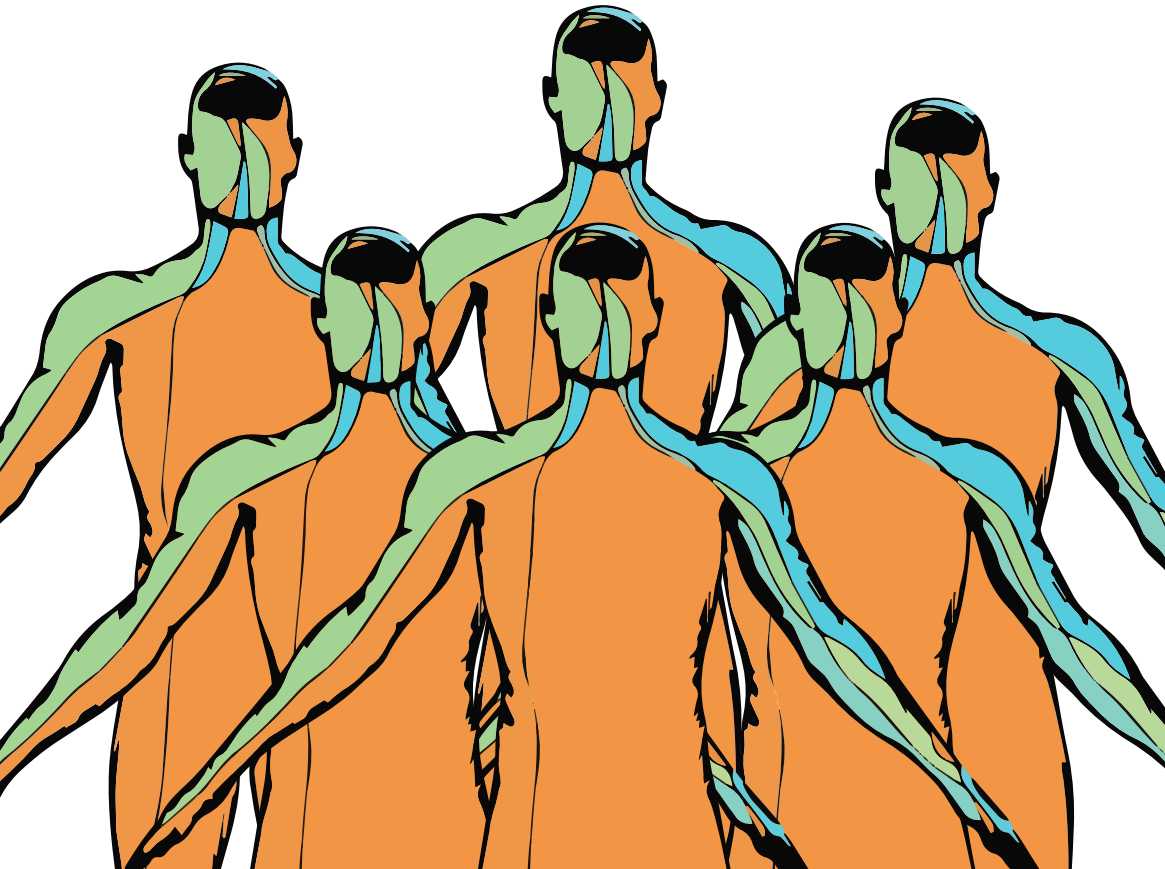# of the European Association
for Behaviour Analysis

Program of Events
Book of Abstracts

eaba

FH·W-S

Hochschule
für angewandte Wissenschaften
Würzburg–Schweinfurt

PROGRAM OF EVENTS

9th Conference of the European Association for Behavior Analysis

Würzburg, Germany
Sept. 19-22, 2018
University of Applied Sciences
Würzburg-Schweinfurt

FH·W-S

INTRODUCTION

Thanks so much to everyone who is joining us for this European Association for Behaviour Analysis (EABA) conference in Würzburg. This conference is the 9th EABA conference. The previous conferences found place in Parma (2003), Gdansk (2005), Milan (2006), Madrid (2008), Rethymno (2010), Lisbon (2012), Stockholm (2014), and Enna (2016). The present conference is co-organized by the Faculty of Applied Social Sciences and School of Social Work at the University of Applied Sciences Würzburg. The discussion about establishing a European organization for behavior analysis started about 30 years ago. Professors Arne Brekstad, Fergus Lowe, and Paolo Moderato among other academics, were instrumental in the process of the founding of EABA. The official foundation year of EABA is 2001 at the Association for Behavior Analysis international conference in Venice after many meetings from 1997 about the need for a European organization. Please find further information about the history of EABA at http://www.europeanaba.org/about-us/eaba-history/

EABA is an international organisation that aims to encourage and spread behaviour analysis in Europe. One of the primary goals for the EABA is to arrange scientific conferences to promote all dimensions within behaviour analysis. As can be seen from the conference program, the papers at the present conference represent theoretical or conceptual, experimental, and applied papers within behavior analysis. Also, it is a great honor to announce that we have presenters from many countries in Europe and also many places outside Europe.

The EABA board and the hosts of the conference hope everyone will enjoy the conference and have an excellent time in Würzburg.

Erik Arntzen, Professor, Ph.D., BACB-D
Specialist in Clinical Psychology
President of EABA

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IMPORTANT INFORMATION

Need Help?

All student assistants wear black t-shirts with **orange** **name-tags** - ask them!

The conference registry ("Service Point") is located on level -1, in the main entrance hall, directly opposite to the auditorium, where all "bigger" events take place (e.g. the keynote addresses, the president's address etc.). It's manned throughout the whole conference, every day **from 8 am to 6 pm**. The conference registry can answer your questions regarding the conference and Würzburg. If you want to store your luggage or coat, the assistants at the registry can open a locked room for you. Please notice that we disclaim liability for any items stored there.

The telephone number of the conference registry is +49 (0) 931-3511-6430

About The Venue

The address: **FHWS**
Münzstr. 12
97070 Würzburg
Germany

The conference takes place on levels -1, 0, and 1. Two special events (Get-Together on Wednesday and Gala Dinner on Friday evening) are taking place on level 4 of this building (accessible through elevators and stairs). Please note that the level when entering the building from Münzstraße is -1 (minus one). Room numbers begin always with "M" (for "Building Münzstraße") and the level, i.e. "M.-1.07" (the auditorium) is on level -1, M.0.11 is on level 0.

Here you'll find a detailed description on how to access the building as a disabled person: *https://www.fhws.de/en/services-and-support/studying-with-disabilities-or-chronic-illnesses/accessibility-at-fhws/muenzstrasse-12/*
The coffee catering and the Expo are located on level 0.

Registration And Sign In

The conference **registry is on level -1**. Here you got your name tag and this program booklet. Please be aware that on-site-registration is not possible. Also, the student assistants at the conference registry are not allowed to take cash. You cannot pay the conference fees and the additional fees (coffee catering, gala dinner, expo booth) at the conference registry.

Catering And Gala Dinner

You could purchase the coffee catering or / and the Gala Dinner while you registered for the conference. Buying coffee and snacks at the coffee catering on level 0 is not possible.

If you have payed the coffee catering, you'll find an **orange dot** on your name tag.
If you have payed the gala dinner, you'll find a **blue dot** on your name tag.

Please do not remove these dots, as they enable the caterer to recognize that you have payed the services.

The coffee catering and the gala dinner are provided by an external caterer, InCa. InCa is an inclusion company, where people with and without disability work together. The employees of InCa do not speak or understand English. If you have any questions, there will always be a student assistant (black t-shirt and orange name tag) at the coffee catering and at the gala dinner.

We want to avoid waste. A lot of waste is caused by disposable coffee mugs. When you have booked the coffee catering, you have gotten a coffee mug with an EABA-logo. Please use (and re-use) this coffee mug when getting your coffee at the catering station. The caterer does not offer any other cups or disposable mugs. You may come again and have as many refills as you want in your EABA coffee mug. Make sure that you have your coffee mug with you when you are at the venue.

Special Events

Get together
On level 4 of the venue
On Wednesday, after the opening ceremony (approx. 7.30pm), EABA offers snacks, finger food, water and wine for free!

Poster session
In Room M.-1.05/06 (directly opposite the conference registry)
On Thursday from 6pm to 8pm, the poster session takes place. EABA offers small snacks, water and sparkling wine (while stocks last) for free!

Gala dinner

On level 4 of the venue

The gala dinner takes place on Friday evening, beginning at 6.30pm. We'll start with an aperitif. You can choose between different meats – typical Franconian pork or poultry – and vegetarian or vegan alternatives. This special event is restricted to those of you who have booked the Gala dinner in advance via our website.

Continuing Education

BACB certificants should acquire additional training beyond the requirements for their certification. The purpose of these BACB's Continuing Education (CE) requirements is to ensure that all certificants engage in activities that will expand and maintain their behaviour-analytic skills. Type 2 Continuing Education is offered by Authorized CE Providers. EABA is an ACE Provider and hence, CEUs will be provided at the EABA conference 2018 in Würzburg / Germany, for those who attend any of the qualified events.

A student assistant will be present at every event that is eligible for CEUs. Please attend this student assistant and **sign in** when entering and **sign out** when leaving. The data sheet will be the basis for the assignment of CEUs.

A total of 30,5 BACB CEUs will be available. The available CEUs are indicated in the book of abstracts (cf. chapter 3 of this booklet) at each individual presentation or symposium. The costs are 5 Euros per CE Unit. The settlement will take place after the conference.
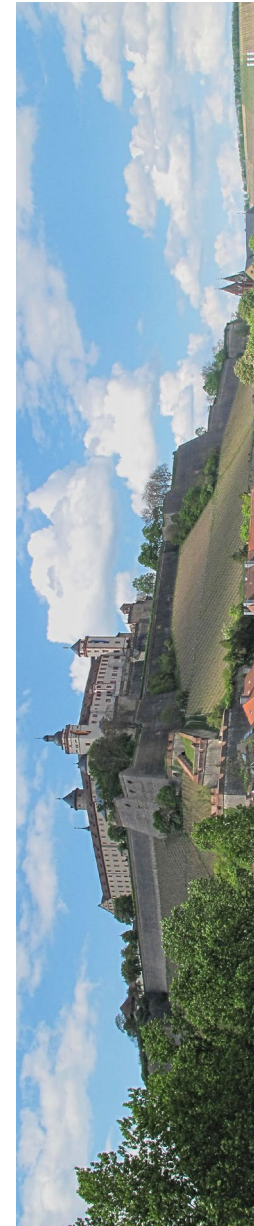
WiFi

Enable your wireless device to connect to the ‚FHWS-Hotspot' SSID
    Guest Name: eaba2018
    User ID: eaba2018
    Password: 2YBu-9PN
    Duration: 4 days
Once connected, launch your Internet browser and, if not configured to automatically load a home page, request a web URL and you will be redirected to the Guest Access webpage. Enter the user ID and password supplied above. By logging into the network, you are accepting the terms and conditions below. You're connected!

Lunch

The university canteen / cafeteria (Burse / Mensa at Studentenhaus) is only a few meters away from the venue. We recommend it for your lunch break. The canteen offers delicious meals to affordable prices (you can pay only with cash there). Please ask at the registry or any student assistant to show you the way: When you leave the building, turn right and walk approx. 200 m. After crossing two streets, the canteen is on your right side (you can't miss it, a lot of students are there).

9th Conference
of the European Association for Behaviour Analysis

Wednesday September 19			
ROOM	Service-Point	M.1.08	M.1.09
03.00 pm – 06.00 pm	Registration	Open Meeting: A Tour of the CBA Learning Module Series 15:00-16:00	Reunion: Centre for Behaviour Analysis, Queen's University Belfast Reunion
06.00 pm – 07.00 pm	Auditorium (M.-1.07): Opening, welcoming speeches, award ceremony		
07.00 pm and onwards	Cafeteria M.4.03, level 4: Welcome Reception: Get-together		

Thursday September 20

ROOM	M.1.10	M.0.11	M.1.08	M.1.07	M.1.09
09.00 am – 10.15 am	**#1 Paper session (OTH)** Chair: Grazielle Noro Epigenetic mechanisms and the effects of post-natal maternal care Perceiving dysmorphia Implications of effects of punishment and adventitious reinforcement contingencies	**#2 Symposium (EAB)** Chair: Erik Arntzen *Some recent findings within research on emergent relations*	**#3 Paper session (ABA)** Chair: Stephen Gallagher Safewater project A functional analysis of technologies and their addictions ACTonHEALTH study	**#4 Paper session (OBM)** Chair: Nursel Ozkan Gonsalez Organizational performance standards in special education units for ASD Safeguarding Supportive System (SSS) for Integrated Manufacturing System (IMS) Applying Behavioral Systems Analysis to a large scale training program Behavioural safety in the hairdresser's shop	**#5 Paper session (AUT)** Chair: Andreas Paris Integrating evidence-based behavioural assessment and teaching methods Using communication devices to 6-year old boy with autism.
10.30 am – 11.45 am	**#6 Symposium (ABA)** Chair: Douglas R. Greer *A strategic science of generated education: The accelerated independent learner model of instruction*	**#7 Symposium (EAB)** Chair: Erik Arntzen *Matching-to-Sample: Additional measures and application*	**#8 Paper session (ABA/AUT)** Chair: Teresa Mulhern The application of RFT to facilitate class inclusion repertoires An evidence-based approach to literacy instruction		**#9 Paper session (AUT)** Chair: Tzoulia Marina Demou Joint attention training in children with autism Joint Attention: Transformation of stimulus function The role of S-S-pairing on the emergence of speech
12.00 am – 01.00 pm	Auditorium (M.-1.07): **#10 Keynote address.** Sigurður Óli Sigurðsson: Behavioral safety: Research and practical considerations. Chair: Zulima Gabriela Sigurðardóttir				
01.00 pm – 02.00 pm	**LUNCH BREAK**				

ROOM	M.1.10	M.0.11	M.1.08	M.1.07	M.1.09
02.00 pm – 03.15 pm	**#11 Paper session (ABA)** Chair: Wolfgang Trapp A tablet based behavioural intervention to improve performance in dementia patients The "Decimal System" Animal trainer program in Finland.	**#12 Symposium (EAB)** Chair: Erik Arntzen *Emergence and maintenance of stimulus classes*	**#13 Paper session (EDC)** Chair: Harpa Óskarsdóttir Reading instruction using Direct Instruction Effectiveness of SAFMEDS Precision Teaching Support Across 63 Schools	**#14 Symposium (PCH)** Chair: Linda J. Parrott Hayes *Interbehavioral psychology*	**#15 Symposium (AUT)** Chair: Susan E. Tirella *The application and replication of behaviour analytic research in a school setting*
03.30 am – 04.45 am	**#16 Symposium (ABA)** Chair: Neil Martin *Behavior Analyst Certification Board: Eastern Europe*	**#17 Symposium (EAB)** Chair: C. F. Aparicio *Animal models of ADHD*	**#18 Symposium (EDC)** Chair: Carl Hughes *School-wide positive behaviour support*	**#19 Symposium (OTH)** Chair: Frederik Dale *From individual responses to social systems*	**#20 Paper session (AUT)** Chair: Amy Tanner Treating autism symptoms in infancy Effectiveness of Telehealth Tele-Health as a Parent Training Platform
05.00 am – 06.00 pm	Auditorium (M.-1.07): **#21 Keynote Address:** Nancy Marchand-Martella: When It comes to best practices in instruction, remember to be like Kevin Bacon! Chair: Christos Nikopoulos				
06.00 pm – 08.00 pm	M.-1.05/06, Level -1: **#22 Poster Session** Chair: Erik Arntzen				

ROOM	M.1.10	M.0.11	M.1.08	M.1.07	M.1.09
09.00 am – 10.15 am	**#23 Symposium (ABA)** Chair: Christoph Bördlein *Behavior analysis in sports, fitness and health*	**#24 Paper session (EAB)** Chair: Rafael Silva Rodrigues The effects of extinction on creative problem solving Noncriterial behavioral variability	**#25 Paper session (ABA)** Chair: Anna Lind Petursdottir Improving preschoolers' participation, problem behavior and well-being The Caught Being Good Game Evaluating efficacy and learner preference for prompt fading strategies during discrete-trial instruction	**#26 Symposium (ABA)** Chair: Jens E. Skår *Perspectives on early intervention*	**#27 Symposium (AUT)** Chair: Jason C. Vladescu *Advances in skill acquisition programming for individuals with ASD*
10.30 am – 11.45 am	**#28 Symposium (ABA)** Chair: R. D. Greer *Naming (BiN) as a life changing phenomenon*	**#29 Paper session (EAB)** Chair: Gabriela E. López-Tolsa Effect of schedule-induced behaviours in delay discounting Temporal distribution of schedule-induc. behaviors The effect of non-reinforced pre-exposure to S+ or S- on simple discrimination acquisition	**#30 Paper session (PHC/ABA)** Chair: Iver Iversen The many faces of reinforcement A systematic review of conditioning reinforcers Using reinforcers to predict the future	**#31 Paper session (BSW/ABA)** Chair: Christoph Bördlein Behavioral community interventions in social work education Behavioral intervention at a community level Training social care staff in PBS	**#32 Paper session (AUT)** Chair: Angelika Anderson Using self-management interventions to improve compliance Teaching relevant social skills for learners with disabilities Using tracking equipment
12.00 am – 01.00 pm	Auditorium (M.-1.07): **#33 Keynote Address:** Carol Pilgrim: Translational research and stimulus equivalence Chair: Torun Lian				

ROOM	M.1.10	M.0.11	M.1.08	M.1.07	M.1.09
01.00 pm – 02.00 pm	**LUNCH BREAK**				
02.00 pm – 03.00 pm	Auditorium (M.-1.07): **#34 Keynote Address:** Maurice Feldman: Behavior analysis in child welfare: Contextual behavioral assessment and intervention to prevent child-neglect in at-risk families Chair: Zulma Gabriela Sigurðardóttir				
03.15 pm – 04.30 pm	**#35 Paper Session (ABA/EDC)** Chair: Karel Pancocha Behavior analyst in the Czech Republic Effectiveness of early intervention in Poland	**#36 Paper session (EAB)** Chair: Reut Peleg Measurement of variability Why B.F Skinner is never out of fashion?	**#37 Symposium (ABA)** Chair: Nirvana Pistoljevic *Building a behavioral program*		**#38 Symposium (AUT)** Chair: Corinna Grindle *Headsprout® Early Reading programmes across diverse populations.*
04.45 pm – 05.45 pm	Auditorium (M.-1.07): **#39 Keynote Address:** Mark Mattaini: Behavioral systems science for social action Chair: Christoph Bördlein				
06.00 pm – 08.00 pm	Cafeteria M.4.03, Level 4: **Gala Dinner**				

Saturday September 22

ROOM	M.1.10	M.0.11	M.1.08	M.1.07	M.1.09
09.00 am – 10.15 am	**#40 Paper Session (AUT/EDC)** Chair: Olga Yarova Inclusion of children with Down syndrome in Kyrgyzstan Behavioural skills training programme in Kazakhstan Autism Spectrum Disorder (ASD) in Saudi Arabia & Turkey	**#41 Paper session (EAB)** Chair: Ivan Chistyakov Experimental analysis of reporting about frequent events Transformation of fear and avoidance functions using the IRAP Investigating the impact of stimulus functions on relational responding in the IRAP	**#42 Panel discussion (PCH)** Co-Chairs: K. Dillenburger and M. Keenan Castles in the air or a recognised profession?	**#43 Paper session (PCH)** Chair: Carsta Simon Neuroscience and behavior analysis Ontogenetic selection of verbal behavior	**#44 Symposium (AUT)** Chair: Ruth M. DeBar *Novel applications of video-modeling for individuals with Autism Spectrum Disorder*
10.30 am – 11.30 am	Auditorium (M.-1.07): **#45 Keynote Address**: James Todd: How we got here and why we probably should have looked out the window on the way: Some personal reflections on the current status of behavior analysis — With pictures Chair: Hanna Steinunn Steingrímsdóttir				
11.45 am – 01.00 pm	**#46 Symposium (ABA)** Chair: Jessica Dudek *Establishing Observational Stimulus Control Component Cusps*	**#47 Panel discussion (OTH)** Chair: Suzanne Letso Did that really just happen?	**#48 Paper session (AUT)** Chair: Rianne Verschuur Therapist characteristics and procedural fidelity of PRT Parent training in PRT: effectiveness of group and individual training	**#49 Paper session (AUT)** Chair: Swati Narayan Using cool vs. not cool procedure to teach a child to stay on task Using the application friendly schedule...	
1.00 pm – 2.00 pm	Auditorium (M.-1.07): **#50 Presidential Address**: *On the Development of Behaviour Analysis as a Discipline*				
2.00 pm – 3.00 pm	Auditorium (M.-1.07): General Meeting				
3.00 pm – 3.15 pm	**Conference ends**				

BOOK OF ABSTRACTS

Wednesday September 19

Open Meeting: A Tour of the CA Learning Module Series
Room M.1.08

A learning management system for educating the next generation of behavior analysts using ABA principles

STEVE EVERSOLE

The CBA Learning Module Series is an online self-study course that applies the principles of ABA to teach ABA instructional content. It has been used by tens of thousands of people as a curriculum supplement and to prepare for the BCBA exam. Over 80 universities currently require their students to use the CBA Learning Module Series. Professors could evaluate their students' progress using a variety of reports, many of which compare their students' performance to the average of all learners.

The purpose of this meeting is to review the data-rich analytic features of the program so that professors could analyze their students' performance, and make modifications in real time, thus maximizing the probability that students will pass the BCBA exam and begin their career with a strong practitioner repertoire. Additionally, to further improve the utility of the program, we are seeking feedback from professors, supervisors, and students who have used the CBA Learning Module Series.

Reunion: Centre for Behaviour Analysis, Queen's University Belfast Reunion
Room M.1.09

Centre for Behaviour Analysis; Queen's University Belfast Reunion

KAROLA DILLENBURGER
Katerina Dounavi
Catherine Storey
Nichola Booth

This event is organised by Centre for Behaviour Analysis; Queen's University Belfast. The invitation for the Reunion is extended to all QUB/CBA alumni, present students and those interested in our research or our courses (MScABA; MScASD; RBT etc). Everyone welcome!

Thursday September 20

#1 Paper Session:
Room M.1.10
Chair: GRAZIELLE NORO

Epigenetic mechanisms and the effects of post-natal maternal care in the development of offspring's stress vulnerability

GRAZIELLE NORO
Marcia Gon

According to Behavior Analysis, an organism is biologically modified after every life experience and those biological changes relate to some extent of behavioral responses in subsequent contingencies. Early life environmental contingencies such as maternal care behavior have been consistently related to behavioral responses in the anxiety pattern and stress vulnerability in the adulthood as well as epigenetic mechanisms such as DNA methylation or DNA histone modification. The present study aimed to show the effects of maternal care on the development of the stress vulnerability on the infant through epigenetic alterations and how such alterations may interfere in the classical conditioning as well as in the susceptibility to subsequent reinforcement in operant conditioning. Studies on anxiety disorders have shown that the dam's behavioral responses of licking, grooming and arched-back nursing (LG-ABN) its offspring have been related to epigenetic mechanisms that regulate stress reactivity through alterations in the hypothalamic-pituitary-adrenal (HPA) axis function. Offspring of high rates LG-ABN dams showed low vulnerability to stress because of the hypo activation of the HPA and high rates of novelty seeking related to epigenetic mechanisms that regulate gene expression or silencing. Such mechanisms show the importance of post-natal maternal care and relate to the possible physiological alterations that lead to a modified organism whose highly vulnerable behavioral responses may interfere in classical or operant conditioning. Therefore, the understanding of epigenetic effects investigated in the mentioned studies may represent important information on the understanding of behavior as well as the understanding of the neuroplasticity of the epigenome for effective behavioral intervention.

Perceiving dysmorphia: Differential reinforcement and punishment of self-discriminations of relative body mass

KYRIAKI-DESPOINA LIANERI
Konstantina Psiachou
Robert Mellon

Many so-called psychological disorders are characterized by a repertoire of idiosyncratic discriminative behavior, as when emaciated persons perceive themselves to be overweight. Such discriminations might be a first link of an operant chain, in which perceiving that one is overweight is reinforced when it evokes behavior incompatible with fattening activities, whereas perceiving that one's weight is acceptable does not. The role of aversive self-perception in self-control was tested in young women who were asked to compare their own photograph to a series of photographs of other women, indicating how many kilograms they would have to gain or lose to look similar. In Phase I they judged themselves relative to 40 randomly-selected women, yielding an index of their tendency to either overestimate or underestimate their own weight. This index served as a criterion for differential reinforcement of either overestimation or underestimation in relative judgments with 70 other women in Phase 2; errors were punished. Self-perceptions of relative body mass generally changed in accordance with prevailing contingencies; these effects generalized to a no-feedback reassessment using the Phase 1 comparisons and recovered in a Phase 4 contingency reversal with 70 different women, as predicted by an interpretation of aversive self-perception as unconscious self-control.

The future of illusion: Implications of effects of punishment and adventitious reinforcement contingencies on pernicious derived relational discriminations

ROBERT MELLON
Danae Paraskevi Katsougri
0,5 BACB CEUs available

The generation and maintenance of problematic patterns of interpreting and reasoning about events are phenomena of obvious significance for understanding behavior-environment relations designated "psychopathological." Their importance is reflected in the market success of Cognitive-Behavior Therapy despite the absence of a serviceable account of the determination of thought processes themselves in CBT analyses. Contextual behavior therapists have criticized CBT interventions such as "thought stopping" on the grounds that the multiplicity of bidirectional conditional discriminations that inevitably "emerge" in symmetry, transitivity and other derived relations unpredictably and irreversibly extend negative reinforcing potency to events that are important to be experienced and enjoyed, not avoided. Problematic interpretations surely do "emerge" in the generalized discrimination of transitivity relations, but what would then maintain their emission? After all, these "crazy" conditional discriminations have never been derived and would by definition be punished in the interpersonal and intrapersonal environments. We tested the notion that "pernicious" conditional discriminations that emerge in transitivity are somehow impervious to such aversive consequences. They are not; their punishment readily evokes the emission of incompatible interpretations,

which are inevitably subject to adventitious reinforcement when they terminate warning signals produced by punished conclusions, providing a mechanism for the maintenance of illusory reasoning.

#2 Symposium: Some recent findings within research on emergent relations
Room M.0.11
Chair: ERIK ARNTZEN
1,5 BACB CEUs available

Many-to-one and one-to-many: Variables for the emergence of large equivalence classes

VANESSA AYRES PEREIRA
Erik Arntzen

Experiments 1, 2, and 3 verified predictions from the Discrimination Analysis Hypothesis on the yields of equivalence class formation following the One-to-Many (OTM) and Many-to-One (MTO) training structures. Experiment 1 verified whether the interspersion of baseline among emergent probe trials would enhance the yields of class formation following the OTM training structure. Twenty adults were exposed to two test protocols: Simultaneous Protocol with Baseline Intermixed (MixB) and Simultaneous Protocol with Post-test of Baseline (PTB). In Condition MixB, all probes were presented concurrently. In Condition PTB, baseline probes were presented after symmetry and equivalence were assessed simultaneously. All participants formed equivalence classes in both conditions. Experiments 2 and 3 verified whether the MTO would produce higher yields of class formation than the OTM, specifically, on the emergence of three classes with seven and nine members, respectively. Thirty-four adults participated in Experiment 2 and 42, in Experiment 3. In both experiments, half of the participants were exposed to the MTO and the other half to the OTM training structure. Participants were trained the baseline relations concurrently. Then, they were exposed to one probe-block assessing the maintenance of baseline and the emergence of symmetry and equivalence, randomly. In Experiment 2, participants were trained 18 baseline relations (e.g., the OTM trained AB, AC, AD, AE, AF, and AG; the MTO trained BA, CA, DA, EA, FA, and GA) and were probed for 108 emergent relations. In Experiment 3, participants trained 24 baseline relations and were probed for 192 emergent relations. In Experiment 2, 88% of the participants passed in the test in both groups. In Experiment 3, 86% passed in the MTO group and 48% did so in the OTM group. In both experiments, the amount of trials required to learn the MTO baseline was predictive of failure in the test. In Experiment 3, differences for reinforcement per node over the OTM baseline training was predictive of failure in the test.

Time restrictions in MTS task and delayed class formation

FELIX HØGNASON
Erik Arntzen

Sixteen college students, age 21–28, served as participants. After preliminary training including identity matching with three colors in Phase I, participants trained conditional discriminations in Phase II, with 12 abstract and three familiar stimuli, in a linear series training structure. Time-restrictions for responding to sample and comparison in the training were set to 0.7 s for the sample and 1.2 s for the comparisons. In Phases III–VII, five tests for emergent relations were implemented. In the first test, the limited hold (LH) levels were the same as in the training. In the remaining tests, there were no time restrictions. No participant responded in accordance with stimulus equivalence in the first test. One participant responded in accordance with experimenter-defined relations in the second test, without LH. Additionally, twelve participants responded in accordance with stimulus equivalence in the third and the fourth tests. The results indicate that time restrictions in training and tests for emergent relations hinder the participants in responding in accordance with stimulus equivalence. However, the conditional discrimination training, under time restrictions, is sufficient to yield favorable outcome in later tests for the majority of the participants.

Peripheral vision in matching-to-sample procedures

LIVE FAY BRAATEN
Erik Arntzen

When participants are trained in an on-screen matching-to-sample (MTS) procedure, stimuli are often randomly positioned on the screen to avoid location preference. Therefore, participants have to visually search where the stimuli are on the screen before they make a selection. In visual search, peripheral vision plays an important role. Present experiment seeks to investigate to what extent participants can attend to stimuli that vary in size and positions in the periphery. All participants were initially taught eight conditional discriminations, potentially establishing three 4-member classes of abstract stimuli. In the test conditions, four different stimuli sizes and three different stimuli positions were manipulated in 12 blocks, each consisting of 24 trials. In these test trials, participants had to fixate their gaze on the sample stimuli in the middle of the screen while selecting a comparison stimulus. Eye movements were measured with a head-mounted eye-tracker during both training and testing. Initial results show that participants can discriminate between abstract stimuli in the periphery when they are 0.7 cm or larger. If stimuli are 0.7 cm and more than 12 cm from the fixation point, discrimination ceases. Participants are unable to discriminate stimuli that are 0.3 cm regardless of position

#3 Paper Session:
Room M.1.08
Chair: STEPHEN GALLAGHER

Safewater Project: Using Behaviour analysis to increase end user uptake of safe drinking water technologies

STEPHEN GALLAGHER
Mickey Keenan
Samuel Ginja
0,5 BACB CEUs available

At least 1.8 billion people globally use a source of drinking water that is faecally contaminated and thus likely to lead to diarrheal illness: nearly 1,000 children die each day due to water and sanitation-related diarrhoeal diseases (UNICEF, 2016; WHO, 2016). Safe drinking-water is required for all usual domestic purposes, including drinking, food preparation and personal hygiene. Diseases related to the consumption of contaminated drinking-water place a major burden on human health. In 2015, 663 million people still lacked access to an improved drinking water source, and these are mostly the poor and marginalized (WHO, 2016). Almost a quarter of those people rely on surface water which is untreated and over 90% live in rural areas. Many people are forced to rely on sources that are microbiologically unsafe, leading to a higher risk of contracting waterborne diseases, including typhoid, hepatitis A and E, polio and cholera. A major impediment to projects introducing water purification technologies is the low uptake (and behavioural maintenance) of these technologies by the end users.

The SAFEWATER project aims to develop and assess low cost technologies for safe drinking water which can help address the significant socioeconomic impact of water borne diseases in developing regions. We will establish a centre which will involve a range of different expertise collaborating with universities in Brazil and Colombia and two not-for-profit organisations from Colombia and Mexico. The objectives are to develop low cost technologies to give clean water to the poor people in rural Colombia and Mexico, and to develop devices which can be used to assess drinking water quality in remote regions without access to high tech laboratories. These water technologies will be tested under real conditions with the cooperation of the rural communities with an emphasis on analysing the antecedent, behavioural, and consequential reasons for low levels of uptake. This current presentation will report on initial functional assessments, task analyses, and group contingencies put in place to assess and address these issues.

A functional analysis of technologies and their addictions: The problem of self-control and generalized reinforcers

JAVIER HERRUZO
María José Pino
Antonio Raya
Rosario Ruiz-Olivares
Carlos Herruzo
Valentina Lucena
Antonio Sánchez-Guarnido

Introduction: Over the last few decades, our society has experienced a dramatic increase in information and communication technologies (ICT) that have drastically changed our way of life. The emergence of smartphones has been a further step in this transformation, providing access to the Internet, social networks, shopping, games, conferences and videoconferences, etc., on the same mobile device, which have generated the possibility of quick and easy access to these activities at any time and anywhere. Linked to this change is social concern about the possible damage caused by its excessive use, which in many cases implies a „psychopathologizing" view of the phenomenon. Over the years, different assessment instruments have been developed for this phenomenon.

Objective: The main objective of this paper is to assess the degree of agreement between the different measuring instruments and to assess whether it is necessary to develop and validate a new instrument for assessing the use and abuse of the Internet and ICT.

Method: Nine different instruments for evaluating new technologies have been revised (EUPI, CERI, CERM, MPPUS, CERV, IAT, ARS, TAI, UPNT). An instrument was developed which, after eliminating repetitions of questions, resulted in 111 items. It was administered to 300 university students (59% girls and 41% boys).
Results: The analysis of the correlations and factorial analysis showed a high degree of relationship between all the questionnaires (between 0.458 and 0.810, p=0.000) except for those that evaluated the use of video games (between 0.142, p>0.05; and 0.303, p=0.029).
Conclusions: Based on the high correlations observed between the questionnaires, it is reasonable to think that, except in the case of videogames, the same phenomenon is being measured. This paper presents a proposal for an approach to technologies addiction from the functional analysis of behavior. Then these are viewed as generalized reinforcers in the context of the person's repertoire, suggesting ways of approaching it from the functional analysis itself.

ACTonHEALTH study: Promoting healthy lifestyle for obese Individuals with behavior analysis, activity tracker and mHealth tools

ROB CATTIVELLI
Giorgia Varallo
Anna Guerrini
Castelnuovo Gianluca

Obesity and overweight are growing steadily and becoming a global epidemic. Recent surveys report an alarming percentage of 64% overweight of the adult population in developed countries. The burden of "globesity" is increasing while most of the rehabilitation programs based on classical CBT and featuring often over restrictive approach to behavioral change, while effective in the short term, do not produce long lasting results. From a behavioral perspective an explanatory model can describe the phenomena with the lack of sources of reinforcement related to healthy habits in the daily-life context. The goal of this work, combining Acceptance and Commitment Therapy, Behavior Analysis and Wearable Technology, is to develop an effective intervention, efficient and sustainable, which continues after ending of structured rehabilitation programs, providing adequate contingencies of reinforcement in the natural environment, integrating systematic measurements, continuous feedbacks and individualized, values-based objectives. Related goal-setting show a shift from results linked with weight loss towards action connected with healthy life-style.

#4 Paper Session:
Room M.1.07
Chair: NURSEL OZKAN GONSALEZ

Organizational performance standards in special education units for ASD: The development and piloting of an assessment tool

NURSEL OZKAN GONSALEZ
Katerina Dounavi
0,5 BACB CEUs available

Over the last few years, France has financed the opening of specialized units for individuals with Autism Spectrum Disorder (ASD) by providing funding contingent on the use of evidence-based practices for ASD. This has led to the creation of new units as well as to the transformation of existing services in specialized units that support children and teenagers with ASD. Institutions facing the challenge of transformation need to undergo profound changes in their service provision, including changes in staff behaviors, changes in educational, managerial and collaborative practices, adaptations of physical space and acquisition of specialised support equipment.

Based on Applied Behaviour Analysis and the knowledge arising from Organizational Behavior Management and tested in real life in seven ASD units, MOSES-TSA (Maturité Organisationnelle pour Services d'Éducation Specialisés dans les TSA; in English OMSES–ASD: Organizational Maturity for Specialized Educational Services in ASD) is a tool that measures progress in the achievement of organizational behavior changes and identifies barriers across numerous domains.

More specifically, MOSES-TSA measures the following three target areas that affect organizational maturity and service quality: staff training, effective management and supervision, and fair use of resources. MOSES enables organisations to improve their performance in these areas and address barriers; in other words, it allows the identification of behaviors to be acquired by managers (heads of services and clinical directors), by individuals within educational teams, and by the group of professionals as a team. The development and pilot implementation of the tool aim to ensure performance that guarantees service quality for individuals with ASD, enables inclusion and provides access to an overall better quality of life.

The purpose of the present paper is to describe the development and piloting of MOSES-TSA and discuss key data obtained in seven ASD units. Suggestions on how its use can facilitate the adoption of evidence-based practices will also be provided.

Examination of validity of behavioral analytical intervention under the Safeguarding Supportive System (SSS) for Integrated Manufacturing System (IMS)

RIEKO HOJO
Kyoko Hamajima
Shigeo Umezaki
Shoken Shimizu

The „Safeguarding Supportive System (SSS)" was newly established to control human behavior, and to prevent human error and intentional unsafe behavior using appropriate Information and Communication Technology (ITC) combination at workplace of Integrated Manufacturing System (IMS). In the present study, we examined 1) the validity of SSS and 2) the effectiveness of behavior analysis intervention by calculating mechanical outage time and working time, respectively. There were two groups, which were the SSS introduction (SSS condition) and the emergency stop conditions (Emergency condition), respectively. Under SSS condition, a workplace was divided into 4 task zones. If a worker was working in one task zone, only machines in the zone were stopped and the rest of machines kept usually working. Worker had to carry and hold tag with them every time he/she entered in the target zone in SSS condition. On the other hand, all machines were stopped during the worker in the workplace under the emergency

stop condition. Worker could access to the target zone directly from entrance after pushing the emergency button. Total time, which was defined as duration from the start to the goal, was significantly longer in SSS condition than Emergency condition. However, machine outage time, assumed a machinery maintenance work happened once every 30 minutes among 8-hour labor time, became significantly shorter in SSS condition than in the Emergency condition. All 10 subjects were engaged in both conditions each 4 times. To examine the effectiveness of behavior analysis intervention, we divided subjects in two groups with 5 each. We gave feedback to 5 subjects (FB) and did not to another 5 (NFB). In feedback group (FB), working time in the target zone and the total time were shown, and gave conversation with experimenter at each trial. Subjects in no-feedback condition (NFB) could not see the working time nor the total time and did not talk with experimenter. Working times in both conditions were not different at the first trial. However, as reduction rate of the working time in FB was significantly shortened as compared with NFB when trials were repeated, these results indicated that repeated factors were effective in both conditions. We concluded that 1) introduction of the SSS is useful on both aspect of safety and product efficacy, and 2) some feedback to the work possibly promote further work.

Applying Behavioral Systems Analysis to a large scale training program

PHILIP N CHASE
0,5 BACB CEUs available

In response to a class action lawsuit, a court remediation plan required that a large system of behavioral health providers use a standardized instrument to assess the progress of children whose treatment was supported by a federal funding program. Concepts from behavioral systems analysis, measurement, and behavioral education were integrated to create an online training and performance improvement program for the behavioral health providers. The design of the program focused on a performance discrepancy analysis, a performance systems analysis, a vantage analysis, and Tom Gilbert's concept of Potential for Improving Performance (PIP) to isolate the problems the behavioral health providers had with using the standardized instrument. An online behavioral instruction training program with a comprehensive feedback system was developed, implemented, and evaluated.

Behavioral safety in the hairdresser's shop

ALEXANDRA SCHÖNLEBER

Unsafe or risky postures are a common problem among professional hairdressers. Hairstylists work with chemicals, gas, many electric tools – and on top of that, they must stand all day long. This leads to postural deformities and persistent pain.

Behavior-Based Safety (BBS) is an evidence-based approach to reduce risky behaviors in the workplace by reinforcing safe behaviors. Behavior Based Safety has already demonstrated its effectiveness in many different industries. It is an evidence-based approach for changing unsafe or risky behavior. BBS applications in the field of hairdressing haven't been done yet.

After a consultation with two physiotherapists, review of the relevant professional literature on workplace safety in hairdressing, a pilot study in a hairdresser shop was performed. As a result, three significant ergonomic behaviors became the focus of the intervention:

• the hairstylist stands with both feet (three-point-stand) hip width on the floor
• the hairstylist sits or stands with an upright upper body, the head is straight
• the hairstylist changes the hairdryer and the brush into the other hand, at least every other minute

The safe work behavior of two hairdressers in an owner-managed hairdresser shop was the dependent variable of the research. After baseline observations, the intervention has been implemented in a staggered manner, using a multiple-baseline design across subjects. Task clarification alone resulted in only minor and temporary improvements. Only the introduction of feedback and goal setting led to significant improvements in safe work postures.

#5 Paper Session:
Room M.1.09
Chair: ANDREAS PARIS

Integrating evidence-based behavioural assessment and teaching methods into a UK special school classroom

ANDREAS PARIS
Corinna Grindle
Gemma Nicholls
Leanne Maguire
0,5 BACB CEUs available

In recent years there has been an increasing awareness about the importance of implementing evidence-based practices in schools for children with autism. Nevertheless, behaviour analytic assessment tools and teaching methods are rarely employed in special education schools in the UK. The ABLLS Class in Calthorpe Special School in the UK is a collaborative project between a behaviour analyst and teaching staff

employed by the school (a class teacher and 3 teaching assistants). Nine children with autism participated in the study and received daily teaching based on ABA teaching methods (discrete trial teaching, natural environment teaching and using positive rein-forcement) for 24 weeks. The class teacher was trained to assess children's progress and introduce new targets using the ABLLS-R and all staff received regular training and overlaps so that they were proficient in using an ABA teaching methodology with pupils. Using a pre-test post-test design, we found that these methods were success-fully incorporated within the classroom, and that all nine children made positive gains in adaptive behaviour and other skill areas. Further, social validity interviews with staff following the intervention, demonstrated that staff were extremely positive about using the behavioural approach and wanted it to continue. The data show that a collaborati-ve model can be effective in incorporating behavioural teaching methods into existing educational provisions. Further recommendations are made in terms of simplifying staff training into a behavioural skills training framework and guidelines on promoting the vital collaboration between school staff and behaviour analysts.

Using communication devices to 6-year old boy with autism

MARTA WÓJCIK
Iwona Ruta-Sominka
Anna Budzińska

One of the basic features characterizing autistic children is their impairment in language and communication skills (cf. American Psychiatric Association, 2000). Many research shows the effectiveness of using ABA methods to develop speech, e.g. generalized verbal imitation (Young, Krantz, McClannahan and Poulson, 1994), naming things and actions (Lovaas, 1977), and conversation (Stevenson, Krantz and McClannahan, 2000). However, some children with autism have limited expressive communication, and they will never be able to verbally communicate their needs.

Augmentative alternative communication is effective strategy used to teach children with autism communication skills (Kagohara, D. M., van der Meer, L., Ramdoss, S., O'Reilly, M. F., Lancioni, G. E., Davis, T. N., Sigafoos, J., 2013, Alzrayer, N., M., Banda, R., D., 2017). Du-ring our presentation we will show the use of tablet-based device to teach 6-year old boy to communicate problems with task completion. During baseline measurements student did not ask for any help. After using tablet-based device and ABA teaching techniques such as manual guidance and motivational system the participant acquired the ability to ask for help in three different areas – academic skills, self-help skills and play. A multiple baseline across settings design was used to assess the effectiveness of the methods. During the lecture we will present also the video from the treatment.

#6 Symposium: A strategic science of general education: The accelerated independent learner model of instruction
Room M.1.10
Chair: DOUGLAS R. GREER
1,5 BACB CEUs available

In this symposium, we will present three papers on the scientific procedures and tactics utilized in the Accelerated Independent Learner Model of Instruction. In the first paper, we will provide an overview of the A.I.L. system, including a description of the standard performance and learning tactics. The second paper will describe the more recent rese-arch-based protocols used in the A.I.L. classroom to advance reading and writing reper-toires of students. The third paper will discuss how math is taught in the A.I.L. setting to produce functional math and problemsolving repertories. Collectively these papers will emphasize the importance of designing instruction that results in the learning of func-tion, not only structure which results in condition reinforcement for learning and better academic outcomes.

The accelerated independent learner model of instruction

DOUGLAS R. GREER
Jo Ann Delgado

The Accelerated Independent Learner (A.I.L.) Model is a scientific approach to instruc-tion that has developed systematically over the last 10 years in the general education setting. It is based on the Comprehensive Application of Behavior Analysis (CABAS®) method, where teachers are strategic scientists. Teachers measure all instruction utili-zing the learn unit and display progress on Learning Pictures. Carefully sequenced be-havior analytic objectives are implemented and the A.I.L curriculum is arranged based on individual students' learning capabilities. These capabilities are assessed for cont-inuously and induced when missing using research-based protocols. In this paper, we will present an overview of the program, including a description of the most common tactics used to address learning and performance behaviors for a range of students.

Behavior analytic advances in reading and writing

KELLY MERCORELLA
Douglas R. Greer
Jo Ann Delgado
Jennifer Weber

Reading and writing are foundational academic repertoires that are necessary for an individual to access and communicate information. There is a need for scientifically-based instruction to teach children fluent reader and writer behaviors, as well as to remediate instructional difficulties inhibiting their success. A fluent reader repertoire is essential for educational success, following the methodological shift from learning to read to reading to learn. This means that students are required to read in order to learn concepts across academic domains and apply that information when engaging in higher-level problem solving. Furthermore, students are required to disseminate information through a fluent writer repertoire, which not only involves the production of structurally sound writing, but the writing to effect the behavior of a reader. The establishment of fluent reader and writer repertoires allows for a student to demonstrate success across academic domains. Research conducted in the Accelerated Independent Learner (AIL) model of instruction has resulted in new behavior analytic advances in reading and writing instruction, as well as procedures to condition these skills as a reinforcer for academic and performance behaviors. The present paper aims to discuss the protocols and tactics implemented to induce fluent reader and writer repertoires in elementary-aged students.

Behavior analytic advances in math: Making math verbal

JENNIFER WEBER
Douglas R. Greer
Jo Ann Delgado
Kelly Mercorella

In education, the primary focus of math instruction is to teach computational skills; however, new behavior analytic advances in teaching math have resulted in the acquisition of functional math repertoires. That is, we teach math as a functional language where students learn to explain how to solve a math problem so that someone else can solve the problem, based on the student's vocal explanation. This extends to the acquisition of functional writing repertoires, where students can learn to write mathematical instructions to affect the behavior of a reader, such that a reader can solve a math problem through the written instructions provided by the writer. In both cases, we treat math as a verbal repertoire and incorporate opportunities to respond as both a speaker

and writer into our math curriculum. When math is treated as a verbal repertoire, we can teach the foundational mathematical skills that are then needed for higher-level problem solving. The Accelerated Independent Learner (A.I.L.) model of instruction has identified scientifically based teaching procedures and learning tactics that have resulted in the acquisition of math as a verbal repertoire. The present paper aims to discuss tactics to increase learning outcomes specific to math and functional writing.

#7 Symposium: Matching-to-sample: Additional measures and application
Room M.0.11
Chair: ERIK ARNTZEN
1,5 BACB CEUs available

The symposium on additional measures and application within research using conditional discrimination procedures will include four papers. Additional measures are always necessary to discuss within any area of research. Likewise, it is essential to show the application of procedures which have shown to generate more relation than relations that are directly trained. The first paper discusses the transfer of emotional values (angry, neutral, and happy faces) to members in existing equivalence classes. The second paper presents data showing how the electroencephalography (EEG) component N400 can be used as a measure of relational strength between stimuli. The third paper shows how partitioning of classes can occur by observation of MTS training measured by a sorting task. The fourth paper is a demonstration of how conditional discrimination procedures with different delays can be used in a patient with dementia.

Transfer of function and varying delays in delayed matching-to-sample

JON MAGNUS EILERTSEN
Erik Arntzen

Stimuli with emotional value in equivalence classes can transfer their value to other members of the class. Fourteen participants in three experimental groups trained conditional discriminations and were tested for the emergence of three 6-member classes. Twenty-four of the participants were assigned to a control group. For the experimental groups, five participants (Group 1) were exposed to simultaneous matching-to-sample (SMTS), five participants (Group 2) were exposed to 0 sec delayed-matching-to-sample (DMTS), and four participants (Group 3) were exposed to 3 sec DMTS. For Groups 1 and 2, each of the three A-stimuli consisted of four angry, four neutral, and four happy faces, respectively. For Group 3, only one face displaying each of the emotions. The conditional discriminations AB, AC, CD, DE, and EF were trained before two tests for the emergence of transitivity and equivalence (BF, BF, FB, and FB). Finally, participants were asked to rate the D stimuli on a Semantic Differential Scale.

Equivalence class formation and the N400 component in participants with high functioning Autism Spectrum Disorder

GURO DUNVOLL
Erik Arntzen
Torbjørn Elvsåshagen
Christoffer Hatlestad
Eva Malt

The electroencephalography (EEG) component N400 can be interpreted as a measure of relational strength between stimuli. The N400 is a negative peak in an event-related potential (ERP) 400 ms after presentation of two stimuli which are not related, in comparison with the presentation of two related stimuli. In the current study, five adults with high function autism spectrum disorder participated. The main focus of the study was to investigate the ERPs during a priming procedure comparing related and unrelated stimulus pair after training six conditional discriminations with C-stimuli as meaningful pictures. The participants also conducted a word priming procedure. The results show a negativity in the ERPs approximately 400 ms after stimuli presentation with both abstract and meaningful stimuli, and word stimuli. The findings indicate that the N400 component can be used as an electrophysiological correlate of equivalence class formation in participants with high functioning autism spectrum disorder.

The effect of observing matching-to-sample tasks on performance in stimulus sorting and test emergent relations

JUSTICE MENSAH
Erik Arntzen

Two experiments examined the concordance between stimulus sorting and MTS test for emergent relations. Participants observed a 12-minute video-clip with performance on MTS tasks. Following the observation of the video-clip, the participants were exposed to two subsequent sorting tests and an MTS test. In Experiment 1, two groups of participants observed a video-clip with either 20% correct responding or 80% correct responding. The results showed that, three of 15 participants in the 20% group, sorted the stimuli according to experimenter-defined classes in the sorting tests, as well as responded in accordance to equivalence in the MTS test for emergent relations. For the 80% group, 11 of 15 participants sorted the stimuli according to experimenter-defined classes in the sorting tests, as well as responded in accordance to equivalence in the MTS test for emergent relations. In Experiment 2, three groups of participants observed a video-clip with either 20%, 50%, or 96% correct responding. The results showed that no participant in the 20% group sorted the stimuli according to experimenter-defined

classes in the sorting tests, as well as responded in accordance to equivalence in the MTS test for emergent relations. For the 50% group, six of 15 participants sorted the stimuli according to experimenter-defined classes in the sorting tests, whiles four of 15 responded in accordance to equivalence in the MTS test for emergent relations Nine of 15 participants sorted the stimuli according to experimenter-defined classes in sorting tests, whiles seven of 15 responded in accordance to equivalence in the MTS test for emergent relations.

Use of delayed matching-to-sample in a participant with Alzheimer's Disease

ANETTE BROGÅRD ANTONSEN
Erik Arntzen

In the present study, participated a 91-year-old woman with Alzheimer´s disease. She had an MMSE score at 17. The participant was presented for two experiments. First, she was presented for identity matching with three colors (yellow, blue, and red). It was alternated between (A) delayed matching-to-sample 0s (DMTS 0s) and (B) simultaneous matching-to-sample (SMTS). The conditions were arranged as an ABABAB-design. Further, the participants were presented for the same phases again but with another set of color stimuli (green, orange, purple). The results showed that the number of trials needed to reach criterion for training, decreased as the phases were repeated, also with the new set of stimuli. In the second experiment, was the participant presented for the same stimuli with delays of 12s, 13.5s, 15s, 18s, and 24s in DMTS. The purpose was to identify the longest delay, where she reached the criterion for mastery. The participant reached the criterion for mastery with delays of 12s and 13.5s.

#8 Paper Session:
Room M.1.08
Chair: TERESA MULHERN

The application of Relational Frame Theory to facilitate class inclusion repertoires

TERESA MULHERN
Patrycja Zagrabska
Siri Ming
Ian Stewart

To date, little work has been conducted with regards to facilitating class inclusion repertoires among individuals with autism. Previous research by Ming et al. (2018) employed a Relational Frame Theory (RFT) protocol involving multiple exemplar training and non-arbitrary containment training to establish class inclusion responding with

children with and without autism. However, this research had several methodological limitations and further research is necessary to determine the efficacy of an RFT-based protocol to facilitate such repertoires. Study 1 delivered an RFT-based protocol to assess and train class inclusion responding in four children with a diagnosis of autism (12 – 15 years). This study replicated and advanced the research of Ming et al. (2018) by using improved controls and a concurrent multiple baseline across participants design. Study 2 further extends this research by employing a modified baseline assessment employing feedback within a concurrent multiple baseline across participants (n = 3) design. This study aimed to facilitate class inclusion responding among adults (22 – 26 years) with a diagnosis of autism and co-occurring learning disability and anxiety. The results of Study 1 were similar to that of Ming et al. (2018) such that all four participants successfully acquired class inclusion responding following the introduction of RFT training while generalisation and maintenance of responding was observed among all participants. Study 2 is currently ongoing, however, Participants 1 and 2 have successfully met mastery criterion for class inclusion training and has also demonstrated generalisation of responding across untrained stimulus sets. Participant 3 is currently undergoing RFT-based training. The findings of these studies provide a practical framework for applied practitioners to facilitate class inclusion responding amongst individuals with developmental disabilities. In addition to this, the findings of these studies provide further evidence that relational framing responses underlie cognitive repertoires and that by facilitating on these frames these cognitive skills may be enhanced.

Comparing an evidence-based approach to literacy instruction with an eclectic model for children with specific literacy difficulty.

CATHERINE STOREY
0,5 BACB CEUs available

Research investigating remedial action for disadvantaged children suggests that explicit systematic phonological training is the fastest most effective method of increasing word recognition and subsequently reading accuracy. Combining an evidence-based approach with computer assisted instruction (CAI) may be an efficient means to improving educational outcomes. The current study compared the effectiveness of evidence-based practice with an eclectic approach to supplementary literacy instruction for children with specific literacy difficulty. Participants were primary school children (aged 6-9) in receipt of free school meals (FSM), indicative of low socioeconomic status in Northern Ireland and diagnosed with a specific literacy difficulty. 32 pupils were randomized to either a Headsprout Early Reading group (HER) (n = 17) or a treatment as usual (TAU) group (n = 15). Literacy skills were assessed using the Phonics and Early Reading Assessment (PERA) pre- and post-intervention. Anova and T-test analysis found that HER made significantly greater gains on measures of Word/Non-Word

Recognition (t(30)=7.55, p<0.001), Sentence Reading (t(30)=3.33, p<0.05) and sight words (t(30)=4.23, p<0.001) than the TAU group . This study is the first to demonstrate stronger outcomes for children receiving evidence-based intervention over eclectic approaches typically used in Northern Irish Schools.

#9 Paper Session:
Room M.1.09
Chair: TZOULIA MARINA DEMOU

Joint attention training in children with autism emphasizing on social reinforcement

TZOULIA MARINA DEMOU
Anna Plessas

Joint attention is a pivotal early developing social-communicative skill in which two people use gestures, comments and gaze to share attention with respect to interesting objects or events. Four preschoolers with high functioning autism (4 yrs 2 months-5 yrs 10 months old) were taught to respond to joint attention bids with the use of prompts and social reinforcement. A delayed multiple baseline design across subjects with incorporated DRO reversal for one of the subjects and an alternating treatment design for the generalisation phase were implemented. The results of the study demonstrated that responses to joint attention bids were effectively taught to all four children and generalisation to other conditions was attained. Implications of this training are discussed with respect to the use of social reinforcement when teaching joint attention.

Joint attention in children with autism: The role of the transformation of stimulus function

NICOLE LUKE
0,5 BACB CEUs available

Three children with autism were part of a study which looked at the ability of an operant teaching procedure to teach joint attention as a dependent variable. The study was conducted using a multiple baseline across participants design. Initially, all three participants failed to respond to bids for attention using novel materials and only responded when provided with preferred items like chips or candy. After repeated exposure, all three participants engaged in joint attending responses using first preferred materials and then novel materials. The results are discussed in terms of the role of the transfer of stimulus function in mand and tact operants and the relationship between these concepts and those of proto-imperative and proto-declarative concepts.

The role of stimulus-stimulus-pairing on the emergence of speech in non-vocal children with autism

SMITA AWASTHI
Dillenburger Karola
0,5 BACB CEUs available

Children with autism exhibit significant delays in speech production and most require highly specialized training (Harlaar et al., 2008; Rutter 1985). A variety of technologies such as echoic training (Koegel et al, 1998), antecedent rapid motor imitation (Ross & Greer 2003), stimulus-stimulus pairing (Sundberg, et al.1996) have been used for inducing vocalizations in children with autism. The current Experiment was conducted with n=58 participants between ages 1.4 and 9.6 years and examined the effectiveness of sign-mand training paired with vocal stimuli. Replications were conducted across 13 non-concurrent multiple baseline designs across participants. Mean IOA was 89% (54%-100%) and treatment integrity was 89% (73%-100%). Results demonstrated under conditions of motivating operations stimulus-stimulus pairing evoked first instances of speech in 83% participants on a mastery-criteria of n=7 vocalizations.

#10 Keynote Adress: Behavioral safety: research and practical considerations
Room M.-1.07
Chair: Zuilma Gabriela Sigurðardóttir

About Sigurður Óli Sigurðsson
Dr Sigurður Óli Sigurðsson obtained his Ph.D. in behavior analysis in 2006 from Western Michigan University. He is currently Senior Advisor to the Quality Board for Higher Education in Iceland. Dr. Sigurdsson is also an Associate Commissioner for the Behavior-Based Safety Accreditation Commission of the Cambridge Center for Behavioral Studies. He has provided organizational consultation for hospitals, autism treatment centers, and various other businesses and industries. He has published research in the Journal of Safety Research, Journal of Organizational Behavior Management, and Journal of Applied Behavior Analysis. Dr. Sigurðssons interests are in the areas of safety-related decision-making and maintenance of behavioral safety processes.

Abstract
Behavioral safety is the application of the principles of behavior to workplace safety and health. This talk will present an overview of research in behavioral safety, including ergonomic interventions of lone office workers, multi-site organizational applications of behavioral safety processes, as well as research on a laboratory model of decision-making in potentially hazardous workplace situations. The talk will conclude with some practical considerations derived from Dr. Sigurdsson's research, as well as his work on accreditation teams for behavioral safety processes on behalf of the Cambridge Center for Behavioral Studies.

#11 Paper session:
Room M.1.08
Chair: WOLFGANG TRAPP

A tablet based behavioural intervention to improve performance in dementia patients

WOLFGANG TRAPP
Susanne Roeder
Oeznur Kilic
Goeran Hajak

Introduction: Dementia is a common health problem in industrialized countries and, as life expectancy increases, incidence rates are on the rise. While pharmacological options are still unsatisfactory, there is recent empirical evidence that patients might benefit from behavioural interventions that aim to improve memory, attentional and problem-solving performance. Touchscreen tablets could be particularly helpful in attaining these goals.

Methods: First results regarding a recently developed behavioural group intervention that utilizes touchscreen tablets interconnected via Bluetooth are presented. A standardized group session was administered to 20 participants who were either cognitively unimpaired or were suffering from mild cognitive impairment (MCI) or mild dementia. Four different tablet tasks were administered repeatedly and several behavioural measures assessing speed and accuracy of performance were recorded. These tasks were compared to paper and pencil tasks of a validated training program for MCI and dementia patients. Furthermore, participants had to rate how pleasant and demanding they experienced the different tasks.

Results: The tablet tasks were rated as more pleasant and as equally demanding compared to the paper and pencil tasks. All groups of participants improved in their task performance. However, the speed of this improvement varied between groups with cognitive unimpaired participants showing steeper learning curves compared to MCI and dementia patients.

Discussion: Tablet computers might be a valuable tool for non-pharmacological interventions administered to dementia patients. Moreover, dynamic assessment of behavioural measures might even be helpful in diagnosis of the disease.

The "Decimal System" principles and functions in the identification of behaviour problems

MARTTI T. TUOMISTO
0,5 BACB CEUs available

The Decimal System of Behaviour and Life Problems (DSBLP) was developed to make applied behavioural work more effective in different areas of applied behavioural science. The DSBLP has nine main problem classes with subclasses and a zero class for non-problems. Seven classes are pure behaviour problems of which only one class can be a primary problem at one time in one time-window. Of the two problem classes, environmental and biological problems ("life problems"), one can be a primary problem simultaneously with one primary problem from the pure behaviour problem classes. Other problem classes may be secondary problems. The DSBLP also includes a "mirror image" of the problem classes, behaviour assets and strengths. Clinical or applied interview and observation are the main tools in the assessment of behaviour to be analysed using the system. A chain analysis of problem behaviour can then be conducted in applied situations. The system is being used in the supervision of students of behaviour analysis and therapy. Empirical studies are going on. I will present the different principles and functions of the problem classes in the system and use some examples from chain analysis to illustrate possible practical use of the system in applied and clinical work to formulate hypotheses for applied behaviour analysis. In addition, some preliminary data on classifications using the DSBLP will be presented.

Animal trainer program in Finland

JARI PARKKISENNIEMI
Anna Rimppi

Behavior Analysis has gained attention in Finland, but it is not at any way mainstream and it has been partly poorly understood. In animal science the research focus in Finland has been in health issues, cognition and animal-human interaction. We found that almost all the animal science research in 2017 lacks information about effects of learning that may affect either the outcome or conclusions of the research.

At the start of this year we started Behavior Analysis based Animal Trainer program to disseminate the basics of Behavior Analysis at University of Tampere. The program is targeted to persons already working with animals as veterinarian, animal trainer or scientist. This program is used as a vehicle to disseminate the behavior analysis and power of learning in different environments and settings. The program has 23 students and the program representative is Ph.D. BCBA-D Martti T. Tuomisto. All teachers have studied BCBA certified ABA program.

This presentation will enclose the data on animal science research in Finland and presents how we will try to engage more people in applied animal behavior and behavior analysis.

#12 Symposium: Emergence and maintenance of stimulus classes
Room M.0.11
Chair: ERIK ARNTZEN
1,5 BACB CEUs available

The symposium will emphasize the emergence and maintenance of stimulus classes within research on stimulus equivalence. The first paper presents data on sorting of class formation following an expansion of large stimulus classes in college students. The second paper focuses on equivalence-based instruction with college students. The third paper discusses establishment and maintenance of conditional discriminations and testing for emergent relations in two time periods in a person with dementia.

Sorting documents the formation and expansion of stimulus classes

ERIK ARNTZEN
Anders Dechsling
Lanny Fields

Many studies have shown similar performance on class-formation sorting (CFS) and matching-to-sample (MTS) tests. The present experiment studied sorting performance after expansion of class size. Thirty-two participants trained 12 conditional discriminations with a linear series training structure (A$\lozenge$B$\lozenge$C$\lozenge$D$\lozenge$E), which was followed by a CFS testing. Depending on the results of the sorting test, the participants were exposed to two different sequences of training and testing. If the participants sorted correctly (Sequence 1), they were exposed to F$\lozenge$C training to expand class size. Half of the participants were given MTS tests and finally a CFS retest. The other half were given the CFS test, an MTS test, and a final CFS retest. Participants who did not sort correctly on the first CFS (Sequence 2), were trained six baseline conditional relations with new stimuli (G$\lozenge$H$\lozenge$J), given a new sorting test and expanding training (K$\lozenge$H). Half of the participants were given an MTS and then a CFS test, while the other half were given CFS, MTS, and final CFS tests. The main findings were that all participants sorted correctly during tests for class expansion and showed 100% correspondence between sorting and MTS performance. The sorting tests documented the formation and expansion of equivalence classes.

Teaching basic behavior analytic concepts with equivalence-based instruction

TORUNN LIAN
Hanne Augland
Erik Arntzen

In the present study, we used conditional discrimination procedures to establish the basic behavior analytic concepts of positive and negative reinforcement and punishment and tested for emergent relations in an introductory course in behavior analysis. Participants, college students, experienced lectures and matching to sample training in two different orders. Some of the participants experienced matching-to-sample training and test for stimulus equivalence in an early phase of the course (MTS-lecture group) and some participants experienced matching-to-sample training at the end of the course (lecture-MTS) group. This design preparation controlled for possible order effects within the experiment, and besides had the potential to provide important information for future implementation of equivalence-based instruction (EBI) in college courses. We arranged a linear-series training structure in which the different conditional discriminations were introduced in a serialized fashion. Following test for equivalence class formation, we also arranged generalization probes. The results showed that 75% of the participants who fulfilled the MTS training and test formed equivalence classes, regardless of the order of lectures and MTS training. More participants experiencing MTS at the end of the course fulfilled the experiment and MTS training was completed in less time than lectures. No clear differentiation between the two conditions was obtained on probes for generalization. Some refinement of the procedure will be suggested for future studies.

Studying stimulus-stimulus relations in dementia patients for longer period of time

HANNA STEINUNN STEINGRIMSDOTTIR
Erik Arntzen

Deterioration in remembering is one of the core symptoms of dementia. During time, it is likely that the patient will forget the names of their significant others. Without medications that can either hinder or stop the progression of the disease. Hence, non-pharmacological interventions have been called for. In the present study, the participant was an older adult in his eighties with Vascular Dementia. The establishment and maintenance of conditional discriminations consisting of the participants significant others name, face, and relation were examined in two time periods. In Study 1 from January 2017 to June 2017, and in Study 2 from January 2018 to May 2018. The first study compared the use of simple-to-complex (STC) and simultaneous (SP) training protocols along with studying the effect of different length of the Inter-Trial-Interval (ITI). The results from the first study showed that the STC with longer ITI lead to greater likelihood of correct responding and to greater likelihood of responding in accordance with stimulus equivalence. Study 2 replicated the findings, with an addition of capturing a change in discrimination behavior because of a minor stroke.

#13 Paper Session:
Room M.1.08
Chair: HARPA ÓSKARSDÓTTIR

Reading instruction using Direct Instruction and fluency building in a typical Icelandic classroom in 1st and 2nd grade.

HARPA ÓSKARSDÓTTIR

Direct Instruction (DI) is an evidence-based and empirically tested teaching method that has been found to be very effective in English-speaking countries. DI has been especially effective when combined with fluency building methods. These methods are not generally in use in Iceland although dozens of single-case experiments have indicated that they are very effective when psychology students have used the methods with special ed students. In this project, a group comparison was undertaken to study the effects of reading instruction with DI and fluency building by trained teachers on reading performance of students in 1st and 2nd grade in a traditional classroom. Participants were in total 76 students in 1st grade and 74 students in 2nd grade in two comparable elementary schools in Iceland, one had the experimental group, the other school had the comparison group. Performance in reading was evaluated and comparisons were made within the experimental and comparison groups at the beginning and end of each school year and between the experimental and comparison groups. Results show that students in the experimental groups showed more progress than students in the comparison groups and scored higher on 10 of the 11 variables tested at the end of the study.

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Effectiveness of Safmeds to help students develop fluency in concepts for an exam

GITA SRIKANTH
Swati Narayan
0,5 BACB CEUs available

SAFMEDS (Say All Fast Minute Every Day Shuffled) a tool created by Dr. Steve Graf, provides students with practice systematically build on fluency. The process focuses on facilitating learning through acquisition, retention and fluency. This precision teaching method was implemented with a group of musicians studying to take the Registered Behavior Technician Exam. The subject tested in the exam was Applied Behavior Analysis, a subdivision of psychology. There were multiple aims of this study. One being to see if SAFMEDS could be implemented by a course trainer for a classroom of students who were required to know a set of terms to sit for a professional exam. Second, to compare the scores of the students on tests written prior to implementation of the module with those written post implementations to see if there was a correlation between change in scores and introduction of this model of revision. The results of this research go to show that SAFMEDS were effective in improving the scores of the students, additionally it was positively received by them. Overall, SAFMEDS proves to be a low-cost educational tool, one that has the potential to be included in mainstream education as an effective educational aid.

Effective or efficacious? Randomization of Precision Teaching support across 63 schools in the context of a SAFMEDS numeracy intervention

KAYDEE OWEN
Stacey Hunter
Joshua Payne
Richard Watkins
Carl Hughes
0,5 BACB CEUs available

Say All Fast Minute Every Day Shuffled (SAFMEDS) is an evidence-based intervention that has previously been shown to increase fluency of numerical concepts. The current study employed a cluster-randomized controlled trial design to assess whether ongoing support from a researcher is necessary to sustain, and see significant improvements from, a teacher-led SAFMEDS numeracy programme. Examples of support include: modelling sessions, observing sessions, interpreting data, and offering intervention advice. Following training, we randomly allocated schools to receive either enhanced (n = 31) or standard (n = 32) support. A teacher within each school was responsible for implementing the SAFMEDS programme over the academic year (October-June); supporting up to 10 children in each school (N = 624). Pre- and Post- measures assessed the children's addition, subtraction, multiplication and division fluency. We also collected social vali-

dity data with regards to the children's attitudes towards numeracy. Here we discuss the positive impact that researcher support can offer in terms of implementation fidelity and feedback.

#14 Symposium: Interbehavioral psychology
Room M.1.07
Chair: LINDA J. PARROTT HAYES
1,5 BACB CEUs available

This symposium involves three papers pertaining to interbehavioral psychology, and the value of interbehavioral psychology for the science of behavior. The first presentation focuses on philosophical issues pertinent to the conceptualization of the subject-matter, the second on language in interbehavioral perspective, and the third on perspective-taking from an interbehavioral position. Each will describe implications for further development of the science of behavior.

Overcoming organocentrism

LINDA J. PARROTT HAYES

Events of the psychological domain are constructed in accord with both observational and postulational activities. The constructs so developed have implications for the ways in which their relations with other events are interpreted. These, in turn, impact the way they are investigated. This paper addresses matters of this sort as pertains to the concepts of stimulus and response. In particular, it is contended that a focus on responding separate from stimulating fosters an organocentric view of responding, giving way to reductionistic if not outright mentalistic postulation concerning it. It is argued that the construct of "interbehavior" is an antidote to the organocentrism perpetuated by construct of "responding".

Language in interbehavioral perspective

MITCH FRYLING
Linda J. Parrott Hayes

The present paper addresses the topic of language from a distinctly interbehavioral perspective. The functional taxonomy proposed by Ribes (e.g., 1997, 2018) is reviewed, and the implications for understanding the complexities of human behavior, and especially language, are considered. The coherence of the aforementioned functional taxonomy with Kantor's (1958) psychological event is addressed, and opportunities for further coordination and systemization are identified. Finally, potential areas for further research related to the taxonomy are proposed in relation to other areas of research in behavior analysis.

An Interbehavioral analysis of perspective-taking during childhood

GENEVIEVE DEBERNARDIS
Linda J. Parrott Hayes

Perspective-taking is central to developing relationships with others, including friendships, employment, and more. The present paper reviews an experiment that examines perspective-taking from an interbehavioral perspective. After reviewing the methodology and results, the results are further considered from the perspective of the continuum described by DeBernardis, Hayes, and Fryling (2014). Limitations are highlighted, and areas for further research are identified. Popular themes within the behavior analytic research on perspective-taking are reviewed, and the potential value for adopting the interbehavioral approach are described.

#15 Symposium: The application and replication of behaviour analytic research in a school setting: targeting behavioural cusps in children with autism spectrum disorder
Room M.1.09
Chair: SUSAN E. TIRELLA
1,5 BACB CEUs available

As the number of individuals diagnosed with Autism Spectrum Disorder increases, the need to provide an appropriate, school-based education grounded in evidence-based practice is critical. However, a large amount of behaviour analytic research is still being conducted in clinic settings. This symposium reviews three studies conducted in a special school for children with autism: a desensitization program for increasing glasses wearing; a self-monitoring system for decreasing the amount of time to consume food and drink; and the implementation of an Interview-Informed Synthesized Contingency Analysis (IISCA) and a corresponding treatment plan. Each not only demonstrate the ability to replicate and extend upon current research but the critical need to address pivotal skills when designing treatment plans. All three studies discuss the greater wide spread effects of behavioural cusps on learning and development when these pivotal skills are addressed.

Increasing glasses wearing in a child with Autism Spectrum Disorder in a school setting through systematic desensitization

DHI JADEJA
Konstantinos Rizos
Susan E Tirella
Michael J Cameron

DeLeon and colleagues (2008) have outlined one of the few procedures designed specifically to increase glasses wearing in individuals with developmental disabilities. This study replicates that same design whilst in a school setting and demonstrates a rapid increase in glasses wearing in a young child with autism spectrum disorder. The discussion elaborates on the need for behaviour analysts to assess all aspects of a child's development that can affect learning and prioritize behavioural cusps that can lead to wide spread gains when properly treated.

The use of a self-monitoring procedure to decrease the length of time to consume food and drink in a young person with Autism Spectrum Disorder in a school setting

TUGBA YILDIRIM
Konstantinos Rizos
Susan E Tirella
Michael J Cameron

Self-Monitoring systems have been widely used to increase on-task behaviour (Blick & Test, 1987), academic productivity and accuracy (Maag, Reid & DiGangi, 1993) and independence (Dunalp, Dunalp, Koegel & Koegel, 1991) and to decrease undesired behaviours such as habits or tics (Koegel & Koegel, 1991). When compared to neurotypical peers, feeding difficulties in children with developmental disabilities are reported to be more prevalent, with rates up to 74%.

(Burklow, Phelps, Schultz, McConnell, & Rudolph, 1998; Field, Garland, & Williams, 2003). This study examines the effects of a self-monitoring system on first increasing food and drink consumption and then decreasing the length of time to consume food and drink in a young person with Autism Spectrum Disorder in a school setting. Data show not only a decrease in the amount of time needed to consume food and drink but generalization of the skill and fading of the self-monitoring system was successful. The discussion will include the use of such procedures in a school environment, the importance of collaborating with carers and medical professionals when addressing eating disorders, and the increase in eating and drinking as a behavioural cusp that has led to wide spread gains across other areas for this young person.

An interview-informed synthesized contingency analysis: Reducing challenging behaviour in a child with Autism Spectrum Disorder in a school setting

SARAH FATTAL
Susan E Tirella
Michael J Cameron

Hanley and colleagues (2014) described a method of functional analysis of problem behaviour: the Interview-Informed Synthesized Contingency Analysis (IISCA). Informed by the IISCA they implemented a skills-based teaching approach which effectively reduced problem behaviour to zero levels in 3 children with Autism Spectrum Disorder (ASD), in an out-patient clinic. Santiago and colleagues (2016) successfully replicated and extended Hanley's research by implementing analyses in socially-relevant contexts by ecologically relevant individuals from the outset. The authors proposed that to more fully assess the generality of the IISCA and skill-based treatment that measures of the treatment process throughout the day should be provided. Thus, this study is a replication and extension of Santiago and colleagues' (2016) findings: executing the IISCA and associated treatment in a classroom for 6.5 hours per day, rather than the maximum of 60 minutes per day demonstrated by previous authors. Preliminary analysis indicates that the IISCA is able be successfully implemented in a natural setting with school-based staff and effective treatment can be implemented to increase functional communication and compliance whilst reducing challenging behaviours in a young pupil with ASD. This presentation will discuss these findings in addition to other variables to consider when implementing an IISCA and corresponding treatment in a school setting.

#16 Symposium: Behavior Analyst Certification Board: Eastern European dissemination and developments
Room M.1.10
Chair: NEIL MARTIN
1,5 BACB CEUs available

This presentation will discuss the BACB and BACB certification developments, and data will be presented for numbers of certificants and verified course sequences. A general overview of certification will be presented along with specific aspects of international growth and development, with a focus on the establishment and support of BACB credentials in Eastern Europe. Some challenges, regarding international development and growth, will also be highlighted.

Development and dissemination of behaviour analysis training and credentialing in Poland

MONIKA SUCHOWIERSKA

A history and overview of developments with regard to BACB credentialing in Poland will be provided, including data for numbers of students, numbers of certificants, and current barriers to the continued development and acceptance of Applied Behaviour Analysis in Poland.

Development and dissemination of behaviour analysis training and credentialing in Romania

ANCA DUMITRESCU

A history and overview of developments with regard to BACB credentialing in Romania will be provided, including data for numbers of students, numbers of certificants, and current barriers to the continued development and acceptance of Applied Behaviour Analysis in Romania.

Development and dissemination of behaviour analysis training and credentialing in the Czech Republic

JANA GANDALOVICOVÁ
Neil Martin

A history and overview of developments with regard to BACB credentialing in the Czech Republic will be provided, including data for numbers of students, numbers of certificants, and current barriers to the continued development and acceptance of Applied Behaviour Analysis in the Czech Republic.

#17 Symposium: Animal models of Attention Deficit/Hyperactivity Disorder (ADHD)
Room M0.11
Chair: CARLOS F. APARICIO

This symposium analyses delay discounting in Spontaneously Hypertensive (SHR) and Lewis (LEW) rats, two rodent models of attention deficit/hyperactivity disorder (ADHD). One aim is to show that rats learn to choose impulsively regardless of their neuro-physiological conditions. Another aim is to prove that delay discounting and timing are interrelated; food delivery induces activities like polydipsia, which is linked to motor

impulsivity; but polydipsia is not a predictor of cognitive impulsivity. The last aim is show that models of intertemporal choice and the Generalized Matching Law, fit discounting data well. To accomplish these aims, we present the findings from studies showing that: (1) discounting rate (k-estimate) and sensitivity of choice to immediacy reinforcement (s-estimate) increase as a function of training, (2) the SHRs choose more impulsively than the LEWs, (3) temporal discriminations determine delay discounting, (4) estimates of discounting rate and sensitivity to immediacy of reinforcement are positively correlated, (5) Akaike's index indicate that the hyperbolic-decay model is the preferred model of choice fitting discounting data from nonhuman animals and (6) polydipsia and delay discounting are inversely related.

Experience in the impulsive task determines discounting rate of delayed reinforcers

CARLOS F. APARICIO
Malonson Malana

It has been shown that the organism's experience in the impulsive task determines the rate at which it discounts delayed consequences. We extended the generality of this finding to the study of impulsive choice using two rodent models of attention deficit/hyperactivity disorder (ADHD), the Spontaneously Hypertensive (SHR) and the Lewis (LEW) rat. We examined the discounting functions that these strains of rats produced on concurrent-chains schedules, where the initial-link arranged a choice between a smaller-sooner (SS) and a larger-later (LL) reinforcer; with one terminal link delivering the SS immediately and the other terminal link delaying the LL. Several models of intertemporal choice and the generalized matching law fitted the data from the SHRs and LEWs well. Discounting rate (k) and sensitivity to immediacy of reinforcement (s) increased as a function of extended training; estimates of k were positively correlated with those of s, suggesting compatibilities between models of choice. It is concluded that the behavior pattern labeled impulsivity changes as a function of learning.

Animal models of ADHD, impulsive choice, and discounting rate

CARLOS F. APARICIO
O'Brien Kayla

The spontaneously hypertensive rat (SHR) is a rodent model of attention deficit/hyperactivity disorder (ADHD), used to examine aspects of impulsivity characterizing ADHD. The Wistar Kyoto (WKY) rat is the normotensive control of the SHR; but some studies claim that the Lewis (LEW) rat is better control for the SHR than the WKY. We studied the impulsive choices of SHRs, WKYs, and LEWs, using a concurrent-chains procedure that required locomotion. Choice was measured in the initial link with two levers con-

currently available, one lever allowed entries to one terminal link where 1-food pellet (SSF) was delivered immediately, and the other lever entries to the terminal link were 4-food pellets (LLF) were delayed 0.1, 5, 10, 20, 40 or 80 s. Models of intertemporal choice and the general form of the matching law fitted the data from the SHRs, WKYs, and LEWs well, with the former choosing more impulsively than the latter strains of rats. Sensitivity of choice to dynamic changes in delay to LLF increased as a function of extended training, confirming that animals learn to choose impulsively.

Polydipsia and delay discounting

CARLOS F. APARICIO
Desrocher Rebecca

The notion that schedule-induced polydipsia is linked to cognitive impulsivity, but polydipsia is not related to motor impulsivity, was examined in spontaneously hypertensive (SHR) and the Lewis (LEW) rats, two rodent models of Attention Deficit/Hyperactivity Disorder (ADHD). A concurrent-chains procedure arranged 60-choice cycles, each cycle starting with one response on a rear lever, causing two front levers to extend into the chamber to start the choice in the initial link. Entries to one terminal link provided 1-food pellet immediately (SSF) and entries to the other terminal link 4-pellets (LLF) with delays of 0.1, 5, 10, 20, 40 or 80 s randomly presented. A bottle with water could (B) or could not be (A) available in the choice situation according to an ABABA design. The hyperbolic-decay model fitted discounting data well, with the SHRs discounting the LLF more steeply than the LEWs. Both strains drank water during a 1-min blackout separating each block of 10-choice cycles; but the SHRs drank more water than the LEWs, particularly during the delays to the LLF. A negative correlation between polydipsia and discounting rate, suggests that polydipsia is not a predictor of impulsive choice.

Timing, discounting rate, and impulsive choice.

CARLOS F. APARICIO
Paul J. Hennigan

The possibility that the organism's wrong discrimination of time causes it to discount delayed reinforcers at high rates, was explored in spontaneously hypertensive (SHR) rats responding to positive auto-maintenance and concurrent-chains procedures. With the former, the rats learned to discriminate between 15-s to obtain 1-food and 60-s to obtain 4-food pellets; these intervals were signaled with the left and right levers, respectively, extended into the chamber with a light above them turned on. The concurrent-chains procedure arranged a choice in the initial link between 1-food (SSF) and 4-food pellets (LLF); the SSF was delivered immediately in one terminal link and the

LLF was delayed 0.1, 5, 10, 20, 40, or 80 s in the other terminal link. Three groups of 8-SHRs were exposed to the positive auto-maintenance procedure at different times: (1) prior to the concurrent-chains procedure, (2) 10-months after the concurrent-chains procedure, and (3) 20-months after the concurrent-chains procedure. Comparisons before and after the concurrent-chains procedure, show that discounting rate decreased when the rats were exposed to the auto-maintenance procedure, suggesting that the latter prevents impulsive choice in SHRs.

#18 Symposium: School-wide positive behaviour support: Defining a model and examples of use for UK special schools
Room: M.1.08
Chair: J. CARL HUGHES
1,5 BACB CEUs available

School Wide - Positive Behavioural Support (SW-PBS), originated in the USA in the 1990s in response to a body of evidence that showed improved social and academic outcomes when behavioural interventions were implemented across whole school settings. Much of the research around SW-PBS has come from mainstream primary settings in the USA. With a few exceptions, experience of PBS within UK schools has focused on interventions used to address the challenging behaviour of specific pupils and in many cases these interventions have been conducted in special needs settings. Increasingly, those schools with some experience of PBS are beginning to look at academic and behavioural interventions across the whole school setting, adopting key elements of the SW-PBS model adapted to their own environments. The first talk in this symposium starts with outlining the rationale for a special schools' model of SW-PBS and illustrates the ways in which this can be adjusted to meet the specific needs of each setting. Following this paper 2 and 3 describe examples across the UK where the model has been used. Talk 4 is a discussion of the three talks and offers the opportunity for audience discussion of the relevance of SW-PBS to the behaviour analysis community.

Defining a school-wide positive behavioural support model for UK special schools

J. CARL HUGHES

In 2017 the BBC identified 13,000 occasions in the past three years in which physical restraint was used in special schools in the UK. In 2017 UK Government published draft guidance on reducing restraint and restrictive intervention and cited Positive Behavioural Support (PBS) as an evidence-based approach to support those who display challenging behaviour. From an academic perspective, less than 5% of children in special school will leave school with functional reading skills. School Wide-Positive Behavioural Support (SW-PBS), a model derived from Applied Behaviour Analysis, originated in

the USA in the 1990s in response to evidence that showed improved social and academic outcomes when behavioural interventions were implemented school-wide. However, much of the research around SW-PBS has come from US mainstream primary settings. In this paper, we describe a special schools' model of SW-PBS relevant to the UK and present it as a decision-making framework that can be used to create positive learning environments relevant to the behavioural and learning needs of all pupils, across diverse settings. In this talk we focus on describing the three-layered 'triangle of needs' approach to decision making typically used within a SW-PBS approach that has derived form a Response to Intervention (RtI) model common in other helping professions.

Developing universal support and examples of interventions that might be appropriate to special school settings

ANDREAS PARIS

The focus of SW-PBS is applying the science of behaviour across whole-school systems to help maximise every child's potential within the constraints of funding models and access to relevant expertise. The first level of support, "Universal supports" are school or classroom-wide systems that apply to the whole school or class population. The aim is to create a supportive teaching and learning environment for all staff and pupils. In this talk we outline a case example of how we have attempted to develop a Universal Support approach in a large special education setting in the UK and discuss how this might be relevant to other similar settings. We also discuss examples of evidence-based approaches and interventions, many of which have derived from Applied Behaviour Analysis, that might be appropriate and practical for special education settings and how they might fit into the triangle of needs model.

Targeted and specialist support examples of school-wide positive behaviour support in special school settings

KATY LAMBERT-LEE

The second and third level of a triangle of needs are the Targeted supports and Specialist supports respectively. In this paper we describe two examples of using these levels of the triangle of needs. Targeted support represents moderately more intensive supports for that proportion of pupils, or for an identified collection of behaviours or learning needs across the school, for which universal supports may not be enough. Targeted behaviour supports focus on practices that address the most common needs of pupils with behaviours and academic support that are barriers to their learning, and often mean providing small group teaching and intervention specifically designed

for pupils in a specific subject area. Specialist supports more intensive individualised interventions based upon pupil assessment. Pupils will have individual support plans that address their specific needs including academic, behavioural, physical and mental health and wellbeing and considers the context in which support is given. We also outline the development of both targeted and specialist support and how they might be appropriate to other similar settings.

#19 Symposium: From individual responses to social systems
Room M.1.07
Chair: FREDERIK DALE

This symposium discusses cooperation and coordinated responses in the context of metacontingencies and macrobehavior, from a conceptual and experimental perspective. The first presentation will be an overview of the concept metacontingencies and how it can contribute towards a multilevel approach to social systems. The second presentation introduces experimental data on interlocking behavioral contingencies (IBCs) under concurrent schedules of positive reinforcement. The third presentation explores possible experimental manipulations under concurrent schedules of positive and negative reinforcement. The final presentation considers cognitive biases from an evolutionary point of view.

Coordinated responses and discriminative control; towards a multilevel approach to social systems

KALLIU COUTO
Ingunn Sandaker

In dealing with challenging social issues, authorities often trust in information and education eventually causing rational behavior in populations. From a behavioral perspective, however, contingencies have to be changed before one may expect changes in behaviors. The concept of metacontingencies and macrobehavior, as described by Glenn, both highlight the importance of contingencies of reinforcement for changing large scale behaviors. Both concepts represent a selectionist perspective on behavioral change. Metacontingencies, as opposed to macrobehavior take, however, the coordinated behaviors of individuals into the equation. This paper will discuss the importance of coordinated behaviors and cooperation as a fundamental process in changing social systems.

Coordinated responding under concurrent variable-interval schedules of reinforcement

FREDRIK DALE
Kalliu Carvalho Couto
Lucas Couto de Carvalho
Samantha Kelly Berge
Ingunn Sandaker

In operant conditioning, a behavioral class is selected because of the relation between an organism's behavior and environmental events. In some situations, organisms coordinate their responses in interlocking behavioral contingencies (IBCs), producing an aggregate product (AP) which would not be possible by the simple sum of organisms' behavior. The relationship between IBCs, AP and a selecting environment can be defined as metacontingency. The present paper shows results from three experimental groups in which 12 pairs of participants coordinated their behavior to respond to concurrent variable interval (VI) schedules of reinforcement. Pairs played a game on a 12x12 virtual chessboard on a computer. Two quadrants of the chessboard formed areas where points could be attained contingent on each player's playing piece being placed on an adjacent square to the other's during the VI schedule requirements of that quadrant. Results show that relative rates of coordinated responding matched the relative rates of reinforcement under the VI schedules for most of the pairs of participants. This suggests that coordinated responding of individuals in pairs may be sensitive to rates of reinforcement and that the generalized matching law may account for the establishment and maintenance of metacontingencies.

Cooperating under concurrent schedules of positive and negative reinforcement

SIGRIDUR SIGURJONSDOTTIR

There is a wide consensus that positive reinforcement (R+) is to be preferred when arranging for behavior change. Negative reinforcement (R-) is said to hinder performance and elicit unwanted responses. There have been objections to the consensus within our field, and other fields report opposite research results. There the consensus seems to be that "bad is stronger than good" and influential scholars advise the use of aversives when managing large groups of people towards improved "health, wealth and happiness. In order to understand better functions of R+ and R- concurrent schedules seems to be a viable option, since they directly compare the effects and the results can be compared to a solid body of research within our field. To the presenters knowledge there are only a few recent experiments and none of them include cooperative responses. This presentation will give a summary of published research, suggest further experiments, and introduce the procedure and preliminary results of an experiment using concurrent schedules of R+ and R- to reinforce coordinated responding.

A behavior analysis of the origin of biases

JAN WRIGHT

Abstract The origin of human fallacies with reference to behavior analysis and evolution is discussed. It is argued that cognitive biases often are characterized by respondent behavior in the initial part of a behavior chain, followed by operant, automated behavior. An explanation of the origin of biases should be related to adaptation and evolution, i.e. the effects on variation and selection. To explain why biases are so resilient, endemic and difficult to change should be based on the degree of intermittency of reinforcement schedules of respondent and operant components of the biases. Two biases are proposed as fundamental for adaptation: optimism and confirmation. The overconfident individual, as most people are, will initiate more activities than a rational, utility-maximizing agent, thus enhancing variation for selection to work on. The learning capability known as classical conditioning emerged in animal life on earth, probably hundreds of millions of years ago. This was an important adaptational feature since most animals are capable of this type of learning, pointing to a common ancestral lineage. The billions of repeated pairings of unconditional and conditional stimuli for millions of generations confirmed the unconditioned stimuli as a substitute, establishing the foundation for the confirmation bias as an inherited disposition. The bias was further strengthened when operant conditioning, language, and rule-governed behavior emerged.

#20 Paper Session:
Room M.1.09
Chair: AMY TANNER

Treating autism symptoms in infancy through parent-mediated intervention

AMY TANNER
Katerina Dounavi
0,5 BACB CEUs available

Recent research suggests autism symptoms can emerge as early as 6 months of age and are reliably detected as early as 12 months of age. Early Intensive Behavioral Intervention is the most established intervention for preschool aged children with autism, however best practices for intervention to treat autism symptoms in infancy are still under study.

The present study uses behavior skills training to teach parents how to implement parent-mediated behavioral intervention strategies with their infants who are showing signs of autism. Ten parent/infant dyads participated in a 12-week intervention consis-

ting of 1-hour weekly parent-coaching sessions focusing on using daily routines, such as mealtimes and play, to teach imitation, joint-attention and verbal behavior to their infants who ranged in age from 7-18 months. Five-minute videos were recorded at the start of every session and scored using partial interval recording for the presence of target behaviors. Two parent and three infant target behaviors were targeted throughout 12 sessions.

Results are promising and will be discussed in terms of acquisition of target behaviors, reductions in autism symptoms using a low-intensity parent-mediated behavioral treatment model and social validity.

A systematic review examining the effectiveness of telehealth as a model of training and delivery of behaviour analytic interventions

JANET FERGUSON
Katerina Dounavi
Emma Alice Craig
0,5 BACB CEUs available

Research has indicated that interventions based upon the principles of Applied Behaviour Analysis are considered best Evidence Based Practice (EBP) in the treatment of Autism Spectrum Disorders. These interventions require the supervision of professionals educated to Master's level and the completion of a lengthy period of supervised field practice. Due to a shortage of sufficiently qualified professionals, other intervention delivery models should be explored, one of which is telehealth. Telehealth utilises internet and telecommunications technology to provide remote training and supervision of ABA interventions.

The purpose of the present study was to systematically review and synthesise the extant literature researching telehealth practices in the provision of behaviour analytic interventions to individuals with ASD. The main intervention components, key outcomes and overall quality of each study were analysed in 28 eligible studies, allowing for gaps in the literature to be identified. Overall, outcomes of interventions delivered through telehealth appeared to be favourable with all 28 studies reporting improvements in at least one participant variable and 17 studies reporting improvements in all variables for all participants. However, quality ratings across studies were significantly low with all but one studies being rated of weak quality. Implications for future research and clinical practice are discussed in light of identified methodological downfalls.

Tele-health as a parent training platform to teach verbal operants to a child with autism

GITA SRIKANTH
Swati Narayan
0,5 BACB CEUs available

Technology has resulted in the emergence of Whatsapp and FaceTime as competitive alternate training platforms to in-person training sessions. The wide reach of Internet based technology has made Tele-health an effective and low-cost method of training parents as interventionists using the principles of Applied Behavior Analysis (ABA) for children with Autism Spectrum Disorder (ASD). The parent of the 6-year-old child with autism was trained to work on a given set of goals based on the VBMAPP (Verbal Behavior Milestones Assessment and Placement Program) assessment. The treatment package consisted of in person training, watching the session over video call, playback of recorded footage and self-evaluation, both in person and using email. The objective was to shape the parent's teaching skills in using Verbal Behavior with the child, with a specific focus on contingencies for delivery of reinforcement, and application of extinction procedures. Results show that following the model, treatment fidelity improved, and the child's inappropriate behaviors decreased, with an increase in rate of skill acquisition. The child began displaying use of novel language that was not limited to the teachings but generalized across contexts. These results suggest that use of technology in implementing ABA services can serve as a low-cost tool to effectively empower parents as interventionists.

#21 Keynote Address: When it comes to best practices in instruction, remember to be like Kevin Bacon!
Room M.-1.07
Chair: Christos Nikopoulos

About Nancy Marchand-Martella
Dr. Nancy Marchand-Martella is the Chair of Educational Psychology and Professor of Special Education at the University of Oklahoma, teaching classes in academic remediation with a focus on reading, writing, spelling, and mathematics interventions. She has more than 30 years of experience working with at-risk populations and more than 180 professional publications credited to her name. She is a board-certified behavior analyst and an author of Multiple Meaning Vocabulary published by Sopris West/Cambium Learning and an SRA/McGraw-Hill author of Lesson Connections and Core Lesson Connections for Reading Mastery Signature Edition and adolescent literacy program Read to Achieve. She is co-author of the digital, print, and project-based SRA FLEX Literacy that is used throughout the U.S. and three territories.

Abstract
If there is one single feature of instruction that improves academic achievement, it is increasing the level of explicitness of how we teach. Unfortunately, explicit and more intentional instruction is often treated as a second-class citizen in many teacher education programs. This session will highlight the elements of explicit instruction wrapped around a movie clip featuring Kevin Bacon.

#22 Poster Session:
Room: M.-1.05/06
Chair: Erik Arntzen

1. Promoting hand sanitizer use in a university cafeteria

CHRISTOPH BÖRDLEIN
Hanna Zwingmann
Katrin Salzinger
Kerstin Njeri
Sarah Tozman

Hand washing is the most cost-efficient method to lower the risk of transmission of infectious diseases. Especially before eating in public places like cafeterias, hand washing is recommended. Often people don't wash hands before eating because of the response effort connected with going to the bathroom. As an alternative way to improve hygiene, disinfection with a hand sanitizer gel is recommended (Fournier & Berry, 2012). The authors of the current study used an A-B-BC-A design with prompts and feedback with goal-setting to increase the number of cafeteria patrons using hand sanitizer. Dispensers for hand sanitizer gel were placed at the entrance area of a university cafeteria. After baseline measurement, a poster explaining the usefulness of hand sanitizing was posted near the entrance to the cafeteria. This led to a doubling of the percentage of cafeteria patrons using the hand sanitizer. A second poster provided feedback about the percentage of patrons sanitizing hands and asked for more participation. This led to no further increases in hand sanitizing.

2. ABA treatments in Autism Spectrum Disorder: Trend of scientific publications by Italian Authors from 2002 to 2016

ROBERTO TRUZOLI
Marta Cazzato

In the last few years, in Italy the appeal of Applied Behavior Analysis (ABA) treatments is growing. Despite this positive development, there are several limitations. Researches in ABA is limited because there are 1) a widespread psychodynamic tradition, and 2) a lack of familiarity of researchers with the analytical behavioral methodology. Furthermore, training opportunities are only private with costs that are not always accessible. Search for grant for the promotion of ABA would be a strategy to overcome the limits highlighted. It should also be remembered that the impact of the Italian researches in the field of experimental and applied research is not clearly defined. In the aim at helping to filling the gap of the Italian contribution to the scientific literature on intervention for autism, the goal of this study was to evaluate the impact of the Italian researches in the international scientific journals in the last 15 years, by assessing the published article of the Italian authors of ABA interventions. The research has developed by matching in literature several keywords. Then, a further categorization has been applied on different related issues. The results (27 publications) confirm that the Italian contribution to the scientific research on the topics is not very relevant. All authors are employed in Italian institutions, but 8 publications have a collaborator in Germany, one has collaborators in Spain, and three are part of international networks (2 in USA and 1 in Israel). Despite the limited number of articles, the trend is growing and supports positive expectations.

3. Pilot study: Effect of a weekend toilet training for children with Developmental Disabilities

MATTHIJS WEIJERMARS
Bibi Huskens
Pieter C. Duker

Introduction.
Individuals with developmental disabilities (DD) seldom attain continence for urine through maturation without one-to-one training. Most studies focused on the efficacy of training procedures to establish diurnal bladder control (Azrin & Foxx, 1971; Duker, Averink, & Melein, 2001). A few studies focused on the influence of participant variables, such as stereotypic behaviour and housing condition, on the (long-term) effectiveness of the training procedure (Van Oorsouw, Duker, & Melein, 2009). The duration of toilet training varies among procedures but is mostly lengthy. In a pilot study we

explored the effect of a short weekend toilet training using Response Restriction (Duker et al., 2001; Averink, Melein, & Duker, 2005) on individual's self- initiated toileting and the number of urinary accidents.
Method.
Data of five participants with DD, aged 5-13 years, were collected in a non-concurrent multiple baseline design. The frequency of urinary accidents and self- initiated toiletry in baseline, intervention and post-intervention were visually and statistically analysed. Statistical analysis consisted of calculation of Taunovlap.
Results.
The major findings will be presented at the conference in our poster presentation.

4. The role of parents in home-based ABA programmes

HELENA VADUROVÁ

In the Czech Republic, applied behaviour analysis is an evolving field. Currently, only handful of certified behaviour analysis and centres operate throughout the country. Therefore, families seeking ABA interventions commit themselves to home-based programmes. However, it is a rather novel experience in our country requiring great financial and time commitment on the part of the family. And furthermore, the position of ABA intervention needs to be defined in the current educational system. How do families cope with the new situation? In what ways do they take part in the programmes? How do they evaluate their experience? What facilitators and barriers do they identify in the process? These are the questions we were seeking to answer via interviews with parents who have been involved in a home-based ABA programme for more than one year.

5. The impact of novel stimuli on acquisition of conditional discrimination with an 11-year old boy with autism having a failed history of discrimination

SMITA AWASTHI
Vashisht Shushma

Learners with developmental disabilities need specially engineered environments to acquire listener responding skills (Drash & Tudor, 1993; Lovaas, 1977). Ash, an 11-year old boy with autism had profound difficulties in within-class audio-visual-conditional discrimination of picture stimuli. He failed to acquire discrimination involving match to sample (Saunders & Spradlin, 1989), differential observing response using signs, and avoiding targets with a history of errors (Grow & LeBlanc, 1998). This experiment used novel stimuli with and without manual-signs with 8 fruits, 4 animals and 4 colour stimuli. Results showed rapid acquisition of conditional discrimination within 6-19 days

on a 5-Y mastery criterion. IOA on counterbalanced assessment was 100%. Follow up conducted 3 months later demonstrated retention of all targets. The study is continuing with stimuli with prior history of failure. The results suggest that novel stimuli with no prior history of failures taught using block of trials were effective in learning discrimination within class. Manual-sign cues had no effect on acquisition rates.

6. A self-control choice paradigm including loss of rewards: Effects of type of hypothetical rewards

AYA KATAYAMA
Daisuke Saeki

Many examples of self-control choice include giving up (loss of) a smaller-sooner reinforcer to realize a larger-later reinforcer. However, previous studies on self-control choice have not included this factor. In a new paradigm of self-control choice situation used in the present study, participants chose between a smaller-immediate loss/larger-later gain (Sl/Lg) alternative and a smaller immediate gain/larger-later loss (Sg/Ll) alternative. When participants chose the Sl/Lg (or Sg/Ll) alternative, a hypothetical small reward was subtracted from (or added to) the counter in each trial, and after 10 trials, a hypothetical large reward was added to (or subtracted from) the counter. In this new paradigm, we investigated the effects of type of hypothetical rewards (point and money) on self-control choice. As a result, choice proportion for the Sl/Lg (self-control) alternative was higher in the point condition than in the money condition, the difference was marginally significant. This result suggests that participants in the money condition might prefer impulsive choice because money, unlike point, could function as a discriminative stimulus for consumption behavior in real life.

7. Dogs as an alternative to the rat lab for teaching Behaviour Analysis

MIRIAM GARCIA-MIJARE
Nicole Meyi Shimabukuro
Bruna de Freitas Sym

Since 2015 the Department of Experimental Psychology at the University of São Paulo has been teaching the practical part of the undergraduate course "Experimental Analysis of Behaviour I: Basic Principles" (EAB I) in the dog shelter of the Campus City Hall. The main objective of this study was to evaluate the adequacy of those practices with dogs for teaching EAB and compare them to the traditional rat lab classes. 215 undergraduate students attended EAB I course in 2015, 2016 and 2017 (99 attended the Rat lab and 116 the Dog Shelter). Students from the rat lab were taught to shape lever-pressing and then reinforced it under and CRF, FR2 and multiple FR2-EXT. Students from

the dog shelter shaped and trained the discrimination of the verbal commands "Senta" (sit), "Vem" (come), "Fica" (stay) and "Pata" (paw) and put under extinction inadequate behaviours (ex. jumping, pushing the lead). On the last day of the course, all students filled a semi-structured questionnaire about their learning experience. Quantitative measures (grades from theory and practices, attendance and failure), and qualitative measures (answers to the questionnaire) were compared between Lab and Shelter students. Results indicated that grades and attendance in the course was similar between students attending the rat lab than those attending the dog shelter practices. On the other hand, the scores given to the usefulness of the practical classes for aiding the theory by the dog shelter students were slighter higher than those given by the Rat Lab students. The data suggest that learning to train dogs is an adequate, ethical and promissory strategy for teaching Experimental Analysis of Behaviour.

8. Effects of training on treatment fidelity: Mastering Direct Instruction in teaching reading

GUÐBJÖRG VILHJÁLMSDÓTTIR

Treatment fidelity and integrity is vital to research on the effects of interventions. These concepts refer to measurements on both the accuracy of intervention delivery and on how receivers adhere to instructions. Measurements of practitioner performance are rare. The same applies to research studies of the effect of interventions. Fidelity measurements provide information that increase generalizability of research findings and can be found useful in praxis when providing feedback to executors. The purpose of this study was to examine whether the provision of training on a regular basis could increase treatment fidelity of three teachers using Direct Instruction (DI) in teaching reading to first graders. A multiple baseline across subjects experimental design was used to measure the effect of training teachers to use DI. Training consisted of three variables: modeling, rehearsal, and feedback. The three variables were used simultaneously and the effect of each one was therefore not measured separately. Teachers' treatment fidelity was measured using a tool based on Corrective Reading Decoding Fidelity of Implementation Observation Checklist by Benner, Nelson, Stage and Ralston (2011). The teachers reached the set goal of 80% treatment fidelity and maintained their performance scores throughout the study. When teachers had reached the 80% fidelity goal, training was systematically reduced.

9. Probability discounting in a game situation VI: Is the asymmetry between gain and loss replicated through repetitive sessions of choices?

TOSHIHIKO YOSHINO
Hiroshi Yamashita
Chifumi Yoshino

We have demonstrated the following aspects of probability discounting of the gain and loss;
1) Asymmetry between gain and loss was obtained in an ordinary survey and in an experimental situation with real food.

2) A game situation that we developed yielded more valid and reliable data than a survey situation.

3) Discounting ratios changed with repeated game sessions. These results, especially the third, imply that the results on probability discounting accumulated so far, may contain unstable data and, therefore, conclusions based on those data should be re-examined. In this study, we examined if asymmetry between gain and loss in the game of probability discounting is observed through a series of repetitive choices. University students participated in a series of 24 sessions of computer-based games. Half of 24 sessions consisted of a point-gain game (GG), and the other half a point-loss game (LG). Every other day, the GG and the LG alternated. When a fixed alternative was chosen, a fixed point (1 – 9) was added to (or subtracted from) the score. Whereas when a variable alternative was selected, 10 points or nothing was accumulated (or subtracted) depending on the result of a draw (10 - 80 % of chance to win). The participants were instructed to get as many points as possible in GG and to minimise point loss in LG in each session. Results and their implication will be discussed in the presentation.

10. Development of a quality checklist for ABA-based training programmes

ANNEMIEK PALMEN
Bibi Huskens
Ellen Verhoeven
Hubert Korzilius

Background: In persons with ASD, adaptive functioning is a relevant factor in achieving better outcomes and better quality of life (e.g., Billstedt et al., 2011). Interventions based on the principles of Applied Behavior Analysis (ABA) have the largest preponderance of evidence in adaptive skill building in young people with ASD (with/without ID) (e.g. Wong et al., 2015). In the USA, ABA-based interventions are considered 'treatment as usual' for persons with ASD. In Europe however, an eclectic approach is more usual (e.g., Keenan et al., 2014). Also, in the Netherlands clinical programmes that intend to be ABA-based often have eclectic characteristics (Neidt & Schenk, 2012).

Objective: The aim of this study was to develop a quality checklist for identifying key components characteristic for ABA-based training programmes. Such a checklist seems a relevant tool in developing and improving ABA-quality of interventions on skill building.

Methods: In selecting the first item-pool we used criteria of the Behavior Analyst Certification Board on qualifying behavior analysts (BACB, 2012). In determining face- and content validity we used the Delphi-method consulting ABA-experts. Interrater-reliability of the first version of the checklist was also assessed.

Results: Results are presented and conclusions and recommendations for further research will be given.

11. Effects of continued training on teachers' treatment fidelity when using Direct Instruction and fluency training in reading

MARIA ARNDAL ELINARDOTTIR

Treatment fidelity refers to the degree to which treatments are implemented as planned, with accuracy and consistency by a trained professional. In behavior analysis the goal is to show that changes in the dependent variable (i.e., the target behavior) are functionally related to systematic changes in the independent variable (i.e., the intervention). The conclusion regarding the presence of a functional relationship between an independent and dependent variable can only be valid if treatment fidelity is measured. When evidence-based teaching methods are used in teaching, they should be implemented according to a plan and the effectiveness of the intervention assessed. Direct staff training methods have been shown to be effective in improving initial treatment fidelity. Performance feedback is a well-established and researched method to increase the treatment fidelity level of teachers. The aim of this study was to examine whether it would be possible to increase the treatment fidelity level of teachers, who had one year of experience in applying Direct Instruction and fluency training in reading, with continued training. Training was provided if baseline measurements showed low, or low and variable performance (below a set performance criterion). The training consisted of instruction, performance feedback, and modeling, although it varied which components of the training each teacher received. Teachers' treatment fidelity was assessed with direct observation. The effect of training on the teachers' fidelity to the teaching methods, was assessed with a multiple baseline across subjects design. There was an increase in the treatment fidelity level of every teacher once training began, both

in Direct Instruction and fluency training. The teachers' treatment fidelity remained high once training ceased. The results of this study show that after training for one school year, teachers' treatment fidelity remained relatively high once the second school year began. However, some additional training was needed at the beginning of the second school year as well as continued measures on treatment fidelity after training ceased.

12. A behavioral assisting model for special needs populations during tsunami evacuation

SUJINO TETSUO
Frank Fiedrich

One interesting case about special needs populations during tsunami evacuations is reported after the Great East Japan Earthquake, where a mother – who has an autistic child – helped her child to evacuate with his favorite book. First, the child did not move at all, even after his mother tried to help him to evacuate several times. Therefore, she decided to rob his favorite book and brought it to the shelter and the child followed immediately. At the end both, mother and child survived.

The episode above illustrates the focus of this paper: The author analyzes incentive triggers for special needs populations during evacuations. What are their drivers for evacuation and what makes them to follow orders? Which criteria of decision-making do people with special needs use in order to make decisions and what are their specific shortcomings to overcome?

In this paper, the author analyzes these problems from different angles. He introduces a new set of categories and classifications of supporting methods for the evacuation of people with special needs. Both approaches could contribute to the creation of an assisted evacuation guideline for special needs populations in order to support decision makers when it comes to evacuations.

13. The effect of motor curriculum training on motor milestone in students with developmental delays

ADELE CARPITELLI
Valentina Petrini
Claudia Ioria

Psychomotor development is a maturation process that allows children to acquire postural, motor, cognitive and relational skills throughout the first few months and years of life. In typical developing children, progression is steady and continuous, and this essentially depends on the maturation of the Central Nervous System (CNS), with varying

times and modes for each child; however, it is possible to identify milestones that children achieve according to a universally similar sequence (Le Boulch, 2008). Unfortunately, this does not prove to be true for motor development of students with autism or other developmental difficulties; nonetheless, motor activity can represent an important opportunity to develop functional abilities in areas that are most affected by these kind of disorder: communication, social interaction, interests and behavior in general (Pontis, 2011). Curriculum-based assessment can be effective when designing a motor curriculum, as well as for many other developmental repertoires, because it allows to identify a progressive sequence of motor skills, each one of which functions as a prerequisite for the next skill (Deno, 2003). A curriculum-based assessment allows to break down a complex ability (i.e., composite skill) into the sub-skills that compose it, which then can be taught in a progressive succession (Erickson, French & Lanning 2017). In the present study we have investigated the effects of a motor curriculum-based training on the recovery of the deficit developmental milestone in students with developmental disabilities. We compare 2 years of training in two different groups of students; one received curriculum-based training, the other one eclectic training (a combination of methods).

14 „Diverso un ca... lcio": Results after one year from the launch of the adapted soccer pilot project for students with autism

ADELE CARPITELLI
Valentina Petrini
Roberta Tre Re

A comparative study between children with Autism Spectrum Disorder (ASD) and a group of typically developing adolescents conducted by Pan (2008), noted that the first group lifestyle to be more sedentary. This hypothesis was also confirmed by Sowa and Meulenbroek (2012), who underlined how participants with ASD can be considered at risk of important heart diseases, diabetes and obesity, due to a sedentary lifestyle. Many studies support that a good physical aerobic activity level can reduce stereotypic behaviors (Yilmaz, Yanarda, Birkan, & Bumin, 2004) and self-stimulation behaviors frequency (Powers, Thibadeau, & Rose, 1992). Moreover, other research reports the positive effects on social behaviors (Pan, 2010), communication (Hameury, Delavous, Teste, Leroy, Gaboriau, & Berthier, 2010) and academic skills (Nicholson, Kehle, Bray, & Van Heest, 2011). Bremer, Crozier, and Lloyd (2016) conducted an interesting review to investigate the impact of physical and sport activities on the behaviors of students from 0 to 16 with ASD. However, literature does not report studies that include children or adolescents with ASD and low levels of functioning, probably because including them in structured sports activities may involve various difficulties. The purpose of this study was to investigate the relation between the implementation of physical activity and weight loss, decrease of disfunctional behaviors and increase of social and pro-social behaviors in children and adolescents with ASD.

15. Behavior analysis for children with differential susceptibility

MILA MARINOVA

People differ in their susceptibility to influence of the environment. Children who are particularly responsive to environment can be strongly affected in a negative way not only by adversity, but also by conditions and situations which would usually not be recognized as harmful by both parents and professionals, nor would those conditions and situations harm most of the children exposed to them. The results for the susceptible children can be depression, externalized behaviors, anxiety, school drop-out, etc. Those unwanted behaviors, due to biologically conditioned high sensitivity to environment (diathesis-stress or differential susceptibility), could very much be prevented or changed if professionals and parents can identify that kind of susceptibility early enough and offer appropriate child care.

The presentation will introduce an assessment model, which combines a feasible, affordable medical test and behavioral assessment, and an intervention model, focused on parental and child training, based on behavior analysis principles.

16. A comparison of different treatment for change fruit and vegetable consumption in a child with autism

SILVIA CAU
Ylenia Flore
Giovambattista Presti
Paolo Moderato

Escape extinction (EE) is effective to treat food selectivity in children with ASD. However, EE may have side effects and be difficult to implement in the home setting. In this study three different treatment packages, alternative to EE, were compared in a multiple treatment reversal design. A 7-year-old boy with ASD was referred because of his escape and avoidance behaviors when asked to ingest FV. Treatments (videomodeling [VM] alone, VM + in vivo modeling + social reward, in vivo modeling + social reward) were provided by an applied behavior analyst in training. Treatment outcomes were: approaching behavior (smelling, touching with hand, touching lips with a piece of food, taste of a small bite), consumption (number of bites, grams), avoidance (expelling food or pushing it away, saying no or other words with the function of remove food and request of eating the food, negative comments). More than 6 food were targeted and other 10 food were used as control food, a generalization measure in the form of other foods consumed outside the training setting was also collected. Results showed all the interventions were effective in increasing consumption, but VM alone was less effective in increasing intake of food less consumed during baseline.

17. The effects of multiple schedules on high rate requesting

JAMEE BUCK

Multiple schedules of reinforcement were assessed using similar procedures to those used by Tiger, Hanley, and Heal (2006); Landa and Hanley (2016) to minimize high-rate requesting in children. Multiple schedule procedures have been observed to have utility in various social contexts as they teach learners to only request attention when it is available. This research used a typically developing single subject. Schedule correlated stimuli were used as a continuous discriminative stimulus serving as a visual cue to the participant whether his requests would be granted or not. Stimulus control was achieved when the participant was observed to make a minimum of ninety-percent of his requests during reinforcement components and no more than ten-percent of requests during extinction components.

18. The perception of barriers and support of effective practices of applied behavior analysis as perceived by non-arab ABA therapist working in Saudi Arabia and United Arab Emirates

SHAYMA QAHWAJI

The field of Applied Behavior Analysis is a relatively new field that started in the 1960s in the Western society, and even newer in Saudi Arabia and United Arab Emirates. The purpose of this study was to explore the perceptions of non-native Applied Behavior Analysis therapists working in Saudi Arabia and the United Arab Emirates regarding barriers and supports of effective practices in Applied Behavioral Analysis with clients who have Autism Spectrum Disorder. This study compared the responses elicited from surveys as well as face-to-face interviews with Arabic speaking ABA practioners non-Arabic speakers who are Applied Behavior Therapists working in these two countries.

19. Using a new box displacement test to study problem solving with rats

MIRIAM GARCIA-MIJARES
Rodrigo Harder Ferro Dicezare

Epstein et al. (1984) developed the procedure "box displacement test" (BDT) to study insightful problem solving (i.e. emergent behavioral sequences) by pigeons. Using this procedure, it has been demonstrated that pigeons and primates, but no rats, showed emergent behavioral sequences to solve the problem, after they learned the pre-requisite behaviors. We proposed that the traditional BDT procedure is inadequate for testing rats, as it does not consider the visual and perceptual characteristics of those

animals. The aim of this study was to develop a BDT procedure that allowed to study emergent behavior interconnection in rats. Two rats were trained in separate sessions to (a) push a cube to one of three randomly assigned lightened compartments, and (b) to climb on a static cube to reach a platform and take the cereal that was on it. Then, a new configuration of the chamber was presented: the reinforcer was on the platform, but the cube was allocated far from the platform, and the compartments were absent. Both rats solve the problem (i.e. got the reinforcer) by pushing the cube close to the platform, climbing it and reaching the platform. So, both rats emitted untrained behavioral sequences similar to those observe with pigeons. The results indicated that this new procedure is a better choice to study problem solving by rats than the traditional BDT procedure.

20. The effect of visual feedback in staff training

ABHYUDAY SHANKAR AWASTHI
Smita Awasthi
Papiya Mukherjee
Shushma Venumadhava

Staff training in behavioral skills training in remote areas devoid of behavior analytic services are essential for the delivery of effective evidence-based interventions for children with autism and other developmental disabilities. Active didactic training methods including role modeling, video modeling (Moore et al., 2007) have been supported by evidence. Training package consisting of instruction, feedback, rehearsal and modeling produced rapid improvements in implementation of DTT (Sarokoff & Sturmey, 2013). The current study included presenting visual feedback to four para-professional trainers working with children with autism. The target behavior included increasing number of teaching trials in two trainers and treatment integrity in another two. Visual presentations were made with large data points represented on line graphs. Results suggest a three-fold increase in teaching trial in two trainers within 4 sessions and an 80% improvement in treatment integrity in the remaining two in 8 sessions. While reactivity effect may be a confound the effect of visual feedback seems an effective strategy ffor staff training.

21. Effects of a „distracting activity" on self-controlled eating behavior

RAUL AVILA
Ortega Beompsicol

Self-controlled eating behavior occurs when a subject does not eat food available until a pre-established criterion is reached. It was suggested that to emit a distracting activity while food is freely available could facilitate the occurrence of self-controlled eating behavior. This possibility was evaluated with twelve pigeons that were exposed to a 64 s time cycle (T) in which food was presented for 3 (SR1) and could be presented for other 3 s once the T cycle elapsed (SR2), according to the following contingency: trying to eat during SR1 interrupted it and cancelled SR2 presentation; otherwise, eating behavior during SR2 could occur. According to a factorial design the contribution of the following variables was explored: 1) Previous training or not training of key pecking. 2) An ABA or a BAB order of presentation of the following three conditions: A) SR1 presentation signaled by a 3 s change in the key color from red to green, B) SR1 presented without any signaling stimulus, A) SR1 presentation signaled again. Each condition was in effect for 20 sessions of 50 T cycles each. The previous key-pecking training resulted in a low or high level of the number of SR1 interruptions (A or B conditions) and a correspondingly high level of R>0 in the A conditions. Without previous key-pecking training there was no effect of signaling SR1 presentations, regardless of the ABA or BAB sequence. It was concluded that self-controlled eating behavior was facilitated by explicit training of a distracting activity that occurs concurrently with food availability.

22. Precision Teaching: Fluency-based teaching phonics to primary school aged children with autism

SAVANNAH WOODS

Learning to read is an important life skill, but most individuals with autism struggle with reading skills and require extra support to learn this skill. Phonetic awareness is a crucial skill in learning to read. Research suggested that Precision Teaching and fluency-based teaching were effective with typically developing children and children with learning difficulties. The present study investigates Precision Teaching as a fluency-based strategy to teach phonics, according to the phases in the Letters and Sounds package that is used in some schools. Within Precision Teaching, a timer is set for 1-minute and the individual is timed and the amount of responses that are correct and incorrect are recorded. SAFMEDS (Say All Fast, a Minute Each Day Shuffled) flashcards were used with each phonic printed. Practice takes place before and feedback given after on phonics that were incorrect at baseline and previously incorrect. Two children participated in the study who struggled with phonetic awareness and had a full diagnosis of autism. It was found that both children

improved their ability to recognise phonics. Post-intervention tests found that the skill was maintained, stable in different environments, able to respond correctly in an increased time limit, and applied to new stimuli. However, there were a few issues with generativity and the children struggled with sounding words out and applying the skill in this environment. This research has demonstrated that Precision Teaching is effective in teaching phonetic awareness with children with autism and adds to the current literature base.

23. Interventions for self-injury in adults with autism - A survey of residential care facilities

NATALIE WERNER
Pia Bienstein

Individuals with autism and intellectual disabilities (ID) have a high risk of developing self-injurious behaviors (SIB). The guideline "Intellectual disabilities" (2014) of the Association of the Scientific Medical Societies in Germany recommends a multimodal diagnostics and treatment approach to SIB including behavioral interventions based on the operant function. It is yet unknown to what extent these measures are implemented in German residential care facilities.

We conducted a survey to collect data on multiple research questions regarding SIB in adults with autism and ID (prevalence, function of SIB, treatments). This presentation addresses the question which measures are taken by residential care facilities to assess and reduce SIBs. Between October 2016 and January 2017, a total of 63 facilities completed N = 256 questionnaires about individual residents with SIB. The survey included an ad-hoc checklist that allowed residential staff to indicate which diagnostic and treatment elements were implemented by the facility.

The key results are as follows: For half of the residents, a medical or psychiatric diagnostic was implemented during the last 12 months. For 38%, behavioral observations about antecedent events and consequences were conducted. For 70%, psychopharmacological medication was administered to reduce SIB, while for 13% psychotherapy was reported. Most commonly (73%), residents received non-pharmacological therapies that did not focus on SIB like occupational therapy, music therapy, hippo therapy or physical therapy. For 67%, the facility implemented some kind of systematic strategy to reduce SIB, and those strategies were reported to be "behavioral" in nature (e.g. systematic reinforcement, positive behavior support) in 36% of the cases.

The study offers a unique insight into treatment strategies implemented within German residential care facilities. However, results must be interpreted with caution since the sample is not representative of all facilities housing adults with ASD and ID, and psychometrical properties of some of the survey instruments are unknown.

24. Bridging the gap: Improving wellbeing in young adults and teenagers with intellectual disabilities with a comprehensive ABA intervention

ROB CATTIVELLI
Nicola Maffini
Stefania Azzali

Intellectual Disability is a chronic medical condition, often related to genetic diseases, autism spectrum disorder, eating disorders and other medical conditions. Many individuals affected by Intellectual Disability experience wellbeing impairment. Applications of Behavior Analysis, Contextual Behavioral Science and Functional Contextualism are often used directly with intellectually disabled adult to improve autonomies, decrease problem behaviors and increase quality of life, but rarely applied to the whole system, including staff management and to promote data based clinical decision. We tested various applications of Multiple Exemplars Training and Relational Training to increase compliance in subjects with moderate to mild intellectual disabilities, to increase pro- and participation. Preliminary findings suggest that the subsequent introduction of the single components of modular interventions is consistent with better long-term outcomes and broaden extension of the effect to respond never directly reinforced. Promising results are discussed.

25. Switch-time relates to choice in temporal discrimination

RENATA CAMBRAIA
Marco Vasconcelos
Armando Machado

Timing intervals in the seconds range is usually observed by response-rate during an interval (e.g. fixed-interval schedule) or by discrimination between two or more intervals (e.g. bisection task). In a temporal bisection task, subjects typically produce one response at the end of an interval, indicating whether it is "short" or "long". Although this task is widely used in timing studies, its major setback is the lack of information regarding the subject's behavior throughout intervals. The present study aimed to compare behavior during interval presentation to proportion of "long" responses. Human participants were presented with a novel bisection task, a computer game in which they had to move a spaceship sideways and shoot the alien on the left for a 1-s sound (short sample) and the alien on the right for a 3-s sound (long sample). Motion patterns were recorded throughout trials. Participants quickly learned to move to the left-short side at trial onset, remain a few moments, and switch to the right-long side on long trials. As in a previous study with pigeons, switch time predicted final choice.

26. Increasing compliance with liquid medication administration

RANA SAMIH KASHEF
Sean Heaney

Previous research has demonstrated that stimulus fading combined with positive reinforcement has been successful in establishing compliance with liquid medication administration for individuals with autism (Schiff et al., 2011). The current study replicated procedures established by Schiff et al. (2011) with a 6-year old boy with autism. Using a modified multiple-probe design, we systematically faded the proximity of a plastic syringe and the dilution of liquid placebo medication. This procedure resulted in successful administration of liquid medication. Results indicated that generalization occurred across clinicians and follow-up probes demonstrated maintenance of results up to 12 months post intervention.

Alte Mainbrücke, Würzburg

Friday September 21

#23 Symposium: Behavior analysis in sports, fitness and health
Room M.1.10
Chair: CHRISTOPH BÖRDLEIN
0,5 BACB CEUs available

This symposium focuses on behavior analytic studies in the field of sports, fitness, and health. A first paper discusses the alleged detrimental effects of personal quantification on the so-called intrinsic motivation and reports a study with racing cyclists. The use of auditive prompts on athletic performance is the object of investigation of the second paper. The third part of the symposium provides an outlook on the research area of behavior analysis in sports, fitness and health.

Personal quantification detrimental or beneficial?

STEPHEN RAY FLORA

Psychological science generally, and Behavior Analysis specifically relies on the measurement and quantification of behavior. Recently it has been argued that measuring and quantifying behavior may have detrimental effects on the measured behaviors. To investigate this claim, the current study surveyed individuals who revealed their interest, enjoyment and fun by how they spent their lives, leisure time and income. Two bicycling groups (Bicyclists at a bike camp on Mallorca Spain, and Triathletes) were surveyed about biking and how personal quantification (via a bike computer) affected interest. Almost without exception, bikers engage in personal quantification. Bikers measure over 5 variables and track 4 measures over a year. Bikers reported having biked for decades, bike thousands of kilometers (K) yearly, more than 150 K weekly, and bike more than 3 times a week. Bikers find biking highly enjoyable, not boring, very interesting, not a waste of time, very fun and makes them very happy. Bikers reported measuring biking behavior makes biking even more enjoyable and interesting. These findings reflecting lifetimes of personal quantification of preferred activity directly refute claims that personal quantification undermines intrinsic interest, enjoyment, or happiness. Personal quantification facilitates continued activity engagement and sharing quantified information with other interested individuals may make interesting activities even more interesting. Rather than "undermine intrinsic interest" or "turn play into work," personal quantification is supplemental to the total activity experience. Intrinsic/extrinsic and play/work are false dichotomies. Personal quantification likely facilitates expert performance and the experience of flow.

TAG-Teach in body weight training

BENEDICT VORBECK

Auditive prompts have been used successfully with several sports like golf (Fogel, Weil & Burris, 2010), ballet dancing (Quinn, Miltenberger & Fogel, 2015) and shooting (Mononen, 2007). The techniques used have been labeled as TAG teaching (TAG stands for "Teaching with auditive guidance"). The current study used TAG teaching procedures to improve the performance of athletes preforming a handstand (handstand is part of a discipline called body weight training, where one uses only the weight of his own body to gain strength and body control). For preparation of training, a task analysis of handstand was undertaken. A multitude of single responses are necessary to perform a handstand. For preparation of training the responses were combined in skill sets (e. g. correct initial position, correct swing into handstand). A multiple baseline design across three participants and skill sets was used to evaluate the usefulness of TAG teaching. TAG teaching successfully helped all participants to perform a handstand. Social validity showed that participants and trainer were highly satisfied with the TAG teaching procedure.

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Mononen, K. (2007). The effects of augmented feedback on motor skill learning in shooting. Studies in Sport, Physical Education, and Health, 122, 1-63.
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Behavior analysis in sports, fitness and health: Outlook and research agenda

CHRISTOPH BÖRDLEIN

Due to rising concerns about the alleged obesity epidemy and because of the beneficial effects of physical activity (e.g. on general well-being), behavior analytic methods to promote sports, fitness and health have re-gained attention by researchers. The author gives an overview of recent trends in applied behavior analysis in that field. Several areas are identified as especially promising. A research agenda is presented, explaining how behavior analytic research in the field of sports, fitness and health could be promoted. First projects resulting from that agenda are presented.

#24 Paper session:
Room M.0.11
Chair: Rafael Silva Rodrigues

The effects of extinction on creative problem solving

RAFAEL SILVA RODRIGUES
Hernando Borges Neves-Filho
Miriam Garcia Mijares
Yulla Christoffersen Knaus
Luiz Henrique Santana Conceição
Rodrigo Harder Ferro Dicezare

Extinction of previously learned relations between stimuli and responses has been proposed by some behavior analysts as necessary to problem solving through insight. To test this hypothesis, forty four participants, allocated randomly in two groups (EXT, and NOEXT), were trained to produce stimuli arrangements on different designed chambers of the game "Portal 2". The participant had to produce specific stimuli arrangements, controlled by specific discriminative stimulus, to exit the chamber and move to the next phase. For participants of the NOEXT group exiting the chamber could be accomplished in two ways: 1) by producing any sequence of four learned stimuli arrangements or 2) by producing a new arrangement related to behavioral relations learned in the previous chambers. However, with participants of EXT group, just the second one allowed to exit the chamber. The data collected so far showed that almost all participants from EXT groups (except one) exited the final chamber after producing first the learned relations, and then the new response. The results indicated that problem solving is most likely to occur after extinction. However, it also indicates that, at least in humans, new solutions to a problem could be produced without explicit extinction of the non-functional learned behavior.

Noncriterial behavioral variability

LAURILYN D JONES
Francis Mechner

All operant behaviors have multiple dimensions in addition to those designated by the experimenter as criterial for reinforcement, and behavioral variation occurs across all of those dimensions. In addition, all dimensions of an operant can reflect possible bias due to the pre-experimental histories of the participants. In two experiments designed to measure both noncriterial variability and operant bias, human participants performed a complex operant consisting of typing 14 or more keystrokes on the com-

puter keyboard. The first and last keystrokes were mandated, while the middle 12 (or more) were allowed to vary. The first experiment involved nine sessions of monetary reinforcement on a variable ratio schedule followed by one session of extinction, while the second required nine sessions of continuous conditioned reinforcement followed by a final "test" session with multiple contingencies designed to disrupt the participants' behavior. There were significant differences in variability among the individual participants, as well as systematic effects of the two different experimental designs. Despite not being required for reinforcement, operant-to-operant variability was high overall but decreased across sessions. The "test" session of Experiment 2 resulted in a much larger increase in variability than did extinction, in Experiment 1. Looking at operant bias, there was an overall preference for the letter keys in the center of the keyboard, however the participants also showed a strong bias against center keys when choosing either the first or last letter in each operant sequence. There was also some correlation between measures of variability and bias.

#25 Paper session:
Room M.1.08
Chair: ANNA LIND PETURSDOTTIR

Improving preschoolers´ participation, problem behavior and well-being

ANNA LIND PETURSDOTTIR

This study evaluated the effects of function-based behavior support plans (BSPs) on the persistent problem behavior and lack of engagement of five children in preschool activities. Participants were five boys, aged three to six years, in public preschools in the capital region of Iceland. One participant had been diagnosed with speech impediment and one was diagnosed with autism spectrum disorder and ADHD. Single-subject multiple baseline designs across participants showed that function-based BSPs reduced the frequency of disruptive behavior (on average by 95,3%) and increased active participation (on average by 175%). Improvements in behavior and engagement were maintained when token systems were faded. Teacher ratings of participants behavior on the Pre-School Behavior Checklist improved significantly. Also, participants´ self-assessment of their well-being showed that they were feeling much better in different activities in preschool. Semi-structured interviews conducted with four teachers revealed that they considered the strategies manageable and to harmonize well with preschool activities. In interviews with two mothers of participants they rated the BSPs favorably and described a positive change in their children´s well-being and in preschool staff's interaction with their family.

"The Caught Being Good Game"; comparing a private and public posting version of a gamified group contingency

CLARE BOHAN
Sinéad Smyth

Classroom management is a time-consuming element of a teacher's day which has been the target of many interventions in behaviour analysis. The Caught Being Good game (CBGG) is a gamified classroom management strategy, which has been effective in the reduction of disruptive behaviour and the increase in engaged behaviour in classroom settings. The game has been applied in recent times using two distinct versions in separate analyses, which have yet to be compared systematically. The current study compares these two versions of the CBGG; the 'private' version of the game, whereby the teacher awards students points in secret and announces results at the end of class, with a the 'public' version, whereby the teacher records points in real time on the classroom whiteboard.

A first-year class (mean age=12.6) attending a secondary school in North Dublin city and their teacher took part in this study. A reversal design with phases ABACABAC was utilised to assess intervention effects (A=Baseline, B=Private game, C=Public Game).

Both versions of the game were successful in the decrease of disruption and increase in engagement across the class group. Students and the class teacher found the game to be socially acceptable. Results will be presented in further detail and future directions will be discussed.

Evaluating efficacy and learner preference for prompt fading strategies during discrete-trial instruction

VICTORIA MARKHAM
Aimee Giles
Richard May
0,5 BACB CEUs available

Discrete-trial instruction (DTI) is a commonly used teaching strategy which involves breaking down complex skills into smaller tasks or units (Smith, 2001). The specific components of DTI can be individualised to meet the needs of the learner. For example, the prompt fading method employed to promote independent responding. However, at present there is limited research on the relative efficacy of different prompt fading methods. Additionally, learner preference for prompting strategies is rarely considered. The present study compared the relative effectiveness of three prompt fading methods

during DTI. Specifically, most-to-least prompting, least-to-most prompting, and progressive time-delay were compared to a control condition which excluded prompting and reinforcement. Learner preference for the three prompting methods was also evaluated. Three boys under five with a diagnosis of autism attending a university-based early intervention clinic participated. Two participants completed the prompt fading assessment (one in progressive time-delay, and one in least-to-most prompting). Both participants selected the same prompt fading methods during a concurrent-chains preference assessment. The third participant did not master in any of the prompt fading conditions. Results of the assessment are discussed in relation to the participant's idiosyncratic outcomes and limitations around the current external validity of the assessment.

Keywords: prompt fading, discrete-trial instruction, concurrent-chains preference assessment, social validity, autism

#26 Symposium: Perspectives on early intervention
Room M.1.07
Chair: JENS ERIK SKÅR

Early intervention: A 20 year follow up

JENS ERIK SKÅR

Early intervention is associated with early, intensive treatment of children with autism and developmentally disabilities. But since it was started in Norway in the 1980's, children with various genetic syndromes has received treatment. A psychiatric diagnosis is only a label, a poor description of behaviour, that leads to no specific treatment. Some of the children treated at the Institute of Applied Behavior Analysis, which started in 2001, has represented challenges of aggressive and self-destructive behaviour all their life. Treatment procedures for these types of behaviour are presented, as well as long term follow up data. Emotional behaviors (respondent behaviour) seem to play a role for treatment resistance. The interaction between operant, respondent and possible adjunctive behaviour is discussed. For three out of 25 children development was influenced to such a degree, that these children today are considered "normal", and they need no further special services. There are no good indicators on which child will develop fast, but some indicators are presented.

Early intervention; the right to effective human services. Challenges and future perspectives in Norway

TØRRES JOA

Norway has resources but lacks competence in the field of early intervention programs. Even though Norway started early in the 1970's practising applied behaviour analysis, ABA is still controversial. Results from therapies, data, has a very slow impact on special education and psychology ideologies. Therefore, parental unions as The Parental Union for The Freedom of Choice, has addressed politicians to make them arrange better contingencies for evidence-based treatments. We have discovered that parents have a greater influence on political decisions, than do professionals. Better human services must be selected, among a variety of practices. Variation is the fundamental basis for selection. To secure variation, we need to promote private initiatives. Parental unions in Norway are working for the implementation of the principle of "the money should follow the child". That way we can create alternatives to public services, within the existing budgets. Parents should be allowed to choose services for their child, within a budget set by the public authorities. This is not a reality in Norway today, but progress is made. Side effects of changing politics on this subject matter are discussed.

Early intervention; the inside story, a neuroscience perspective on what goes on between stimuli and responses

SØREN JENSSON SKÅR

Skinner has in several writings pointed to the importance of closing the gap between biology and behaviour analysis. "Brain processes are not another "aspect" of behaviour; they are another part of what an organism does. The whole story will eventually be told by the joint action of the sciences of genetics, behaviour and culture", Skinner 1989. We do not yet understand what goes on within the organism between stimuli and responses. What do we however know? We know that the central nervous system, the brain, is involved. And we know that stimulation of the central nervous system leads to physical change in the neurons and changes in how the interact. Such changes reflect the plasticity of our brain and is the core in why intervention works. Early intervention procedures lead to alternations of brain functions. Research indicate that early intervention is important because there seem to be sensitive periods for the establishment of basic behavioural repertoires and verbal behaviour. Therefore, there is no justification for a "wait and see" strategy. Our brain changes because of learning, and evidence for the cellular foundation for learning will be presented in the following domains; habituation, sensitisation, classical conditioning and "imitation".

Early intervention; expanding the Skinnerian model of learning

SØREN JENSSON SKÅR
Jens Erik Skår

Skinner and his predecessors pointed to two different classes of behavior. Respondent and operant behavior. Respondent behavior is thought to be selected phylogenetically, while operant behavior is selected ontogenetically. Research on simple organisms has pointed out that the principles of sensitization, habituation and imitation also play a fundamental role in establishing behavior. The learning principle of imitation connected to the discovery of mirror neurons is discussed. All learning principles interact with each other, in building behavior repertoires in organisms. There is always a component of feelings (respondent behavior) in any operant. And vice versa. In early intervention emotional and avoidance behaviors often challenges the start of therapy. These behaviors must be addressed, to teach the child how to learn. Respondent behavior calls for its own treatment strategies.

#27 Symposium: Advances in skill acquisition programming for individuals with ASD
Room M.1.09
Chair: JASON C. VLADESCU
1,5 BACB CEUs available

The symposium includes three talks that broadly address instructional considerations when establishing new skills for learners with autism spectrum disorder. The first talk evaluated the preference for and efficiency of differential reinforcement, nondifferential reinforcement, and extinction for teaching language skills to two children with autism spectrum disorder. The results will be discussed in terms of clinical implications and directions for future research. The second talk evaluated whether a three-component strategy consisting of (a) a general-case analysis, (b) multiple-exemplar training, and (c) experimenter-defined categories would effectively establish a generalized repertoire of initiating joint attending in four young children with autism spectrum disorder. All four participants learned to make initiations for joint attending in the presence of training and novel stimuli. The third talk conducted individualized instructional assessments to identify the most efficient prompt type (model, partial physical, full physical) and prompt-fading procedure (progressive delay, most-to-least, least-to-most) for teaching auditory-visual conditional discriminations for individuals with autism spectrum disorder. Each assessment was conducted at least twice to establish generality of the findings.

A comparison of the preference for and efficiency of reinforcement contingencies during skill acquisition for children with Autism Spectrum Disorder

LAURA L. GROW
Tyla M. Frewing
Jennifer Vellenoweth
Maria Turner

Previous comparisons of reinforcement contingencies in skill acquisition programs have often produced participant-specific results. Further investigation of factors that influence the preference for and efficiency of reinforcement contingencies may help practitioners maximize instructional time with learners. Specifically, given the variability in results of comparisons of differential and nondifferential reinforcement across participants, it may be valuable to conduct within-participant replications of comparisons of differential and nondifferential reinforcement. In the present study, we used an adapted alternating treatments design embedded within a concurrent multiple-probe design to evaluate the preference for and efficiency of differential reinforcement, nondifferential reinforcement, and extinction for teaching language skills to two children with autism spectrum disorder. We conducted three evaluations, across a minimum of two different skills for each participant (i.e., tacts, intraverbals). We used a concurrent chains arrangement to evaluate learner preference for the different reinforcement contingencies. We will discuss the results in terms of clinical implications and directions for future research.

Establishing a generalized repertoire of initiating joint attending with children with autism

SHARON A. REEVE
Sandra L. Gomes
Kevin J. Brothers
Kenneth F. Reeve
Tina M. Sidener

The current study evaluated whether a three-component strategy consisting of (a) a general-case analysis, (b) multiple-exemplar training, and (c) experimenter-defined categories effectively established a generalized repertoire of initiating joint attending in four young children with autism. One hundred forty stimuli consisting of 20 in each of 7 experimenter-defined categories were used to program for generalization for joint attending from trained to untrained stimuli. A multiple-baseline across-participants design with a multiple probe was used to assess the effectiveness of the treatment package on the establishment of a generalized repertoire of initiating joint attending. All four participants learned

to make initiations for joint attending in the presence of training and novel stimuli. Also, joint attending generalized from trained settings, interaction partners, and categories of stimuli to an untrained setting, interaction partner, and categories of stimuli. Joint attending skills also maintained at two-week and one-month follow-up assessments.

Using assessment to identify learner-specific prompt type and prompt-fading procedures

LAUREN K. SCHNELL
Jason Vladescu
April N. Kisamore
Ruth M. DeBar
SungWoo Kahng

Assessment plays a vital role in the programming and education of students with autism spectrum disorder (ASD). To date, only a small handful of studies have evaluated the use of assessment to identify the most efficient instructional practices for individuals with ASD. This is problematic as these individuals often have difficulty acquiring skills and the procedures that may be efficient with one individual may not be for others. We conducted individualized instructional assessments to identify the most efficient prompt type (model, partial physical, full physical) and prompt-fading procedure (progressive delay, most-to-least, least-to-most) for teaching auditory-visual conditional discriminations (AVCDs) for individuals with ASD. We determined efficiency by measuring the total number of trials and training sessions required to mastery as well as the total training time and mean training time per mastered target for each of the conditions. Each assessment was conducted at least twice to establish generality. To validate our assessment results, we combined the most efficient and least efficient instructional components into treatment packages applied to teaching a novel set of AVCDS with participants.

#28 Symposium: Naming (BiN) as a life changing phenomenon
Room 1.10
Chair: ROBERT DOUGLAS GREER
1 BACB CEUs available

We present 3 papers providing an overview of current evidence on bidirectional naming (BiN) as a verbal behavior developmental cusp. The first paper will provide an overview of a large body of research on the developmental trajectory and the experiential source of unidirectional and bidirectional naming with familiar and nonfamiliar stimuli. Paper 2 describes how the developmental trajectory leading to BiN mirrors the biological phenomenon of metamorphosis where both phenomena show abrupt behavioral transformation. Paper 3 reviews terminology used for the phenomenon and suggests terminology to better characterize the range of relations.

An overview of research in how BiN develops and how the development changes life

ROBERT DOUGLAS GREER
Jennifer Longano

We present an overview the research (more than 50 experiments) identifying experiences that establish BiN and its foundations. This research was done with children with delays missing BiN and typical children prior to their neurotypical development of BiN. Current evidence from our laboratory, coupled with evidence from other disciplines and laboratories in behavior analysis, suggest a trajectory of development where the onset of BiN makes it possible for complex human communicative repertoires and new ways of learning stimulus control. These include extensions of BiN to print where BiN is the cornerstone of verbally governed, and verbally governing behavior.

Bidirectional naming (BiN) as behavioural metamorphosis: Experimental evidence and implications for future research

ROBERT DOUGLAS GREER
Peter Pohl

We first review the experimental evidence for the construction of BiN in terms of identifiable sub-components. On this empirical basis, we propose and explain a biological model of BiN as an example of behavioral metamorphosis. Implications from evolutionary and developmental biology (Evo-Devo) for Verbal Behavior Development Theory (VBDT) are discussed with reference to future research in this emerging interdisciplinary field.

Deconstructing the phenomenon of common bidirectional naming: Six suggested sub-components

EMMA HAWKINS
Grant Gautreaux
Mecca Chiesa
Robert Douglas Greer

Conceptually, naming appears to be a generic term that describes several sub-components. Miguel (2016) introduces the concept of sub-types of naming, specifically Common Bidirectional Naming and Intraverbal Bidirectional Naming. He defines Common Bidirectional Naming as the process of different stimuli evoking the same speaker and listener behaviour and becoming members of the same class. This paper suggests that Common Bidirectional Naming can be further dissected to provide six sub-components.

Previous research is aligned with these newly defined categories. In addition, twenty older children and young adults diagnosed with autism and a learning disability were tested for each of these sub-components of naming to determine whether some sub-components are prerequisites for others. Recommendations are made for future research.

#29 Paper session:
Room M.0.11
Chair: GABRIELA E. LÓPEZ-TOLSA

Effect of developing schedule-induced behaviours in delay discounting using an adjusting delay procedure with rats

GABRIELA E. LÓPEZ-TOLSA
Natalia Puig
Ricardo Pellón

Schedule-induced behaviours (SIB) develop under intermittent schedules of reinforcement when there is no contingency between them and the delivery of the reinforcer. SIB seem to be part of a behavioural pattern that develops during the inter-reinforcement periods and that could lead to a better performance on temporal tasks by delaying the occurrence of target behaviours. Schedule-induced drinking (SID) is the most studied example of SIB and develops when rats had water available in the conditioning chamber. Delay discounting is the loss of the subjective value of an outcome as the time to its delivery increases; organisms prefer a smaller-less delayed reinforcement than a larger-more delayed one. The aim of this study was to compare the performance of rats that could or could not develop SID in the conditioning chamber. Subjects were 18 rats divided in two groups (Water/No water) and were exposed to an adjusting-delay task. Rats could choose between receiving 1 pellet after a standard delay or 3 pellets after and adjusting delay. The adjusting delay changed every block of trials, depending on the previous choices, and the standard delays was the same throughout each condition. Performance of both groups is compared in terms of the delay discounting models.

Temporal distribution of schedule-induced behaviours in a delay discounting procedure with rats

SERGIO RAMOS
Gabriela E. López-Tolsa
Ricardo Pellón

Schedule-induced behaviours (SIB) are those that develop under intermittent reinforcement schedules, even when there is no contingency between their occurrence and the delivery of reinforcement. Schedule-induced behaviours haven regarded as a different type of behaviours than operants, among other things, because they usually occur in the post-reinforcement periods. This study analysed the temporal distribution of schedule induced behaviours during a delay discounting procedure with rats. During the delay discounting task rats had to choose between receiving 1 pellet immediately (SS) or 3 pellets after a delay (LL). Delays were between 0 and 36 s, increasing 3 s every session. In experiment 1 two strains of rats (SHR and Wistar-Kyoto) had the opportunity to engage in schedule-induced drinking (SID) and schedule-induced running (SIR) in the conditioning chamber. In experiment 2 wistar rats had the opportunity to engage in SID. The three strains of rats developed SIB. SIB showed a post-reinforcement and pre-reinforcement temporal location: they occurred in the inter-trial interval after choosing SS and in the delay after choosing LL. These results are in line with the theory that SIB are operants. SIB seem to be controlled by the reinforcer.

The effect of non-reinforced pre-exposure to S+ or S- on simple discrimination acquisition

MIRIAM GARCIA-MIJARES
Andeson Gonçalves Carneiro
Alceu Martins- Filho
Melissa de Oliveira Guirelli
Bruna de Oliveira Amaral

The stimulus pre-exposure effect on a subsequent conditioning (i.e., Latent Inhibition) has been commonly reported for Pavlovian conditioning by experiments using between-group designs. We report two experiments that evaluated the that effect on the acquisition of operant discriminated responding to S+ (Experiment 1) and to S- stimuli (Experiment 2), using a within-groupdesign. Rats were trained to press a lever for sucrose VI-10 s. Next, the lever was removed, and a flashing light (FL) was presented 200 times (Pre-exposure Phase). In Experiment 1, FL and two other stimuli, Steady-Light (SL) and a Tone (T), were used as S+ for lever-pressing discriminative training (Discriminative Phase). Lever-pressing under VI-10 s schedule was reinforced during each S+ but was under extinction during the inter-trial interval (dark chamber – DC). In the Experiment 2, FL, SL, and T stimuli were used as S-, and DC as S+. Results from Discrimination Phase showed that responses rate was lower during FL than during T, so, pre-exposure impaired acquisition of S+ discrimination. The effect was generalized to the stimulus of the same sensorial modality, since there was no difference between the rate emitted during FL and SL. Results of Experiment 2 replicated those from Experiment 1, that is, response rate on FL and SL were lower than T, indicating that pre-exposure facilitated acquisition of S- discrimination. We discussed the results in the context of stimulus generalization and associative and non-associative theories of conditioning.

#30 Paper session:
Room M.1.08
Chair: IVER IVERSEN

The many faces of reinforcement

IVER IVERSEN

That response-contingent positive reinforcement strengthens and maintains behavior has been a cornerstone of modern experimental psychology since Thorndike and Skinner. Early critiques of the strengthening effects of reinforcement rested on the idea that the reinforcer is also an eliciting stimulus for natural behavior other than the operant. Some more recent views in behavior analysis suggest that a reinforcer does not strengthen behavior but instead serves as a discriminative stimulus for "choice". The presentation will outline what reinforcement does to behavior at various levels of analysis. A single reinforcer can strengthen behavior in several different experimental paradigms and it can also serve as a discriminative stimulus for the operant. Schedules of reinforcement can establish stable patterning of operant behavior and reinforcers no longer strengthen but maintain behavior. Delivery of a reinforcer serves as an immediate S-delta as it stops the operant promptly when the subject switches to collect the reinforcer. Termination of consumption of the reinforcer may serve as an S-delta for the operant as seen in pauses or as an S-dee for switching to another operant. Examples of strengthening, maintenance, contingencies, and discriminative properties of reinforcement will be provided from various experiments. Contingencies of reinforcement as a controlling variable is often not emphasized in areas outside of behavior analysis. The presentation will emphasize that in ordinary discourse about reinforcement and operant behavior, the strengthening, maintaining, and discriminative functions of reinforcers are often mixed up or not fully articulated.

A systematic review of conditioning reinforcers

ELENA CLO
Katerina Dounavi
0,5 BACB CEUs available

The present research project focuses on synthetizing the existent corpus of literature on the topic of conditioned reinforcement as it relates to the educational priorities of individuals diagnosed with Autism Spectrum Disorders, intellectual disability or related conditions. Conditioned reinforcement is defined as "a stimulus change, that functions as a reinforcer because of prior pairing with one or more other reinforcers" (Cooper, Heron & Heward, 2007, p. 692) and is considered crucial for individuals with ASD who

often have restrictive preferences that limit their access to mainstream environments and the effectiveness of evidence-based interventions.

In order to identify existing paradigms for conditioning reinforcers and assess relative effectiveness, we conducted a systematic literature review within the applied literature. As a result of searches, 33 articles published between 2002 and 2017 were included in the qualitative synthesis here presented, together with an analysis of contents, quality of evidence assessment (Romeiser Logan, Hickman, Harris, & Heriza, 2008) and summary of main findings. Studies are organized in lines of research that stem out of three main sources: the classical paradigm based on pairing of neutral stimuli with known reinforcers, the operant paradigm aiming to establish neutral stimuli as discriminative for responses that can produce known reinforcers and the observational paradigm. A fourth line of research identified aims to detect how new reinforcers can most effectively be established through direct comparison between different procedures. Results are presented in terms of identified procedures, type of stimuli to be conditioned, dependent variable measured, reported effectiveness and quality of evidence. Recommendations for future research and clinical practice are provided.

Using reinforcers to predict the future

SARAH COWIE

A retrospective, anti-teleological framework has served behaviour analysis well for many years. Such a framework asserts that reinforcers strengthen the behaviour they follow. Yet the limitations of a purely retrospective framework are becoming apparent: A retrospective account of control by the environment struggles to explain the differing effects of reinforcers on behaviour depending on their occurrence in time and in the context of other reinforcers. This talk reviews data from recent experiments in which humans and pigeons may choose freely between two responses, and the time and/or location of the next reinforcer changes systematically and predictably. Under such conditions, behaviour follows the likely occurrence of the next reinforcer - such a finding cannot be understood in terms of a retrospective framework. The talk explores whether a prospective framework can provide a better account of behaviour under these situations and considers the implications of changing our approach to understanding the transaction between behaviour and environment.

#31 Paper session:
Room M.1.07
Chair: CHRISTOPH BÖRDLEIN

Behavioral community interventions in social work education

CHRISTOPH BÖRDLEIN

Behavioral social work is the application of behavior analysis to the field of social work. There are behavioral social work interventions for individuals, groups and communities. Nevertheless, behavioral social work is far from a widely adopted approach among social work practitioners. A reason for the underuse might be seen in the fact that most interventions in behavioral social work aim at individual clients and groups. Social work could further benefit from the application of methods taken from behavioral community interventions. Behavioral community interventions modify the behavior of a larger group of people (e.g. pedestrians using a crosswalk, cafeteria patrons, students using a university building) with antecedent- and consequence-focused interventions. The author describes a training program for social work students in behavioral community interventions. Results of two projects, undergraduate students designed and performed, are presented. Behavioral community interventions are recommended as a valuable part of the education of social workers.

Behavioral intervention at a community level

REBECCA LÖBMANN

In contrast to the United States (e.g. Mattaini & Thyer, 1996), responses to social issues in Germany usually do not take much notice of behavioral system sciences. The University of Applied Sciences at Würzburg-Schweinfurt is the only school of social work which teaches a behavioral profile.

Yet, there is a strong concern for social responsibility. Individual, group and community level intervention are considered equally important (Galuske, 1998). However, community organizing focuses mainly on the analysis of social environment, participation and empowerment while neglecting behavioral strategies.
In this paper a simple guideline for practitioners is proposed that allows them to follow behavioral strategies at a community level. Participatory elements and ethical values are incorporated while the specific advantages of the behavioral approach, e.g. its structured, systematic, theory-based process are emphasized. It furthermore includes a needs assessment, as well as a problem and target analysis, while intervention strategies are based amongst others on knowledge of how to establish stimulus control

of behavior, the use of prompts and positive reinforcement of the target behavior of interest. The paper concludes by pointing out the specific contribution of behavioral system sciences to community level intervention, showing that it begins where traditional community organizing ends.

Training social care staff in PBS

NIALL CONLON
0,5 BACB CEUs available

Introduction to the Research Question

Positive Behaviour Support (PBS) involves the use of flexible, multi-component interventions to prevent behaviours that challenge and reduce its future occurrence by making environmental alterations that are designed to accelerate learning, teach alternatives to challenging behaviour and improve coping/tolerance skills. PBS is recommended by a range of respected bodies however it is not widely used within social care. The primary way in which it is disseminated is through the use of staff training however studies into the efficacy of staff training have met with mixed results.

The present study compared the effectiveness of two PBS staff training methods in increasing knowledge and skills of 28 social care staff working with teenagers and young adults with autism, intellectual disabilities and challenging behaviour in a service specialising in supporting individuals transitioning from children to adult services.

Description of Methods

The study utilised a mixed-methods design. A within-subjects design was used to examine staff test of knowledge (TOK) scores across time points (pre-training, 1-week post training, and follow-up) and to examine procedural fidelity (PF) scores at two time points (post-training and follow –up). A between-subjects analysis was also conducted to examine the differences in outcomes between the two training methods: Behavioural Skills Training (BST) and Treatment as Usual (TAU). Following completion of the training and evaluation, participants were invited to undergo a semi-structured interview to examine their views on the training and a qualitative analysis was conducted on the resulting data. A 2x3 ANOVA was conducted to compare the effect of BST and TAU on TOK scores. A 2x2 ANOVA was conducted to compare the effect of BST and TAU on procedural fidelity scores. Transcripts of the semi-structured interviews were analysed using thematic analysis. Following the creation of a coding framework, themes were identified and reported on.

Results

Results indicated that both TAU and BST were effective in increasing knowledge of PBS skills and improvements maintained over time. In addition to increasing knowledge, both interventions resulted in participants being able to apply the skills and treatment fidelity maintained over time. A correlational analysis demonstrated that TOK scores correlate with PF. There were no significant differences between BST and TAU in increasing staff knowledge about or performance of the target skills.
The key themes identified in the views of social care workers included a preference for training methods that give opportunities to practice skills, a preference for individualised training and the importance of organisational and process factors in generalising skills to work environments.

Discussion/Implications

These results add to the existing literature demonstrating the effectiveness of PBS training and demonstrate that, when provided with training, direct contact social care staff learn to accurately implement therapeutic techniques when supporting young adults with autism, intellectual disabilities and challenging behaviour. The similar training results achieved through BST and TAU has implications in organisational resources seeking to adopt PBS given the significantly higher resource allocations required to implement BST. The themes identified within the qualitative analysis may help to explain differences in results between studies examining the efficacy of PBS staff training.

#32 Paper session:
Room M.1.09
Chair: ANGELIKA ANDERSON

Using self-management interventions to improve compliance

ANGELIKA ANDERSON
Dennis W. Moore
Hayden Ross
Tsuyoshi Imasaka
Cernyse Wong
Margherita Busacca
Brett Furlonger

Low rates of compliance are common and a potential barrier to participation in mainstream education for students with Autism Spectrum Disorder. Low rates of compliance are often conceptualised as a behavioral excess of non-compliance and interventions targe-

ting a reduction of such problem behavior should be informed by a functional analysis. Here we argue that low rates of compliance are a skill or performance deficit, and that interventions addressing such deficits need not be function based. We trialled self-management interventions to increase compliance and on-task behaviour in mainstream primary school students. A multiple baseline across settings probe design was used to assess the effectiveness of the intervention. Following baseline conditions, the self-management intervention, comprising self-recording, self-evaluation, and self-reinforcement, was introduced. Results show that self-management increased rates of compliance and improved on-task behaviour in three different classroom settings. Improvements in compliance and on-task behaviour maintained after self-management procedures were faded. Practical considerations and implications for inclusive education are discussed.

Teaching relevant social skills for learners with disabilities

GITA SRIKANTH
Swati Narayan

For learners with Autism Spectrum Disorder (ASD) conversation and social language skills and understanding the subtle rules of social behavior are most difficult skills to develop and utilize with others in a natural environment such as school classroom or playground. These skills have relevance in the context of forming friendships, peer interactions, safety skills and social interactions in the classroom and community. A group of 8 vocal-verbal learners with varying degrees of difficulties were placed in a group session of 4 each and coached on conversation building skills, listening and turn taking, sharing space with peers and safety and reporting skills. Data collected on the outcomes indicate an increase in peer interaction, reporting skills and generalization of the skills taught to the mainstream classroom and home setting. It can be hypothesized that this intervention can be effective in reducing problem behaviors that arise in a classroom/social group setting.

Using tracking equipment to teach children with ASD to follow social cues

STEPHEN GALLAGHER
Aideen McParland
Mickey Keenan
1,5 BACB CEUs available

The present study used eye tracking equipment to teach children with a diagnosis of Autism Spectrum Disorder (as well as typically developing children) to increase their gaze behaviour towards faces in a „real world" context.
Twenty primary school children (n=20) aged between five and eleven years old (mean

age 7.9 years old) were recruited from a mainstream primary school located in a local town in Northern Ireland. This primary school had special educational needs units and facilities on site. Ten children (7 males, 3 females) had received a clinical diagnosis of ASD and the remaining ten children (4 males, 6 females) were typically developing) Furthermore, six of these twenty primary school children (3 ASD and 3 TD) were randomly assigned to act as control participants.

Participants in the TD & ASD groups completed three experimental phases (Participants in the Control Group only completed Baseline and Re-test conditions);
Baseline- Each child, wearing eye tracking glasses, watched real world conversation between two researchers. Gaze fixations across social stimuli were assessed.
Training- Using the desktop equipment children's fixations on social stimuli were reinforced through a trigger mechanism and a token economy.

Re-Test- Each child, wearing eye tracking glasses, watched real world conversation between two researchers again. Gaze fixations across social stimuli were assessed to see if any changes in behaviour had occurred.

Eye-tracking analyses focused on Dwell Time (the amount of time spent looking at a face) and frequency of gazes towards faces. With regards to both measures, all TD participants and all ASD participants looked at faces longer and more often from baseline to re-test having undergone training. Participants in the Control Group did not demonstrate changes in gaze behaviour.

Overall, these findings confirm that gaze behaviour of children with ASD can be enhanced and improved using principles of behaviour analysis and hold promise in enhancing the quality of social interactions in their daily lives.

#33 Keynote Address: Translational research and stimulus equivalence
Room M.-1.07
Chair: Torun Lian
1 BACB CEU available

About Carol Pilgrim
Dr. Carol Pilgrim received her Ph.D. from the University of Florida in 1987 with a specialization in the Experimental Analysis of Behavior. She is currently Professor of Psychology at the University of North Carolina Wilmington, where she has been honored with a Distinguished Teaching Professorship (1994-1997), the North Carolina Board of Governors Teaching Excellence Award (2003), the Faculty Scholarship Award (2000), and the Graduate Mentor Award (2008). She received the Chancellor's Teaching Excellence Award and the College of Arts and Sciences Excellence in Teaching Award in 1992, the

ABAI Student Committee Outstanding Mentor Award in 2006, and the ABAI Distinguished Service to Behavior Analysis award in 2017. Her research contributions include both basic and applied behavior analysis, with an emphasis in human operant behavior, relational stimulus control, and the early detection of breast cancer. Dr. Pilgrim has served as editor of The Behavior Analyst, associate editor of the Journal of the Experimental Analysis of Behavior and The Behavior Analyst, co-editor of the Experimental Analysis of Human Behavior Bulletin, and as a member of the editorial boards of those and several other journals. She is a Fellow of the Association for Behavior Analysis International and of Division 25 of the American Psychological Association. She has served as President of the Association for Behavior Analysis, the Society for the Advancement of Behavior Analysis, Division 25 of the American Psychological Association, and the Southeastern Association for Behavior Analysis. Additionally, she has been Member-at-large of the Executive Council of ABA and Division 25, and member of the Boards of Directors of the Society for the Experimental Analysis of Behavior, the Society for the Advancement of Behavior Analysis, and the Cambridge Center for Behavioral Studies.

Abstract
There can be little doubt that Sidman's original definition of stimulus equivalence (Sidman & Tailby, 1982), based on the mathematical properties of reflexivity, symmetry, and transitivity, provided a critical starting point for a behavior-analytic examination of complex human repertoires often described in cognitive terms. As important as this starting point has proved to be, recent findings in equivalence research indicate that the original definition may not capture well the full range of emergent behavior patterns that are possible. Restricting ourselves to only those mathematical properties may underestimate the power and the promise of equivalence approaches for understanding and establishing necessary functional skills. This talk will review the basic equivalence approach, and then provide examples of emergent patterns that go far beyond the properties of reflexivity, symmetry, and transitivity. In doing so, the talk will highlight the benefits of lessons learned in applying equivalence approaches for basic science, and the potential that lies in application of new laboratory findings for furthering the impact of equivalence approaches.

#34 Keynote Address: Behavior analysis in child welfare: Contextual behavioral assessment and intervention to prevent child-neglect in at-risk families

Room M.-1.07
Chair: Zuilma Gabriela Sigurðardóttir
1 BACB CEU available

About Maurice Feldman

Dr. Maurice Feldman is Professor and Chair of the Dept. of Applied Disability Studies at Brock University in St. Catharines, Ontario, Canada. He is a registered psychologist and a Board-Certified Behavior Analyst (Doctoral). He is an expert on parents with learning difficulties and their children. He has over 100 peer-review publications and 300 invited addresses, talks and workshops. He authored the first and only book on parenting capacity assessments for parents with learning difficulties (NADD Press). The evidence-based Step-by-Step© Parenting Program he developed and evaluated is emulated worldwide.

He is a Brock Distinguished Researcher and Fellow of the Canadian Psychological Association. He held a Canadian Institutes of Health Research Investigator Award and the Brock Chancellor's Chair of Research Excellence. He was the first recipient of both the Ontario Association for Developmental Disabilities and The Association for Successful Parenting Awards for Research Excellence. He received the Career ABA Research Achievement award from Ontario ABA, which he helped found and now is an emeritus member. He received the United States National Distinguished Disability Researcher Award. He was a special advisor to the United States President's Committee on Intellectual Disabilities, a visiting scholar at the University of Sydney (Australia) and the British Psychological Society. His research was cited in an Amici Curiae brief to the U.S. Supreme Court on a case adjudicating parenting rights of persons with intellectual disabilities. He serves as an expert consultant to several government departments and service providers and conducts parenting capacity assessments for parents with learning difficulties. His work has been covered in the Canadian and U.S. media.

Abstract

Child neglect harms more children than physical, sexual and emotional abuse combined. In this address, Dr. Feldman will describe an evidence-based behavioral parent education program for parents at risk for child neglect because of learning difculties and parenting skill deficits. This program is based solidly on behavior analysis principles and is emulated around the world. Dr. Feldman and colleagues have developed an innovative contextual-observational parent competence assessment model that identifies potential motivating and inhibiting variables that may support or impede successful parenting. Such variables include the parent's learning history, parental mental health, ongoing stigmatization and discrimination, poverty and social support. The assessment also includes direct observation of parenting skills in situ. The intervention model is derived from the assessment and includes a focus on teaching parenting skills using evidence-based behavioral skills training. Numerous peer-review papers have demonstrated the effectiveness of this parent education model in not only improving parenting skills of parent with learning difficulties, but also having beneficial impact on the children's health and development.

#35 Paper Session:

Room M.1.10
Chair: Karel Pancocha

Behavior analyst in the Czech Republic

Karel Pancocha
HELENA VADUROVÁ

The Czech Republic became the first country in Europe to recognize the profession of behavior analyst within its legal system. Even though applied behavior analysis had been virtually unknown in the country as a scientific and practical field before 2016, it spread quickly after coordinated efforts of parents, practitioners, politicians and scientists from the Czech Republic and abroad were solidified.

The licensure for behavior analysts, assistant behavior analysts, and behavior technicians has been created within the system of allied health professions. The education and licensure system of Czech allied health professions is governed by the Act 96/2004 Coll., on the conditions of obtaining and recognizing qualifications for non-medical professions and activities related to the provision of health care. This act lists the allied health professions recognized in the country, for example nurses, clinical psychologists, clinical speech therapists, physiotherapists, and optometrists. Beginning September 2017 behavior analysts, assistant behavior analysts and behavior technicians were added to the list. The act specifies the minimum levels of education and supervised pre-clinical experience for each profession as well as the scope of professional practice. After the law was enacted in 2017, the Ministry of Health published several regulations which govern the licensure procedure and further specify the operations and activities behavior analysts are authorized to perform. These new professions have been developed in coordination with the Behavior Analyst Certification Board (BACB) requirements for verified course sequence along with standards for supervised practice. The BCBA and BCaBA exams and certification became an internal part of the national licensing process. All future Czech behavior analysts and assistant behavior analysts are required to pass the BCBA or BCaBA examination before they can apply for the licensure within the national system. This article presents the facilitators and barriers in the process of developing the licensure process. It also describes how challenging it can be to follow and interconnect national legislation and the BACB requirements and standards.

Effectiveness of early intervention behavioral treatment in children with autism in Institute for Child Development, Poland - PCDI model created by Krantz and McClannnahan

MARTA WÓJCIK
Anna Budziska

Studies have shown that children receiving early and intensive Behavioral Intervention had better scores on standardized tests of IQ, language and adaptive functioning compared to children receiving other interventions (Smith, Groen, & Wynn, 2000; Cohen, Amerine-Dickens, & Smith, 2006; Eikeseth, Smith, Jahr, & Eldevik, 2002, 2007; Howard, Sparkman, Cohen, Green, & Stanislaw, 2005; Remington et al., 2007; Grindle et al, 2012). Research conducted by Lovaas (1987) has shown that children receiving EIBI successfully passed typical classes in public schools and maintained their gains several years after the treatment ended. Although previous studies have shown favorable results with early intensive behavioral treatment for children with autism, it remains important to replicate these findings.

During our lecture we will present the outcomes achieved after 14-months with 3-year-old girl with autism who participated in intensive behavioral treatment based on the PCDI treatment model created by Krantz and McClannahan. We will show films and test scores (PEP-R and Vineland-II) from the intake and after 14-months of the therapy. We will present the use of applied behavior analysis techniques such as activity schedules, scripts and script-fading procedure, discrete trial training, incidental teaching, and videomodeling in everyday therapy.

#36 Paper session:
Room M.0.11
Chair: REUT PELEG

Measurement of variability

REUT PELEG
Neil Martin
Per Holth
0,5 BACB CEUs available

In order to assess and compare variability levels, researchers generally use the U-value, a measure of uncertainty derived from information theory (e.g., Miller & Frick, 1949). It is argued that as a molar measure, the U-value is inappropriate and does not contribute to our basic understanding of the processes underlying differing vari-

ability levels. To assess the validity of this claim, U-values were compared with other measures (percentage of reinforced sequences and number of different sequences) calculated from two subjects responding on a Lag 5 schedule, and it was concluded that the U-value did not add any information that could not be drived from other simpler measures. A molecular analysis - using autocorrelation and frequency analyses - was conducted to try and determine if any inherent structure within the data sets obtained from the participants was present. Whilst the autocorrelation analysis indicated some structure, the frequency analysis further indicated that the response sequences were organized into discrete groups (classes) and were unlikely to have been emitted stochastically.

Why B.F Skinner is never out of fashion?

Renata SANTOS BEMAN

Behavior analysis explores the implementation of processes by which practices become embedded in everyday life across a range of environments. It was noticed that many blind and severely impaired individuals attending programs at blind support organizations in the UK and USA exhibited lack of confidence regarding the way that they look, the way they perceive themselves, and about how society underestimates their potential as individuals and consumers. Establishing effective inclusive practices was critical to ensure positive social engagement, building self-confidence and working to facilitate these individuals get back into society after losing sight, or, to support those born blind to (re) engage in a society greatly influenced by vision. In this short article, we describe the effects of positive behavioral support practices in the forms of sensory courses in the areas of the arts, fashion and image, increased self-esteem improved their experiences as a learners and consumers by helping them feel more comfortable in their own skin. This working model was designed with the support and consultation of teachers and managers that emphasized: (1) improving social inclusion and confidence; (2) linking classroom and society; (3) investigate how they feel about their clothing self-relationships (4) reinforcing positive consumer experiences; and (5) monitoring efficiency through data-based evaluation.

This presentation is one of the outcomes of an explorative investigation of what is left of fashion when vision is not present and promote the importance B.F Skinner views to the study of disability, consumer behavior well-being and the most important of all - for a better and more inclusive society.

#37 Symposium: Building a behavioral program
Room M.1.08
Chair: NIRVANA PISTOLJEVIC

In this symposium, we would like to analyze and discuss some of the trials and stipulations we encountered providing evidence-based effective and efficient education models for young children with ASD and other Developmental Disorders in B&H. How trying to change an education system that is outdated and communist past heavy, is not an easy task even when you have science on your side. With these data summaries of the several different studies, we would like to show you that change is possible. We will discuss establishing Early childhood development system (ECD system), developing instruments for detection and diagnostics of developmental delays and disorders (Developmental Behavioral Screening Tool as an Early Detection App and Autism Diagnostic Protocol for Low-and-Mid Income Countries), and teacher training which directly improve outcomes for children in Bosnia and Herzegovina (B&H).

The strategic teacher: The effects of teacher training on their students learning in preschool environment

NIRVANA PISTOLJEVIC
Stanislava Majusevic

The aim of the study was to teach novice teachers to analyze data and make correct teaching decisions regarding individual educational programs of their students and to improve their teaching and their students learning. Independent variable in this study were training based on Decision Tree Protocol (Greer, 2001), and dependent variables were number of teachers correct or incorrect decisions, quality of correct decisions and Learn Unit to Criterion in student's programs. Participants in this study were 31 teachers from nine EDUS experimental ABA classrooms (Early Intervention, Preschool and Kindergarten) with total number of 88 students with developmental disabilities. The teachers had no previous formal ABA training or education. This study was a systematic replication of several CABAS® publications. The results showed increase in number of correct teacher's decisions and in complexity of decisions made by teachers, while number of Learn Unit to Criterion decreased in all classrooms.

Developmental behavioral screening tool as an early detection app

NIRVANA PISTOLJEVIC
Eldin Džanko

In partnership with UNICEF and relevant ministries, we were able to create and standardize the Developmental Behavioral Scales (DBS) and find the developmental norms for children from birth through six years old in Bosnia and Herzegovina (B&H) on a sample of 1100 children. One of the major findings indicated that 23% of children in B&H develop atypically in at least one of five developmental areas (Pistoljevic, Zubcevic, Dzanko, 2016). With funding provided by the USAID we were able to expand our research and revise the first version of the DBS by developing a modern behavioral developmental screening tool in form of an App and use it till now on a sample of 750 children from birth to six years old. In addition to that we included a newly developed Risk factor questionnaire (RFQ) as a part of the DBS-II App which was administered by children's parents in order to find the most frequent developmental risk factors that affect the acquisition of developmental milestones in B&H. Furthermore, features of the DBS-II App such as visual prompts of target behaviors and automatically scoring and visual representation of results and their effects on reducing the administration time and staff training will be discussed. Once we develop a valid, reliable, free and easy for use DBS-II App and ensure its usage in health and educational settings, we will be a step closer to detect developmental delays and disorders early and provide opportune intervention for children and families in B&H.

Autism diagnostic protocol for low-and-mid income countries: A comparison of autism behavioral screening outcomes

NIRVANA PISTOLJEVIC
Eldin Džanko

Bosnia and Herzegovina (B&H) is a mid-income country with poorly developed diagnostic procedures for children with Autism Spectrum Disorder (ASD) and other Developmental Disorders (DD). Only about a half of the children in clinical settings under the age of six are diagnosed and within the other half only 5% ASD diagnosis were provided. With help of the USAID we were able to develop a pragmatic diagnostic protocol for ASD by introducing a new approach of behavioral observation of ASD symptoms in accordance with the DSM-5 diagnostic criteria. We will compare data collected from 90 children and their parents (30 children diagnosed with ASD, 30 children diagnosed with DD, and 30 typically developing children) with the newly developed ASD behavioral observation protocol and the Autistic Behavior Checklist (ABC). Main findings indicate a high Interobserver reliability of the ASD behavioral observation protocol and high

agreement when compared to the ABC results. By introducing a behavioral observation approach in providing diagnosis in B&H we are a step closer in improving the lives of children with ASD and their families.

Early intervention in Bosnia and Herzegovina: An intervention study for children and parents who were forgotten by the system

NIRVANA PISTOLJEVIC
Eldin Džanko
Stanislava Majusevic

Bosnia and Herzegovina (B&H) struggles with various health and educational problems because of its complicated administrative organization in which elementary rights implied in developed countries are often not present. Children with developmental delays and disorders and their families for years wander through the system that lacks united and scientifically proven early intervention services. EDUS-Education for All in cooperation with UNICEF B&H and relevant ministries was able to create an Early childhood development system (ECD system) for B&H by developing a set of behavioral detection, assessment and intervention tools. These tools were used in an intervention study on a sample of 32 children with developmental delays and disorders and their parents in seven cities in B&H. The independent variables (IV) consisted of an average of 81 hours' behavioral intervention provided to children and an average of 11 parent education provided to their parents throughout a six months' period. Dependent variables (DV) were measured before and after the IVs were introduced to assess the number of skills acquired across five main developmental areas with the Developmental Behavioral Scales (Pistoljevic, Zubcevic, Dzanko, 2016), Guides for Assessment and Creation of Individual Development Programs for Children from Birth to Six Years Old (Pistoljevic & Majusevic, 2015), and the Parent Education Evaluation Scale (PEES). Results show statistically significant improvement in skill acquisition across all three DVs and bring hope in creating a united and effective ECD system in B&H.

#38 Symposium: Headsprout® Early Reading programmes across diverse populations
Room M.1.09
Chair: CORINNA GRINDLE
1,5 BACB CEUs available

Improving early reading skills for children with Intellectual Disabilities using an online reading programme: A single blind pilot randomized control trial

CORINNA GRINDLE
Richard Hastings
J. Carl Hughes

Many children with Intellectual Disabilities (ID) fail to acquire basic reading skills by the time they leave school. The current study investigated whether using an online reading programme (Headsprout® Early Reading; HER) could improve early reading skills for children with ID who attended a special school in the UK. Fifty-five pupils (5 to 17 years) with severe ID or autism were randomly allocated to either the HER group or a waiting list control group. For 6 months, children in the intervention group received the HER intervention whereas children in the control group received "literacy as usual" teaching. Pre- and post- intervention tests on standardized reading measures were conducted. Children were successfully recruited into the study, parents were willing for their child to be randomised to one of the arms of the study, and the vast majority of children were retained for post-test evaluations. In this presentation analysis of data from outcome measures from both the HER and control group will be discussed. In addition, the implications of the results for more wide-spread delivery of HER for children with ID in "real world" educational settings will be considered.

Improving literacy skills in children with intellectual disabilities using Headsprout Early Reading

CLAIRE MCDOWELL
Charlene Moore
Catherine Storey

Children with Special Education Needs (SEN) often have deficits in early literacy skills and so begin school already at a disadvantage. This study sought to evaluate whether supplemental instruction using Headsprout® Early Reading (HER) is more effective than classroom reading instruction alone in improving literacy skills in children with intellectual disabilities. Twenty-five children aged between 8 and 19 years old participated in the study. All children attended a Special Education Needs School in Northern

Ireland and exhibited reading and decoding skills below that of typical age ability, as demonstrated by scores on a standardised reading test. Participants were randomly allocated to either a treatment or waiting list control group. The treatment group began using Headsprout Early Reading as supplementary instruction for up to 45 minutes a day, 4 days a week, for 16 weeks, while the waiting list control group received only their typical class-based literacy lessons. Results from post-treatment assessments demonstrated notable differences in favour of the HER group across measures of reading accuracy and significant differences in favour of the HER group across phonemic awareness, phonics skills and reading fluency. In addition, social validity measures from teaching professionals were positive towards the introduction of HER in the school setting.

School support for a parent delivered implementation of an online reading programme: a cluster-randomised controlled trial

SARAH ROBERTS
Emily Tyler
Richard Watkins
Richard Hastings
J. Carl Hughes

Research indicates children from disadvantaged backgrounds tend to be at highest risk of poor academic outcomes and tend to receive the least support for learning at home. One challenges parents face is knowing how best to support their child's education. We investigated the effects of providing support to schools to enable the school to support parents in home-based implementation of an online reading programme, Headsprout® Early Reading (HER). Using a cluster-randomised controlled trial design, 23 schools (47 staff) were recruited to support parents to implement the programme at home with children who were struggling with reading. Each school received training and resources to support parents in the delivery of HER. Following randomisation, 11 schools (47 pupils) received implementation support from the research team for the duration of the study (enhanced support) and the remaining 12 schools (61 pupils) continued to support parents without implementation support from the research team (standard support). In all schools, the pupils enrolled were assessed using the York Assessment of Reading for Comprehension (YARC) prior to randomisation (Time 1) and following the 7-month intervention period (Time 2). We discuss the outcomes in the context of: the effect of the implementation support levels on reading outcomes, programme implementation fidelity, engagement levels of schools, parents and pupils, and the broader implications for school-parent partnerships.

Comparing an evidence-based approach to literacy instruction with an eclectic model for children with specific literacy difficulty

CATHERINE STOREY
Claire McDowell
Charlene Moore

Research investigating remedial action for disadvantaged children suggests that explicit systematic phonological training is the fastest most effective method of increasing word recognition and subsequently reading accuracy. Combining an evidence-based approach with computer assisted instruction (CAI) may be an efficient means to improving educational outcomes. The current study compared the effectiveness of evidence-based practice with an eclectic approach to supplementary literacy instruction for children with specific literacy difficulty. Participants were primary school children (aged 6-9) in receipt of free school meals (FSM), indicative of low socioeconomic status in Northern Ireland and diagnosed with a specific literacy difficulty. 32 pupils were randomized to either a Headsprout® Early Reading group (HER) (n = 17) or a treatment as usual (TAU) group (n = 15). Literacy skills were assessed using the Phonics and Early Reading Assessment (PERA) pre- and post-intervention. Anova and T-test analysis found that HER made significantly greater gains on measures of Word/Non-Word Recognition (t(30)=7.55, p<0.001), Sentence Reading (t(30)=3.33, p<0.05) and sight words (t(30)=4.23, p<0.001) than the TAU group . This study is the first to demonstrate stronger outcomes for children receiving evidence-based intervention over eclectic approaches typically used in Northern Irish Schools.

#39 Keynote Address: Behavioral systems science for social action
Room M.-1.07
Chair: Christoph Bördlein
1 BACB CEU available

About Mark Mattaini

Mark Mattaini, DSW, ACSW, is president of the Association for Behavior Analysis: International, and associate professor emeritus at Jane Addams College of Social Work, University of Illinois at Chicago, where he was previously director of the doctoral program. He has chaired 25 dissertations related to responses to social issues. Most of his PhD graduates are engaged in research and practice with marginalized populations, including those victimized by—and perpetrating—violence, and in developing evidence-guided supports for young people experiencing homelessness and social exclusion. Dr. Mattaini is author or editor of 12 books, two of the most recent being Strategic Nonviolent Power: The Science of Satyagraha, and Foundations of Social Work Practice, A

Graduate Text (5th edition), as well as numerous other publications. Editor of the inter-disciplinary journal Behavior and Social Issues, Dr. Mattaini has served on the editorial boards of multiple journals in behavior analysis and social work and has been a long-time member of the Board of Planners for Behaviorists for Social Responsibility. He has developed, implemented, and researched behavioral strategies for individual, family, organizational, community and policy level intervention, increasingly emphasizing advocacy, accompaniment, and activism in recent years. Consistent with that emphasis, his recent scholarship has focused on nonviolent action supporting social justice, and behavioral systems science at the cultural level.

Abstract

Societal problems, from severe individual struggles (like those associated with autism) to broad social issues like racism and collective violence, are grounded in human action. For the past seven decades, beginning with B.F. Skinner, behavior analysts have asserted that behavior science could guide efforts to intervene in such challenges across system levels. This has proven largely true at personal and interpersonal levels, although our research findings still are not effectively applied in practice in most cases-so there is still much work to do there. More limited work has been done at community and public policy levels, although what has been done has been encouraging. Contemporary human societies, however, currently face a number of intractable and corrosive struggles grounded in social injustice, collective biases and associated violence, human rights violations, and marginalization of entire cultural, racialized, and oppressed groups. Seriously challenging such injustice is always costly (sometimes in lives), and often only marginally effective-or even counterproductive. In this presentation, the author will discuss recent behavioral systems science research and scholarship that holds promise for contributing to more effective and efficient strategies for social action (while fully recognizing that challenging serious injustice is always costly). Attention will be paid in the presentation to „constructional" options that may progressively shape more just societies, while respectfully accompanying those who are struggling.

Saturday September 22

#40 Paper Session:
Room M.1.10
Chair: OLGA YAROVA

Inclusion of children with Down syndrome in Kyrgyzstan

OLGA YAROVA
0,5 BACB CEUs available

As a Post-Soviet country Kyrgyzstan still embraces medical model of disability that promotes the perception of special children, children with Down syndrome (DS), as someone who is not good enough to be part of the society, possesses only deficits and needs to "improve" to become included into the rest of the population. Most of children with DS are indeed not ready to be main-streamed in typical preschools/kindergartens/schools due to the developmental characteristics of DS, lack of early intervention programs for children with DS, parental reluctance to develop their special child, and their fear of inclusion. However, research, experience and practical application indicate that the best environment for development of children with DS is inclusion along with other typical children.

The presentation will be focused on the project conducted in collaboration of the American University of Central Asia and Parent Association "Sunterra" that is aimed to include the children with Down syndrome into the society through preparing of 3 kindergartens/preschool (with special emphasis on public preschools) for working with children with DS. In particular it will explore how the training in applied behavior analysis may be used to help teachers and tutors to educate and manage children with Down syndrome in inclusive setting.

The presentation will include data collected on the performance of tutors of children with Down syndrome and kindergarten teachers, and also the analysis of mistakes they do while teaching children and support that they need to be more effective. The data will be collected with the help of the checklist and the percentage of demonstrated skills will be analyzed.

Behavioural skills training programme in Kazakhstan

ERIN MORAN
0,5 BACB CEUs available

Currently, in Kazakhstan there is great interest in Applied Behaviour Analysis (ABA) among parents and professionals. Despite this interest, there is complete lack of formal training

or certified professionals to provide training. To address this need, this research project developed a manualized and scripted training program to teach 11 ABA teaching strategies to undergraduate and masters students. Using behavioural skills training (BST), the researcher trained seven mothers of children with autism how to use the 11 ABA strategies and how to deliver the training. The mothers then delivered the training to 20 psychology students at a local university. Pre- and post-test assessments were completed via role play scenario. Results show that this training was effective for teaching the strategies to the university students. Social validity questionnaires indicate that both the parents and the students found the training to be extremely useful and appropriate for use in Kazakhstan. Difficulties implementing the program and limitations of the study will be discussed.

Autism Spectrum Disorder (ASD) in Saudi Arabia & Turkey

SHAYMA QAHWAJI
Mustafa Karnas

The purpose of this literature review is to look over the studies that has been conducted and published about Autism in Saudi Arabia and Turkey. This literature review will help future researchers to look at the research gap, and to help parents, educator, and professionals to conduct studies in the areas of need. Only studies that has been conducted in English will be included in this review.

This topic is important to the field because Saudi Arabia and Turkey are working on developing and improving the services and polices provided to people of autism. This literature review will provide future researchers, educators, and policy makers of previous studies that has been conducted, resources that has been used, and findings that can contribute to the field if applied on a larger scale. The researchers of the proposed research will not focus on a specific topic. The researchers will focus on all the published studies about autism in both countries. The researchers are from the countries that they will review the published studies at. Therefore, the findings will help the researchers and the future ones in focusing on improving areas that needed research. As mentioned earlier, autism research is still new in both countries, and the finding of this review will help other researchers to know what and when was the first published study about autism. The audience of this study will leave the session knowing with the main areas of focus of research in these two countries, the speed of the research, the journals that researchers are publishing at. Research questions will include:
1) What is the history of autism in Saudi Arabia and Turkey?, 2) What are the services available/provided for people with autism?, and 3) what are the areas of research interest that the researchers are focusing on in regards of autism?

#41 Paper session:
Room M.0.11
Chair: IVAN CHISTYAKOV

Experimental analysis of reporting about the high frequency of an event

IVAN CHISTYAKOV
Olga Soboleva

Questionnaires are common tools in psychological studies, and they include questions about frequencies (e.g., State-Trait Anxiety Inventory asks how often do you feel nervous with response options 'never', 'sometimes', 'often' and 'very often'), but the meaning of responses is not clear. B. F. Skinner proposed an experimental analysis as a way to find the meaning of verbal behavior. We defined the term 'often' functionally as behavior with positive sensitivity to the relative frequency of an event and sensitivity to the question and social consequences. The matching law was used to describe context-behavior relations quantitatively. We conducted four experiments on ten Russian native speakers to determine the meaning of the term 'often'. During each experiment inducers (alternating events '1' and '0' with a predetermined probability of occurrence, the question about the relative frequency of one of the events 'Do you often see '1's?') and response options ('Yes' and 'No') were constantly presented. We documented free operant responses over the sequences of events with different lengths (from 4 to 12 events) and prior odds of '1's to '0's (from 1:5 to 5:1). Collected data suggests that 'often' means 'at least three times in a row'.

Transformation of fear and avoidance functions using the IRAP

AILEEN LEECH
Bouyrden Jaber
Bruijsten Nathalie
Dermot Barnes-Holmes
Ciara McEnteggart

Rationale: The current research aimed to establish "fearful" and "pleasant" functions for arbitrary stimuli by relating those stimuli to pictures of spiders and pets using a training version of the Implicit Relational Assessment Procedure (IRAP).

Method: The transformation of these functions for the arbitrary stimuli was assessed by exposing participants to a 'traditional' version of the IRAP, the Fear-IRAP employed by Leech et al. (2016, 2017), but replacing the pictures of pets and spiders with the shape stimuli (N = 31).

Results: A broadly similar pattern of response biases was recorded for the Test Fear-IRAP as had been observed in the previously published studies. Experiment 1 thus supported the assumed but untested assumption that the relational context provided by the IRAP may both serve to establish and reveal fear-related response biases in arbitrary stimuli. A second experiment attempted to replicate the effects observed in the first experiment but using arbitrary stimuli that consisted of pictures of 'unfamiliar' Australian marsupials rather than pictures of geometric shapes (N = 30). The pattern of results obtained in Experiment 2 failed to replicate the pattern observed in Experiment 1, or that reported in the previously published studies by Leech et al.

Implications: Overall, the findings suggest a possibly important boundary condition for the IRAP as a training and/or testing context for establishing fear-related response biases for arbitrary stimuli.

Investigating the impact of stimulus functions on relational responding in the IRAP

MARTIN FINN

Investigations of procedural variables impacting IRAP performance have suggested that Relational Coherence Indicators (RCIs) may function differently to Crel response options (Malony & Barnes-Holmes, 2016). Additionally, the recently developed Differential Arbitrarily Applicable Relational Responding Effects (DAARRE) model (Finn, Barnes-Holmes, & McEnteggart, 2018) is focused on the coherence afforded by the Cfunc, Crel the RCI properties of the response options across blocks of trials. The current sequence of IRAP studies were conducted to test the DAARRE model at the individual participant level by predicting patterns of D-IRAP effects based on the RCI functions of the label and target stimuli. In Study 1 participants completed with labels and targets with RCI functions that had been established pre-experimentally. In Studies 2 through 5 the RCI functions of the labels and targets stimuli were established within the experiment by means of a matching-to-sample procedure. The results from these studies provide support for the DAARRE model and suggest that the relative dominance of Cfunc and Crel control over patterns of AARRing can be manipulated experimentally. Furthermore, the results indicate a dynamic relationship between Cfunc and Crel properties that interacts with levels of derivation. The relatively precise experimental manipulations of the patterns of derived relational responding explored in the current research may have important implications for basic RFT research, and for its relationship to the analysis of natural language in more applied settings.

#42 Panel discussion:
Room M.1.10
Co-Chairs: KAROLA DILLENBURGER and MICKEY KEENAN

Castles in the air or a recognised profession?

KAROLA DILLENBURGER
Mickey Keenan
Erik Arntzen
Karel Pancocha
Robert Mellon
1,5 BACB CEUs available

While the Behavior Analyst Certification Board (BACB) qualifications (RBT, BCaBA, BCBA, BCBA-D) are now well recognised and/or even licensed in most of North America, the same is not true for Europe. Only one European country (Czech Republic) presently has ratified legislation to protect the professional title of 'behaviour analysts'. At the same time, while the job market for behaviour analysts is booming in the USA, behaviour analyst jobs in Europe are few and far between. In this panel discussion, several European behaviour analysts will introduce the state of professional recognition in various European countries and discuss how the profession can and should be taken forward in Europe, including the important role of the EABA.

#43 Paper session:
Room M.1.07
Chair: CARSTA SIMON

Neuroscience and behavior analysis

GRAZIELLE NORO

Behavior is explained by Behavior Analysis through the interaction between the subject and its environment. The variables that control behavior are in the environment and are determined through a functional analysis. Recently, Neuroscience, which object of study is the nervous system, has also aimed at the study of human behavior through its high-technological instruments and methods. It explains behavior through the clarification of neurophysiological mechanisms that occur within the organism. The aim of this study is to show the current relation between Neuroscience and Behavior Analysis and discuss whether these two sciences may complement each other and contribute to the scientific advance in general. Some studies in Neuroscience were presented, its explanation about the behavioral process based on biological variables and Skinner's

objections to such explanations. These objections are based on the different realm of each science and, mainly, on the impossibility of determining through the technology that was known until the 80s which processes were occurring under the skin. Such limitation may be overcome through the new current technology that can show precise data about the neurobiology of behavior, without invalidating the principles of Behavior Analysis.

Ontogenetic selection of verbal behavior

CARSTA SIMON

How may Darwinian selection aid our understanding of the selection of behavior during ontogeny? To identify what constitutes ontologically and epistemologically sound units of analysis, I investigate verbal behavior in conversations through a selectionist lens. Speech is a natural event that comes down to sounds that affect the behavior of conspecifics. The talk explores how Baum's multi-scale approach may be applied to verbal behavior. This implies treating larger verbal episodes as wholes, induced by a context and correlating with consequences. Thus, the talk, first, debates theoretical reasons to place verbal behavior in an evolutionary framework by viewing it as shaped by its consequences, through a person's lifetime and through interactions with the environment across many generations of natural selection. Second, the talk exemplifies experimental procedures treating verbal behavior as allocation of time.

#44 Symposium: Novel applications of video-modeling for individuals with Autism Spectrum Disorder
Room M.1.09
Chair: RUTH M. DEBAR
1,5 BACB CEUs available

Video modeling (VM) has been shown to be effective in establishing a wide range of skills for individuals with autism spectrum disorder (ASD). The purpose of this symposium will be to present current research using video modeling to teach safety skills and to teach problem solving on perspective taking with individuals with ASD. The first paper will present of the use of VM on abduction prevention skills. Specifically, the authors taught a vocal and motor response to lures by strangers. Results indicated that appropriate responses of participants increased. The second paper will present research on teaching four adolescents with ASD problem solving on perspective taking using a rule and when to use it to assist in the identification of shared or differing information and to use that information to respond to perspective taking questions embedded in videos. After learning the problem-solving strategy, all four participants responded correctly across trained and novel tasks. The third and final paper will present on the use of VM

to establish appropriate responding to lures from both strangers and familiar adults. Results indicate that VM was effective, that responding generalized to novel community settings, people, and lures, and were maintained.

Using video modeling to teach abduction-prevention skills to children with Autism Spectrum Disorder

MARJORIE H. CHARLOP
Brittany Bell

Video modeling was used to teach children with autism spectrum disorder how to respond to taped stranger lure scenarios and in-situ stranger lures. A multiple baseline design across participants was used to assess treatment effects. Measures consisted of reported verbal and motor responses to three abduction scenarios and actual responses to stranger lures planted near the children's therapy program and within the children's communities. Each child displayed increases in appropriate responses to taped abduction scenarios and in-situ stranger lures post-treatment. This study indicated that children with ASD could learn to respond to taped stranger lure scenarios and correspondingly demonstrate these skills in situ.

Teaching children with Autism Spectrum Disorder to problem solve perspective taking tasks using video-based instruction

APRIL N. KISAMORE
Catherine Taylor-Santa
Sharon A. Reeve
Tina M. Sidener
Linda A. LeBlanc

The purpose of this study was to assess the effects of using video-based instruction to teach a generalized problem-solving strategy for perspective taking. Specifically, four participants with autism spectrum disorder were taught (a) a rule and when to use it to assist in the identification of shared or differing information and (b) to use that information to respond to perspective taking questions embedded in videos. Multiple exemplars of shared and differing perspective scenarios were used to promote differential responding to shared and differing perspective tasks, and generalized problem solving within and across false-belief categories (i.e., false identity, unexpected location, misidentified object). Responses were assessed during in-vivo probes of false-belief and shared-belief tasks. After learning the problem-solving strategy, all four participants responded correctly to trained and novel shared- and false-belief tasks. Strategy use generalized to within and across category video and in-vivo probes. Generalization was also observed in everyday contexts.

The effects of video modeling on responding to lures by adolescents with Autism Spectrum Disorder

RUTH M. DEBAR
Christina Abadir
Jason C. Vladescu
Sharon A. Reeve

Deficits in safety skills and communication place individuals with autism spectrum disorders (ASD) at an increased risk of danger. Abduction prevention remains an under-studied area that is in need of future research. The purpose of the study was to evaluate the effects of video modeling on appropriate responding to lures from strangers. We also extended past research by teaching assessing responding to lures from familiar persons by securing code word with adolescents with ASD using a multiple probe across participants design with an embedded alternating treatment design. Participants learned to respond to lures from strangers and familiar persons after watching a video model and generalized responding to novel community settings, people, and lures. Participants maintained skills during follow-up probes.

Keywords: abduction prevention, autism spectrum disorder, lures, safety skills, strangers, video modeling

#45 Keynote Address: How we got here and why we probably should have looked out the window on the way: Some personal reflections on the current status of behavior analysis — With pictures
Room M.-1.07
Chair: Hanna Steinunn Steingrímsdóttir
1 BACB CEU available

About James Todd
James T. Todd earned a Ph.D. in Developmental and Child Psychology from the University of Kansas (1990) and is now Professor of Psychology at Eastern Michigan University (EMU). He has published on the history of psychology, schedule-induced behavior, animal models of exposure therapy, errors in psychology textbooks, and the discredited interventions Rapid Prompting and Facilitated Communication (FC). He is editor, with Edward K. Morris, of „Modern Perspectives on B.F. Skinner and Contemporary Behaviorism" and „Modern Perspectives on John B. Watson and Classical Behaviorism." He has served as expert witness in several court cases involving FC and related issues. His most recent chapter on these issues is „Old horses in New Stables: Rapid Prompting, Facilitated Communication, Science, Ethics, and the History of Magic." In R.M. Foxx & J.A. Mulick (Eds.). Controversial Therapies for Developmental Disabilities: Fad,

Fashion, and Science in Professional Practice." He has also worked on the creation of legislation for autism insurance, the licensure of behavior analysts, and reform of psychology licensure in Michigan.

Abstract
Behavior Analysis has experienced remarkable and surprising success in recent years, especially in the United States. In the space of a few years the field went from wondering if it would even exist at all to domination in certain areas—particularly (1) autism treatment and (2) telling everybody how good we are at autism treatment. One problem with our journey to success is that some of us have not arrived as wise travelers who have benefited from seeing new things and meeting new people along the way, but more like the occupants of a private coach who expect everyone at the destination to understand their language and ways and think that yelling is the best way to make themselves understood. In this presentation, we will explore some elements of this problem, speculate about how it came to be, and consider some potential avenues of remediation. There will also be pictures of horses and dogs.

#46 Symposium: Establishing observational stimulus control component cusps
Room M.1.10
Chair: JESSICA DUDEK
1,5 BACB CEUs available

Observational Stimulus Control (OSC) refers to learning from indirect contingencies associated with the behaviors others emit and the consequences they contact, or products of those behaviors. We propose that several developmental cusps, or certain conditioned reinforcers, comprise OSC, including three distinct types of observational learning. This symposium will present three papers devoted to new research findings related to the establishment of several OSC component cusps. The first paper will outline the cusps associated with OSC, including a focus on two distinct types of observational learning. The second paper will summarize recent developments in the research on the third type of observational learning, that of conditioned reinforcement by observation. The third paper will present findings from a study comparing imitation with emulation and the subsequent prerequisite cusps necessary to establish stimulus control for emulation.

Observational learning: What research has taught us

JESSICA DUDEK
Grant Gautreaux

People depend on observational learning for a variety of things in their lives. Individuals watch others when they are not certain of how they should act or react to a multitude of scenarios. These environmental conditions may be social, cultural, or academic. For humans, success in employment, schooling, and with relationships may hinge on observation. What people observe in addition to behaviors of others are the contingencies that are part of their interaction with environmental stimuli. They are subsequently affected by how those interlocking events provide consequences for others. Recent evidence suggests distinctions between the effects of observation on the emission of previously acquired repertoires, the acquisition of new repertoires, and the acquisition of observational learning as a new repertoire. Prior research has not clearly identified whether the changes in behavior from observation constituted learning because in many cases tests were not done for the presence or absence of the repertoires prior to observation. We describe new investigations reporting procedures leading to the acquisition of observational learning as a behavioral cusp, and the acquisition of operants and higher order operants by observation. We also provide information on how to use observational learning for making educational and clinical decisions.

A comparative analysis of imitation and emulation tasks and the identification of co-requisites for emulation

GRANT GAUTREAUX

The purpose of this study was to examine the relationship between the emulation and prerequisite cusps or capabilities. The study was conducted with 23 individuals diagnosed with autism. The participants ranged in age from 3 to 13 years old (5 females and 18 males) and all received over 20 hours of ABA services weekly. The participants ranged from pre-speaker/pre-listener to reader/writer levels of verbal behavior. All participants were initially probed to determine whether imitation and or emulation were present prior to the study. Imitation was induced for all participants with baseline data of less than 80% accuracy on either imitation or emulation probes. This study provides data on the following: correlations between emulation and cusps or capabilities, if changes in curricula are needed when imitation or emulation is in repertoire, or if consequent stimulus control is necessary for emulation.

New research in observational learning of conditioned reinforcers

JESSICA DUDEK

This paper will provide an overview of the research associated with observational learning of conditioned reinforcers. Observational learning of new reinforcers has been identified as a distinct type of observational learning whereby reinforcers are conditioned via an observation-by-denial procedure. Participants observe peers receiving items while they themselves are denied access until the intervention period is over. Recent research has confirmed this type of observational learning as a behavioral developmental cusp, meaning that post-intervention tests demonstrated that neutral stimuli were preferred by participants after observing peers receive them. Recent research has also demonstrated alternative procedures for establishing this cusp.

#47 Panel discussion:
Room M.0.11
Chair: SUZANNE LETSO

Did that really just happen? Legal, ethical or just ridiculous dilemmas in our day-to-day practice of behavior analysis

SUZANNE LETSO
Greg Elsky
1,5 BACB CEUs available

Discussions of ethical and legal issues doesn't have to be esoteric or boring. When one reads the Behavior Analyst Certification Board's Professional Code of Conduct for Behavior Analysts, these standards appear clear-cut and easy to follow. However, the application of this Code of Conduct to real-life situations can not only serve as a resource for us as we navigate through our day-to-day practice but can also be quite interesting. This presentation will describe various real-life scenarios followed by questions about whether each of these scenarios is: a.) A violation of an ethical code; b.) A violation of a law; c.) A breach of a social norm: d.) All of the Above; or e.) None of the above. The audience will answer with real-time display of results via the online application "Quick-TapSurvey" and group discussion regarding which, if any, of the BACB Professional Code of Conduct for Behavior Analysts apply to each situation will follow. Examples from school, home, community, university, and research settings related to situations concerning clients, their families, other professionals and others will be presented.

#48 Paper session:
Room M.1.08
Chair: RIANNE VERSCHUUR

Therapist characteristics and procedural fidelity of PRT

RIANNE VERSCHUUR
Bibi Huskens
0,5 BACB CEUs available

Interventions based on the principles of Applied Behavior Analysis (ABA) are generally effective for children with autism spectrum disorder (ABA), but outcomes across children are often highly variable (e.g., Reichow, 2012). Intervention outcomes are associated with quality of treatment delivery, including procedural fidelity (i.e., the extent to which intervention procedures are implemented accurately). Procedural fidelity depends on quality of staff training and might also be associated with therapist characteristics (Peters-Scheffer et al., 2013). The purpose of the present study was to examine the relationship between therapist characteristics and procedural fidelity of Pivotal Response Treatment (PRT). Participants were 40 therapists who were certified PRT trainers, working at treatment facilities for children with ASD in the Netherlands. Each therapist recorded three PRT sessions to collect data on PRT procedural fidelity. Data on therapist characteristics (e.g., personality, perceived therapist-child relationship, and attitude toward evidence-based interventions) were collected using questionnaires. Results, implications for clinical practice, and directions for future research will be presented.

Parent training in PRT: effectiveness of group and individual training

RIANNE VERSCHUUR
Bibi Huskens
0,5 BACB CEUs available

Effective and efficient parent training is essential to meet the increased demands for treatment services for children with Autism Spectrum Disorder (ASD), but research comparing the effectiveness of different formats of parent training is limited. This study investigated the effectiveness of group versus individual parent training in Pivotal Response Treatment (PRT) on parent-created opportunities and children's initiations. Collateral changes in parental stress, self-efficacy, and children's maladaptive behavior were also explored. Participants were 26 parents and their children with ASD aged between 3 and 14 years. Data were collected within multiple baseline designs across participants. Thirteen parents participated in group parent training and 13 parents participated in individual parent training. Both group and individual parent training consisted of instruction in PRT techniques, practice and video-feedback, but individual parent training also included guided practice. Our results suggest that individual parent training in PRT is more effective in increasing parent-created opportunities and functional child initiations, whereas group parent training seems more effective in reducing parental stress and increasing parental self-efficacy. Results for maladaptive child behaviours were mixed in both groups. Practical implications and directions for future research will be discussed.

#49 Paper session:
Room M.1.07
Chair: SWATI NARAYAN

Using cool vs. not cool procedure to teach a child to stay on task

SWATI NARAYAN
Gita Srikanth
0,5 BACB CEUs available

This procedure was implemented to increase the time that the child with autism spent on an academic task. The participant was a 6-year-old holding a diagnosis of autism who attended ABA services full time. It was observed that the participant would not remain seated and engaged in a task for more than 3 minutes. A procedure consisting of rules labelled cool and not cool was introduced to him, with the objective of increasing the amount of time on seat and engaged in task, labelling this action as cool, and labelling being off task or out of seat as not cool, the participant was provided a rationale for engaging in the cool behavior. The reward for engaging in a „Cool" behavior included receiving tokens that he could exchange for a reward of his choice. It was seen that there was a steady state increase in the participant's behavior of staying in seat and remaining engaged in a complex academic task. Additionally, it was observed that the participant would voluntarily read the rules as a reminder to control his impulses to engage in „not cool" behaviors. As a result, the „Cool versus not cool behavior" procedure demonstrated itself to be an effective intervention for school aged children.

Using the application friendly schedule on a tablet to promote independence in children with autism spectrum disorder

IWONA RUTA-SOMINKA
Anna Budzinska

Friendly Schedule is an application for children and youth with ASD which was developed as a joint initiative of Gdansk University of Technology and Institute for Child

Development in Poland. The application was created as "non-profit" project. Over two decades of research and clinical experience shows that activity schedules are very effective in teaching people with autism many new skills. The Institute for Child Development (IWRD) in Gdansk has been using activity schedules in ABA program for children with autism for 11 years.

When a child with autism is at the beginning of the treatment in IWRD, we first introduce activity schedules in the paper version, presented in book form, but when our student reaches the prerequisite skills, we transfer to a modern version on a tablet.

The data from our research show that manual prompts are very effective in teaching children with autism to follow activity schedules on a tablet. All our participants learned to use the application Friendly Schedule to complete five tasks independently without any help from adults.

Activity schedules on tablets can be used as an effective teaching technique for a variety of new skills. The application allows therapists to implement scripts into activity schedule, so we can effectively teach our students new verbal and social behaviors, for example to initiate conversations.

#40 Presidential address: On the development of behaviour analysis as a discipline
Room M.-1.07
ERIK ARNTZEN
1 BACB CEU available

This presentation will start with an update about the European Association for Behavior Analysis (EABA). Then, I will discuss some historical, present, and future aspects of EABA. Both textbooks and published articles offer information about different dimensions of behaviour analysis such as theoretical or conceptual, experimental, and applied behavior analysis. The presentation will emphasize the importance of collaboration among these dimensions. Results from studies that have looked at publication trends, cross-referencing, and self-references will be presented. The take-home message is the importance of a mutual exchange of research questions between experimental (EAB) and applied behaviour analysis (ABA). For example, within EAB it is very important to arrange experiments that focus on research questions raised within ABA. Conversely, it is very important for questions raised in the ABA domain informs the development of experiments that explore potential variables responsible for the phenomena in the ABA domain. Exchanges such as these are essential for the future enhancement of behaviour analysis as a branch of science, and also differentiates behavior analysis from mainstream psychology.

Würzburg Residence
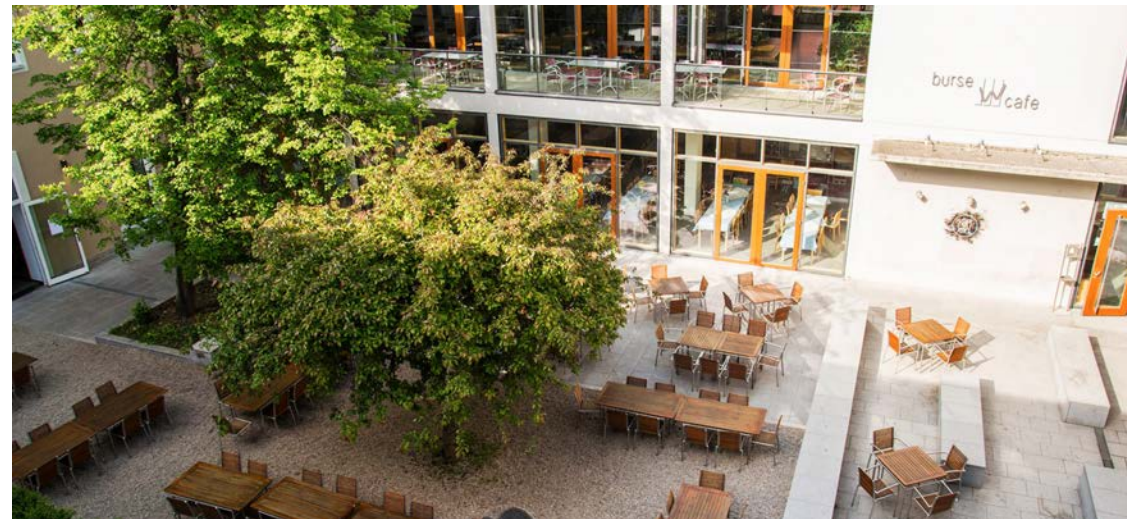
The university cafeteria, Burse and Mensa at Studentenhaus

Expo Booths

1. Behavior Development Solutions

STEVE EVERSOLE

Behavior Development Solutions provides training products, services, and tools for behavior analysts and technicians. Our data-driven modules prepare candidates for BCBA/BCaBA, RBT, and Supervisory BACB certification. In particular, the CBA Learning Module Series is estimated to be used by over half of the people who sit for the BCBA/BCaBA exams. Also, CE courses and a bookstore are available online.
Please visit our booth at the conference or visit behaviordevelopmentsolutions.com.

2. The development of behavior analysis in multi-cultural and multi-lingual India

SMITA AWASTHI

Till as late as the dawn of 21st century, there was no knowledge of the science of behavior analysis in India. Behavior Momentum India pioneered the growth of behavior analysis through services for the autism population and also took the lead to deliver a high quality BACB Approved –Verified Course Sequence in the country. With 10 centers across the country, BMI continues to provide leadership in the development of the science.

3. MScABA: Master's in Applied Behaviour Analysis

KATERINA DOUNAVI
Catherine Storey
Nichola Booth

The Master's in Applied Behaviour Analysis is a highly interactive blended learning programme (mostly online with some face to face workshops) providing professionals from a wide range of backgrounds with scientifically validated expertise that is applicable to mainstream and special needs education, inclusion, curriculum, learning, and pedagogy. It should be of interest to professionals wishing to become Board-Certified Behavior Analysts (BCBA®), to those in the 'helping' professions (e.g. teachers, speech/language therapists, occupational therapists, psychologists) and students preparing for PhD studies.

The MScABA includes a Behavior Analysts Certification Board (BACB®) Verified Course Sequence (VCS) and is addressed to students who are already in relevant jobs. Once our

students complete the MScABA and after fulfilling the supervised practice element (not included in the course) and passing the BCBA exam, they have the skills and knowledge to develop, implement and evaluate quality interventions that help to produce positive behavioural changes in a range of settings.

To apply, visit https://www.qub.ac.uk/courses/postgraduate-taught/applied-behaviour-analysis-msc/ For more information, contact the programme director Dr. Katerina Dounavi (BCBA-D) at k.dounavi@qub.ac.uk

4. Picture Exchange Communication System: PECS and The Pyramid Approach to Education

ERIN MORAN

PECS is a unique alternative/augmentative communication system developed in the USA in 1985 by Andy Bondy, PhD, and Lori Frost, MS, CCC-SLP. PECS was first implemented with pre-school students diagnosed with autism at the Delaware Autism Program. Since then, PECS has successfully been implemented worldwide with thousands of learners of all ages who have various cognitive, physical and communication challenges.

The PECS teaching protocol is based on B.F. Skinner's book, Verbal Behavior, and broad spectrum applied behavior analysis. Specific prompting and reinforcement strategies that will lead to independent communication are used throughout the protocol. The protocol also includes systematic error correction procedures to promote learning if an error occurs. Verbal prompts are not used, thus building immediate initiation and avoiding prompt dependency.

PECS consists of six phases and begins by teaching an individual to give a single picture of a desired item or action to a "communicative partner" who immediately honors the exchange as a request. The system goes on to teach discrimination of pictures and how to put them together in sentences. In the more advanced phases, individuals are taught to use modifiers, answer questions and comment.

The primary goal of PECS is to teach functional communication. Research has shown that some learners using PECS also develop speech. Others may transition to a speech generating device (SGD). The body of research supporting the effectiveness of PECS as an evidence-based practice is substantial and continues to expand, with more than 150 research articles from all over the world.

05. Russian ABA Association
MARIA SUDARIKOVA

Applied Behavior Analysis has been actively developing in Russia for eight years already. BACB had approved the first course sequence in Russian in 2010. Now there are 10 BCBAs and 4 BACB-approved courses in Russian, on campus and distance education. Association of Applied Behavior Analysis specialists (RusABA) was established in 2015. Our main goals are to disseminate Applied Behavior Analysis all over the large Russian territory, to integrate the Russian speaking behavior society, to support ABA specialists and service consumers. We have been holding weekly intervision meetings online since 2013. As experts we participated in BCBA and BCaBA exams translation into Russian in 2016. We conducted the first International ABA Conference in Russia "Applied Behavior analysis: theory and practice" in Moscow in September 2015. The conference attracted 240 participants from more than 50 locations. Now we are going to conduct the fourth international ABA conference in Russia in October 2018 (http://proaba.ru/conf2018/). This year BACB approved RusABA as ACE Provider. Welcome to our Facebook page: www.facebook.com/aba.russian.

VENUE

Building Münzstraße 12, Level 0
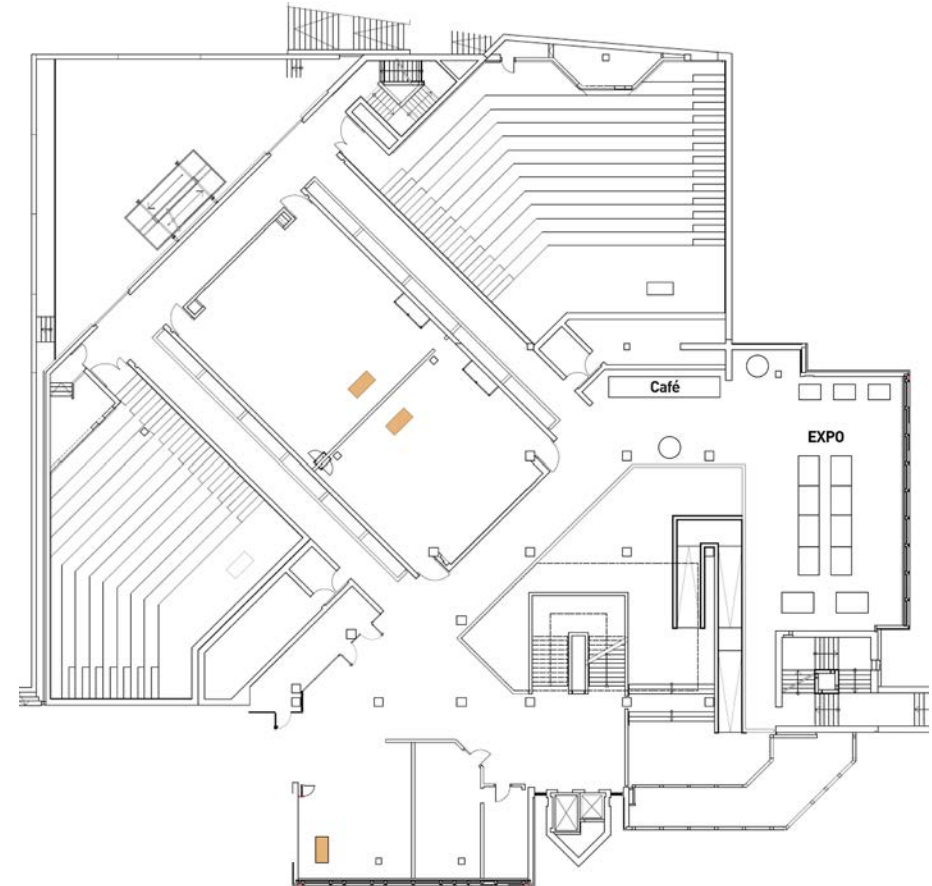
UPCOMING EVENT

SEE YOU IN TAMPERE!

The 10th Conference of the European Association for Behaviour Analysis

9–12 September 2020
Tampere, Finland

MY PERSONAL PLANNER

	THURSDAY	FRIDAY	SATURDAY
09.00 am			
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06.00 pm			

Main

Steinbachtal

Ludwigsbrücke

Arte Noah

Mainkuh

Felix-Freudenberger-Platz

Willy-Brandt-Kai

Zum Walfisch

King Bike

Wirsbergstraße

Hintertturm

Am Plaidenturm

Judith Weinberg geb. Bamberger

Neubaustraße

Tiepolostraße

Landwehrstraße

Velo Momber

Kompgasse

Rosengasse

Rebelgasse

Eva's

Heilbrund

Hairkiller

Tessuti

Lindahlstraße

Sanderring

Reuerergasse

Karmelitenkloster

Reuerer-Kirche

Kompgasse

TEDi

JooLee

CCC's Fashion

Rösner

Obere Johannitergasse

Gehrings

Neubaukirche

Tiepolostraße

Kult

Sanderstraße

Lubganies

Buchladen

Neuer Weg

Elefantengasse

Café-Klug

Bergmeisterstraße

Peterstraße

Peterstraße

Bäckerei Schiffer

Neubaustraße

Tabak

Sanderstraße

Rotlöwergasse

Badergasse

Maiergasse

Haarpflege Oppmann

Peterplatz

Hofleingasse

Geigenbau Lützel

Nothaltestelle (nur Ausstieg)

Ringpark

Sanderring

MM Opernreisen

Chelsea

Wohnzeug

Peterpfarrgasse

Peterplatz

Regierung von Unterfranken

Peterplatz

Schildhof

Stephanstraße

Münzstraße

FHWS IT Service Center

Keramikwerkstatt Lautenbacher

Zwinger

Neue Universität

Sankt Stephan

Wilhelm-Schwinn-Platz

Benno Seebach

Rüschkewitzbrunnen

Lindahlbrunnen

Neue Universität

Geschwister-Scholl-Platz

Evang.-Luth. Dekanat und Pfarramt St. Stephan

Zwinger

Ottostraße

Friedrich-Ebert-Ring

Studentenstein

Sanderring

Käthe Handbrunn

Ringpark

Kilianbrunn

DOM